UNIVERSAL REGISTRATION DOCUMENT 2019

eramet

TABLE OF CONTENTS

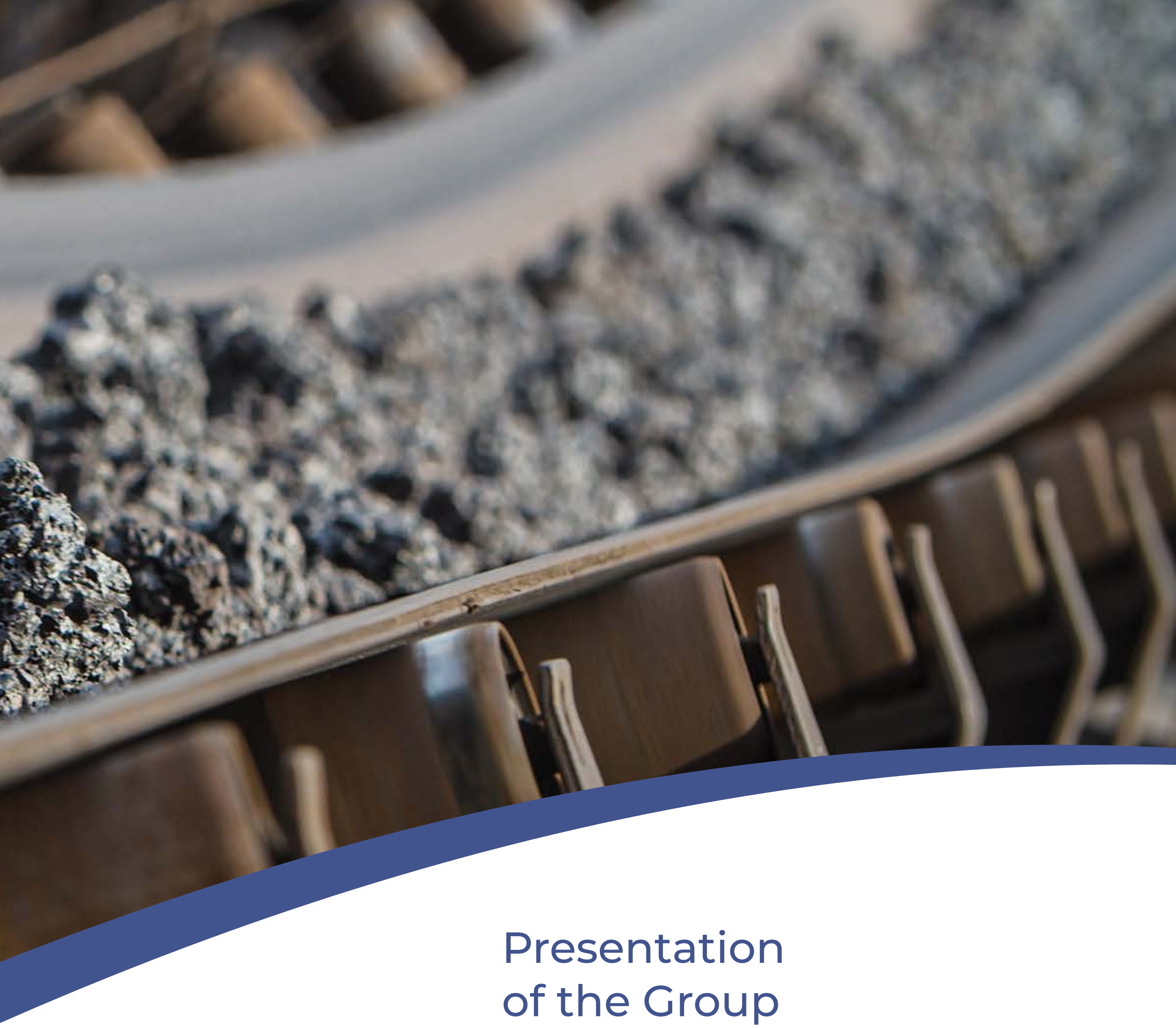
2019

UNIVERSAL REGISTRATION DOCUMENT

including the annual financial report

AUTORITÉ
DES MARCHÉS FINANCIERS
AMF

This Universal Registration Document was filed with the Autorité des marchés financiers (AMF) on 31 March 2020, as the competent authority under regulation (EU) 2017/1129, without prior approval pursuant to Article 9 of the said regulation.
The Universal Registration Document may be used for the purposes of an offer to the public of securities or admission of securities to trading on a regulated market if completed by a prospectus and, if applicable, a summary and any amendments to the Universal Registration Document. All of the above is approved by the AMF in accordance with Regulation (EU) 2017/1129.



Presentation of the Group

“The in-depth, group-wide transformation is shaping a new Eramet.”

CHRISTEL BORIES
CHAIRPERSON AND CEO

Following the in-depth strategic, managerial and digital transformation undertaken over the past two years, Eramet made decisive headway for its future in 2019. The excellent production levels recorded at all of our mines illustrate not only the first achievements following changes to our model, but also our operational improvements and the challenges taken up each and every day by our teams.
In this new Eramet, Corporate Social Responsibility is at the core of our strategic choices, based on our conviction that the mining and metallurgy companies of the future must be exemplary corporate role models. Our commitment translates into an ambitious CSR roadmap built around thirteen goals on which we have made substantial headway in 2019.
Although the headwinds and economic downturn in 2019 weighed on Eramet's financial performance, the initial results speak for themselves and the fundamentals of our strategy are sound.

We will stay the course on our strategic roadmap in 2020.

The year ahead will stand as an important milestone in Eramet's growth and development in all our business lines. The expansion of the Moanda mines in Gabon will consolidate our position in manganese, while new perspectives are opening up in nickel, thanks to the start-up of the Weda Bay plant in Indonesia and the continued implementation of the new SLN business model. At Aubert & Duval, we expect activities to return to normal.
With uncertainty stalking the global economy, we are constantly adapting our action plans and ensuring cautious and controlled management of our cash. Accordingly, we have reviewed the scope and scheduling of our investment projects, especially in Gabon and Argentina.
And, in the light of the global Coronavirus epidemic, our priority is to safeguard the health of our employees and of their family.
We are fully mobilized in each of the countries where we operate to deal with this exceptional health situation. Our vigilance in no way detracts from our determination to pursue the Group's transformation, primarily by diversifying our assets to better spread risks, as we did with developments in mineral sands, and by positioning ourselves as an important player in the energy transition.

We are as determined as ever to harness the energy of all our teams and to be even more competitive in this highly uncertain environment.

Combined with agility, flexibility and tight control of our financial balances, this drive will ensure we stay on course and make progress on our trajectory of long-term profitability.

Manifesto

To set an example in the responsible transformation of the Earth's resources.

The future is being built before our very eyes, faster than we can imagine. From the augmented human to green mobility, smart interfaces and hyperconnected cities, the digital revolution is changing how society operates, while artificial intelligence is opening up infinite horizons. At the same time, humanity is facing an unprecedented challenge: to succeed in an essential energy transition. To transform, industry needs increasingly advanced raw materials. These natural resources are vital, and we need to learn to use them even more responsibly.

At Eramet, we have decided to tackle these huge challenges head-on. We are developing innovative processes, working on major projects and learning to bring together industrial activity and respect for our planet. Through our civic engagement, we are contributing to the development of our employees and communities alike.

Entrepreneurial spirit, openness and pragmatism – these are the values that inspire the women and men of Eramet each of their projects. As a Group, our sights are resolutely set on the future, with one leitmotiv: developing sustainable and value-creating performance, to help preserve a world that benefits the many.

Eramet today is…

A key player in metals extraction and recovery and in the production and processing of high performance alloys

€3,671M

2019 sales

2nd

Eramet is the world's second largest **producer of high-grade manganese ore** and the world's largest producer of refined manganese alloys.

1st

Eramet is the world's largest **producer of ferronickel** and one of the world's leading producers of high-purity nickel salts.

4th

Eramet is the world's fourth largest **producer of zircon** and the world's fifth largest producer of titanium-containing raw materials:.

2nd

Eramet is the world's second largest **producer of high-power die-forged parts.** The Group is also one of the world leaders of gas-atomised powder metallurgy and a major European producer of high-performance special steels.

€630M

EBITDA 2019

13,000

Employees

-35%

Reduction of accident frequency rate (FR2)* in 2019

-26%

Carbon intensity reduction target as from 2023

**Data including Eramet + temporary workers + external companies*

A rapidly changing eco-system

The global eco-system is undergoing major changes. Businesses have to thoroughly rethink their interactions with all their stakeholders.
These stakeholders' expectations are changing, driven by demographic, societal, environmental, economic and technological megatrends. The Eramet Group's mining and metallurgical businesses are at the core of these changes.

Societal

megatrends

- Rapid population growth and accelerated urbanisation
- Creating ever more inclusive, shared and sustainable value to combat polarisation and social inequities
- Focusing more and more on sustainable investment strategies (Environmental and Social Governance) and on the societal role of businesses
- Imperative need for transparency and responsibility of private operators
- Increasing need for traceability, in particular in terms of responsible purchasing

Economic and technological

megatrends

- Political instability, growing protectionism and challenges to sovereignty
- Increased trade globalisation and international mobility
- Acceleration of technological and digital transformation
- Growth of new mobility solutions
- Rising power of China in terms of raw materials requirements

These megatrends offer responsible growth prospects and opportunities to the Eramet Group

Responsible extraction of industrial metals and minerals, recyclability, mining 4.0, development of urban centres, electric mobility: these are factors underpinning Eramet's vision.

Environmental
megatrends

- Climate emergency and the need for collective climate actions
- Initial impacts of the energy transition: new mobility solutions, development of renewable energies requiring energy storage
- Depletion of natural resources (mineral, water, biodiversity, etc.)
- Increased awareness among stakeholders about industries' environmental footprint

OUR STRATEGIC VISION

Sustainable value creator

Business partner of choice

Committed & contributive corporate citizen

Home for best talents

Entrepreneur

Mining and Metals
DIVISION

The Mining and Metals Division extracts metalliferous minerals, which it sells or transforms into alloys or metal salts applying the highest standards in terms of corporate and environmental responsibility. Its clients are core industries, such as high-tech companies across the globe. It has specific expertise in geology, mining and ore processing (pyrometallurgy and hydrometallurgy).

World-class deposits:
resources with operation prospects of several decades, positioned in the 1st quartile of the mining industry cost curve.

35 Mt
of mineral sands (zircon and ilmenite)
Senegal, TiZir
Over 30 years of resources
Ti

110 Mt
of manganese content (manganese)
Gabon, Comilog
Resources > 40 years
Mn

19.4 Mt
of nickel content
New Caledonia, SLN
Resources estimated at ~ 50 years
Ni

10 Mt
of lithium carbonate equivalent (LCE)
Argentina (project)
Over 50 years of resources
Li

9.4 Mt
of nickel content
Indonesia, Weda Bay
Over 50 years of resources
Ni

Manganese BU

Eramet is the world's second largest producer of high-grade manganese ore, thanks to its Moanda mine in Gabon, and the world's largest producer of high value-added manganese alloys, the “refined alloys”.

Resources and activities

- 1 highly competitive manganese mine in Gabon operated by Comilog, a subsidiary of the Group, with a very high grade ore (44%)
- 3 processing units in Gabon, 5 pyrometallurgy plants in Europe and the United States for the production of agglomerate and manganese alloys.
- Transportation of ore from the Libreville port on ore-carrying trains operated by Setrag, a subsidiary of Comilog.

Markets

- The extracted manganese ore is transformed into manganese alloys, which are essential to the production of carbon steel (approximately 90% of the market) used in particular in the construction and automotive industries.

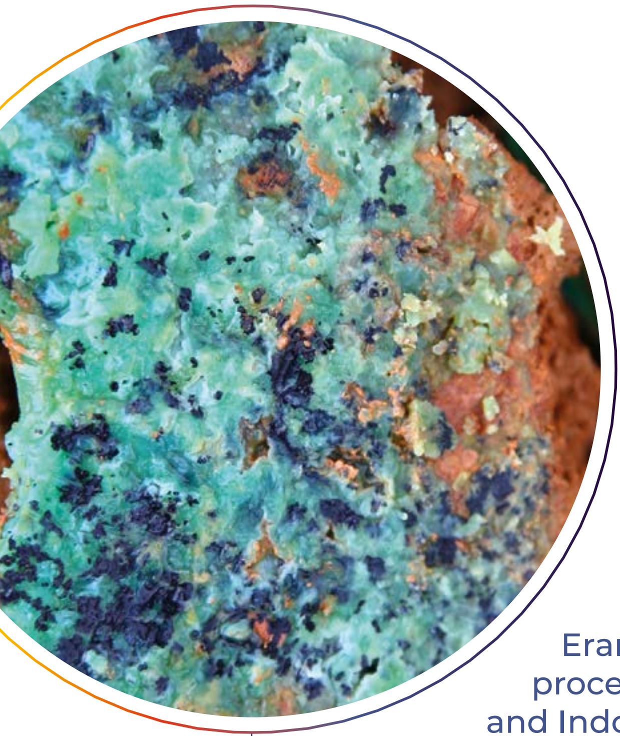
4.8 Mt

of manganese ore produced

Key figures

- **~4,000** employees
- **€1,765 million** of sales
- **740 kt** of manganese alloys produced

Mining and Metals
DIVISION



Nickel BU

Eramet, world's largest producer of ferronickel, processes ore from nickel mines in New Caledonia and Indonesia. It is also one of the world producers of high-purity nickel thanks to the Sandouville refinery in France.

Resources and activities

- Highly competitive nickel mines in New Caledonia and a pyrometallurgy plant for ferronickel production operated by SLN (Société Le Nickel).
- Rapid growth in nickel ore exports thanks to the implementation of SLN's new business model.
- Start of operations in 2019 of Weda Bay mine in Indonesia, whose purpose is to supply several units processing ore into nickel alloy.
- Start of operations in 2020 of the Weda Bay plant, supplied by the mine, under a joint-venture with Tsingshan, the world's largest producer of stainless steel.
- Rapid growth of the pure nickel refinery in France.

Markets

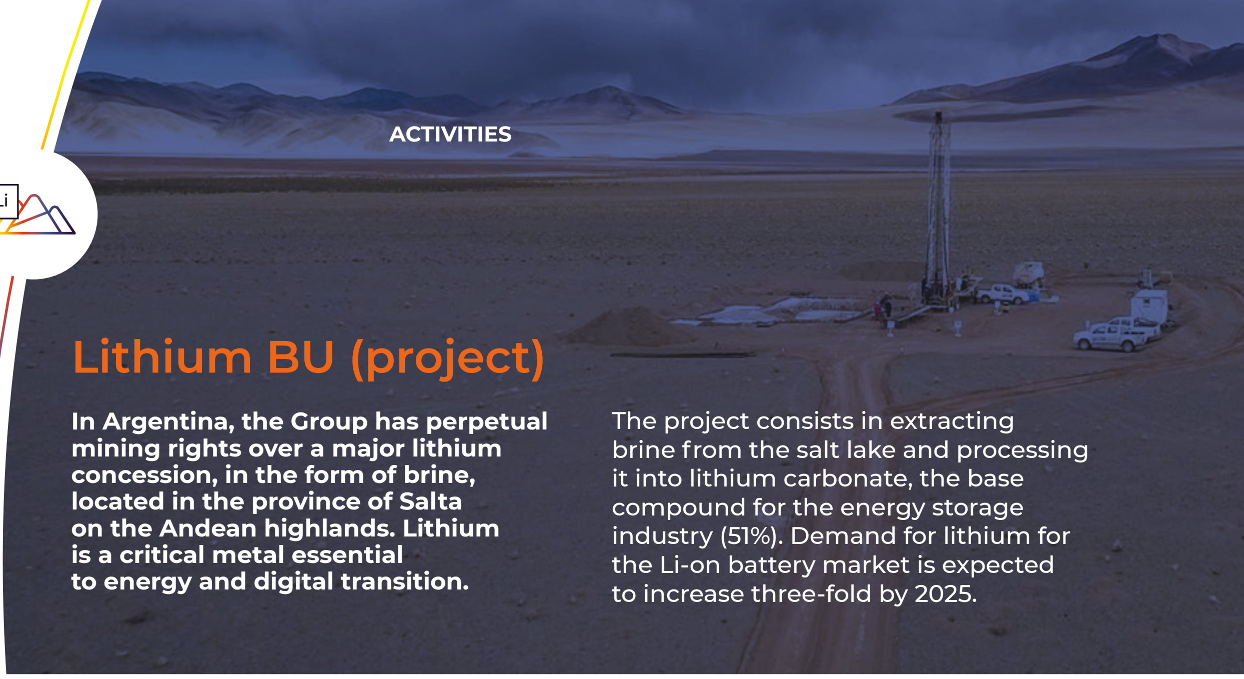
- Nickel ore is extracted for processing into nickel ferroalloys, mainly used for producing stainless steel (68% of the market) as well as pure metal and nickel salts.

Key figures

- **~2,200** employees
- **€778 million** of sales
- **47 kt** of ferronickel produced

4.7 Mwmt

of nickel ore produced of which 1.6 Mwmt exported



Lithium BU (project)

In Argentina, the Group has perpetual mining rights over a major lithium concession, in the form of brine, located in the province of Salta on the Andean highlands. Lithium is a critical metal essential to energy and digital transition.

The project consists in extracting brine from the salt lake and processing it into lithium carbonate, the base compound for the energy storage industry (51%). Demand for lithium for the Li-on battery market is expected to increase three-fold by 2025.

Mineral Sands BU

Eramet is a major player in mineral sands.
The Group is the world's fifth-largest producer of titanium-containing raw materials and the world's fourth-largest producer of zircon.

Resources and activities

- Production of titaniferous ores (ilmenite, rutile, leucoxene) and zircon in Senegal operated by GCO (Grande Côte Operations).
- Transportation of ore by rail from the mine to the Dakar port operated by GCO.
- Processing of ilmenite and production of titanium dioxide slags and high-purity pig iron at the pyrometallurgy plant Titanium and Iron (TTI) in Norway.

Markets

- Minerals Sands are extracted and then separated to produce zircon (used in ceramics, chemistry, etc.) and titanium-containing raw materials, transformed into titanium slag (90% of which is used for pigment production).

735 kt

mineral sands concentrates produced in Senegal

Key figures

- **~1,000** employees
- **€286 million** of sales
- **189 kt** of titanium dioxide produced

High Performance DIVISION

The High Performance Alloys Division has a unique know-how dedicated to strategic industries. It supplies high-tech aeronautics, energy and defence industries with parts, semi-finished products or metal powders, with superalloys, high-performance steels, high-speed steels, aluminium alloys and titanium alloys.

Aubert & Duval

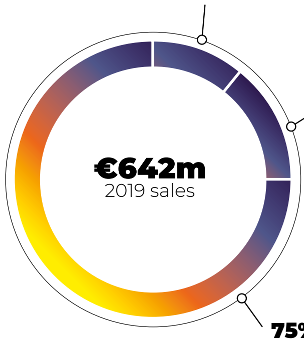
Aubert & Duval is one of the world leaders in high performance steels, superalloys and titanium and one of the world leaders in large closed-die forgings and the world's second largest producer of high-power closed-die forgings in titanium, steel, superalloys and aluminium.

Activities

- For over 100 years, Aubert & Duval has been developing metallurgical solutions to support projects in the most exacting industries: long products, open-die forgings, closed-die forgings, powders for additive manufacturing, etc.

Markets

- Aeronautics/aerospace
- Energy
- Defence
- Automotive
- Tooling
- Powders for additive manufacturing



Key figures

- **+4,000** employees
- **€642 million** of sales
- **14** industrial sites

Erasteel

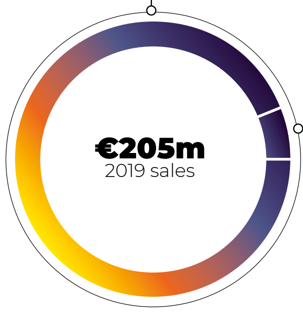
Erasteel is a world player in conventional high-speed steels and the leader in gas-atomised powder metallurgy with ASP® powder metallurgy high-speed steels and PEARL® metallic powders. The company is also a European player in the recycling of catalysts, metal oxides and batteries.

Activities

- Erasteel offers a wide range of steel grades and alloys from powder metallurgy or conventional metallurgy. Products are in the form of powders, round and flat bars, wires and strips.

Markets

- Cutting tools
- Cold work tools
- Saws and knives
- Components and replacement parts
- Stainless steel industry (recycling of used catalysts and batteries)



Key figures

- **~900** employees
- **€205 million** of sales
- **8** industrial sites

Innovation

Eramet Ideas,
an integrated innovation centre across the entire value chain: mining operations, semi-finished products, digital transformation.

Innovation centres
for the High Performance Alloys Division

Expertise

- **Extractive metallurgy** (mineralogy, mineral processing, geometallurgy, hydrometallurgy and pyrometallurgy)
- **Metallurgical processing of alloys and high-performance steels** (including powder metallurgy)
- **Thermomechanical processing of alloys by forging and closed die-forging**

Eramet Ideas: open innovation approach

- **Benchmark**
- **Leadership/**Partner in European projects
- **Partnerships with universities,** *grandes écoles*, industry, start-ups, SMEs
- **Challenge Open Innovation:** promotion of a global network of researchers and experts on scientific subjects relevant to the Group
- **Creation of a shared laboratory with** CNRS, "LILAB", on metals critical for energy transition

Key figures

- **~300 experts and technicians** (in-house R&D)
- **€60 million** dedicated to innovation, or 1.5% of sales
- **25 ongoing European collaborative projects**, of which 11 concern extractive metallurgy
- **First microscope in Europe** equipped with QEMSCAN mineralogy software

25

collaborative projects

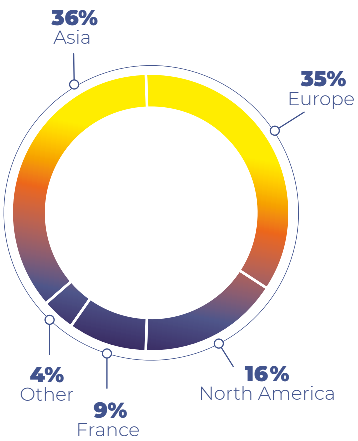
2019
KEY FIGURES

€3,671M
Sales in 2019

77% Mining and Metals Division
- **48%** Manganese BU
- **21%** Nickel BU
- **8%** Mineral Sands BU

23% High Performance Alloys Division

Breakdown by geographical area



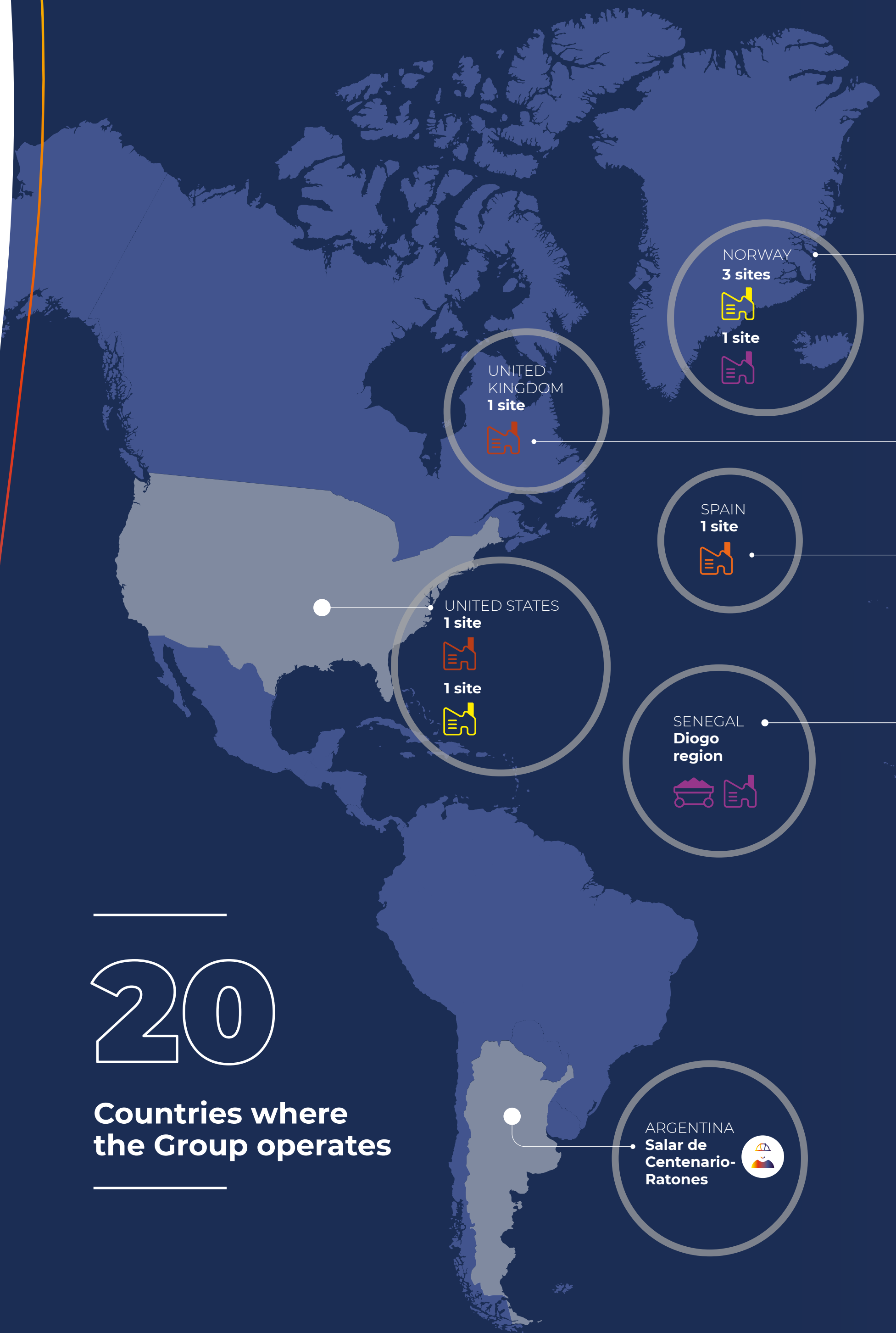
€630M
EBITDA

€341M
Current operating income

13,000
Employees

Breakdown by geographical area
- **40%** France
- **10%** Europe (excluding France)
- **3%** Americas
- **30%** Africa
- **2%** Asia
- **15%** Pacific

Our operations on the five continents



20
Countries where the Group operates

39

mining and industrial sites

Our business model

Eramet is a global leader and a diversified mining and metallurgical group

OUR AMBITION

Developing a selective portfolio of value-creating mining and metallurgical activities.

To be among
in each of our businesses
profitability

Our assets and resources

Natural capital (resources)

110 Mt of manganese content (Gabon)
19.4 Mt of nickel content (New Caledonia)
35 Mt of mineral sands (Senegal)
10 Mt of lithium (LCE**) (Argentina)
9.4 Mt of nickel content, 43% owned by Eramet (Weda Bay, Indonesia)

Industrial capital

39 mining and metallurgical industrial sites worldwide
€455 million industrial investments

Financial capital

SBF 120 listed company
€630 million EBITDA
€2.3 billion financial liquidity

Human capital

13,000 employees in 20 countries
23.8% of female managers

Intellectual and innovation capital

€60 million R&D spend
300 employees (in-house R&D)

Societal capital

Local territories as shareholders of our main subsidiaries:
34% New Caledonia (SLN),
29% Gabon (Comilog),
10% Senegal (GCO)
Long-term relationship with customers

** The presentation of Eramet's resources is in line with the recommendations of IIRC.*
*** LCE: Lithium Carbonate Equivalent*

the best
in terms of performance,
and innovation.

To be admired for our strategic model,
our management system
and our societal commitment.

Developing projects that deliver high value added

Improving performance

STRATEGIC TRANSFORMATION

Our value creation

Shareholders

12% ROCE*** (2019)

€0.60 per share paid in 2019

Customers/ Suppliers

€3.7 billion of sales

Communities/ Regions

€257 million€ paid by our companies active in the extractive industry to local governments (mainly taxes and royalties in 2018****)

€20.2 million investments in local communities and sponsorships

87% of decarbonated power purchased in 2019

Employees

- 35% of FR2 in recordable accidents

84% of employees trained

R&D and innovation partners

25 ongoing European collaborative projects

**** ROCE: current operating income/capital employed.*
***** yearly update issued in June.*

Where we want to be in 2023

Sustainable value creator

Business partner of choice

Committed & contributive corporate citizen

Home for best talents

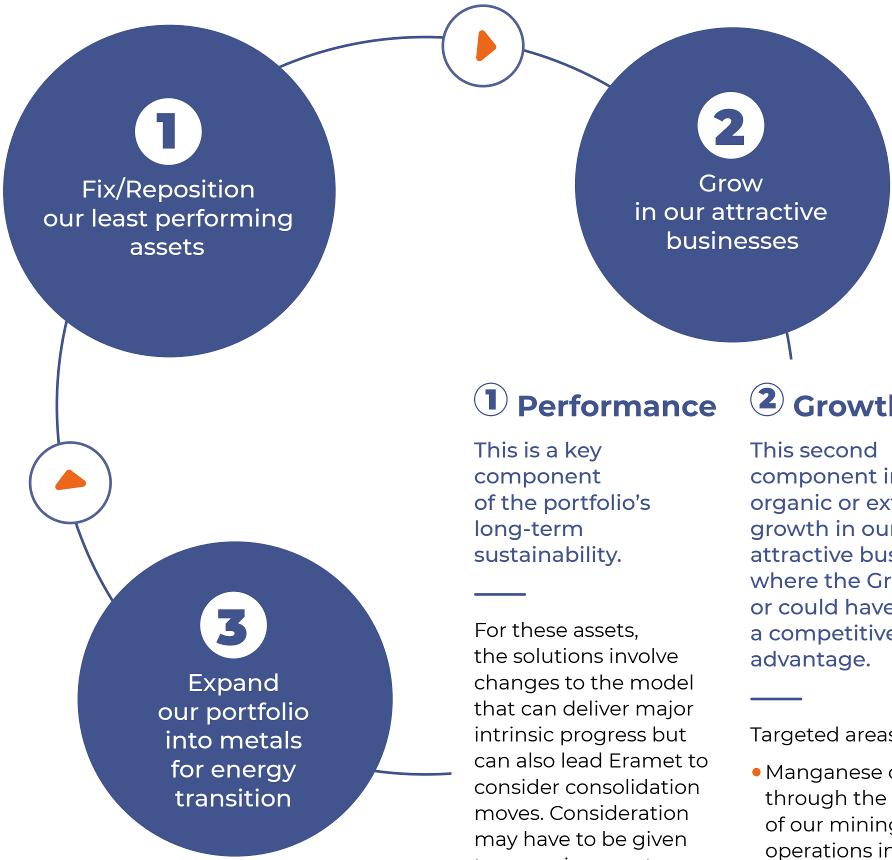
Entrepreneur

Acceleration of the strategic transformation

Increase Eramet Group's cash generation and diversify its asset portfolio.

Launched in 2018, the Group's in-depth strategic and managerial transformation programme aims to reposition it in order to ensure competitiveness in a changing environment and sustainable value creation.

The strategic transformation focuses on three areas:



① Performance

This is a key component of the portfolio's long-term sustainability.

For these assets, the solutions involve changes to the model that can deliver major intrinsic progress but can also lead Eramet to consider consolidation moves. Consideration may have to be given to removing assets that fail to hit their set performance targets from the portfolio.

② Growth

This second component involves organic or external growth in our attractive businesses where the Group has, or could have, a competitive advantage.

Targeted areas include:

- Manganese ore through the expansion of our mining operations in Gabon and the search for value-creating acquisitions;
- Developments in mineral sands in Senegal or in other countries;
- Development of the Weda Bay nickel deposit.

③ Energy transition

The third component involves the expansion of the portfolio into metals for energy transition: lithium, nickel salts and cobalt.

Eramet has significant scientific, industrial and commercial advantages in these metals, for which demand is expected to increase in the coming years due to the demand for rechargeable batteries and, more broadly, the booming development of energy transition.

PERFORMANCE

SLN rescue plan

In New Caledonia, faced with numerous internal and external challenges, a rescue plan for SLN was outlined at the end of 2018. Its success requires the involvement of all stakeholders. This plan is based on the effective implementation of a new business model, including an increase of exported ore quantities, progress in improving internal performance, and the short-term reduction in energy prices.

The new business model is rebalanced on two activities, mining and metallurgy, allowing an increase in the company's revenue through improved valuation in its current mining deposits and a reduction in cash-cost accordingly. The success of this model is based on a target volume of 4 Mt ore exported per year by 2021. The rescue plan is targeting an intrinsic improvement in cash-cost of USD 1.30/lb by 2021.

To achieve this, SLN is in constant dialogue with all concerned stakeholders, particularly local authorities and social partners.

PERFORMANCE

Industrial restructuring of A&D and Erasteel

Since 2018, the strategic review conducted in the High Performance Alloys Division has made it possible to:

- Focus the division's operations on six major strategic market segments: aeronautics, land-based turbines, defence, nuclear, high-speed steels from powder metallurgy and additive manufacturing;
- Define a project for structuring the operations of Aubert & Duval and Erasteel into three separate business units (BU), responsible for their own performance: Closed-die forgings BU, Rolled and Forged products BU and High-speed steels and Recycling BU;
- Revamp processes and the quality culture;
- Focus employees on the improvement in sales and customer satisfaction.

The objective of each business unit is to improve performance in a more agile structure, acquire new market shares in strategic segments. This is the case in particular in the aerospace industry for mono-corridor programmes, both for engine and structure parts and for long products.

GROWTH

Increase in the production of manganese ore in Gabon

In view of the reserves of the Moanda mine in Gabon, a manganese ore production capacity of about 7 Mt in the long term can be envisaged.

An alternative process involving the dry processing of part of the ore started at the end of 2018 in order to extend the life of the Bangombé plateau currently being exploited. This process allows for flexibility in the operation of the mine, and an increase in volumes produced in the short term. On this basis, production in 2019 stood at 4.8 Mt of manganese ore, reflecting major progress in Comilog's organic growth.

In 2019, Eramet continued to study the "brownfield" extension of the Moanda mine aiming to develop the Okouma plateau, in parallel with that of Bangombé. The project has been reviewed based on a new modular approach.

The modular approach optimises industrial investments and is conditioned on starting production at the Okouma plateau in 2020 and more intensive use of the dry processing alternative for the entire mine.

This growth dynamics is supported by the railway renovation programme with a doubling of the transportation capacity of Transgabonais, operated by Setrag, a 100% subsidiary of Comilog. Since the start of the programme in 2016, capacity has increased by over 70%. In 2019, a new milestone was crossed in the renovation programme, particularly in terms of digital transformation, with the implementation of a new control centre equipped with digital communication with rolling convoys.

GROWTH

Growth in mineral sands

In 2018, Eramet also reinforced its portfolio in the attractive mineral sands industry. The Group thus took 100% control of TiZir on 1 July 2018, following the successful takeover bid for MDL (Australian company which then owned 50% of the joint-venture). The quality of mine in Senegal and the enrichment capacity of part of the ore at the plant in Norway make it a major player in the mineral sands industry. The Group is looking into de-bottlenecking options in the medium-term for the Senegal production.

In 2019, Eramet also obtained a mining exploration licence in Cameroon for the Akonolinga rutilifere block.

GROWTH

Development of the Weda Bay nickel deposit

The Weda Bay project in Indonesia, is based on world-class deposits, developed in partnership with the Chinese company Tsingshan, the leading producer of stainless steel. The mine, which will supply several plants, started operations in 2019. In 2020, there are plans to produce nickel ferroalloy from the Weda Bay deposit (NPI), with a targeted capacity of 30 kt nickel content per year eventually. NPI is enjoying strong demand from the stainless steel industry. Eramet is highly involved in the development of the mine. The start of operations is scheduled in 2020. Eramet will have an off-take right of 43% of volumes produced, equivalent to its stake in the holding company controlling this asset.

** Nickel Pig Iron (NPI)*

ENERGY TRANSITION

Nickel and cobalt for batteries

The study of diversification of the development of the Weda Bay deposit for the production of nickel and cobalt salts is an opportunity to expand the Group's product portfolio into critical metals for the energy transition.

The development into Li-ion (lithium, nickel, cobalt) batteries recycling with the launch of the R&D programme, is also a part of this dynamic.

ENERGY TRANSITION

Lithium project in Argentina

The aim of this project is to allow the Group to diversify its asset base, both geographically and financially, via lithium, a critical metal for energy transition. Since the discovery of the Centenario-Ratones deposit, geological works have increased the quantity of drainable resources to 9.9 Mt LCE (lithium carbon equivalent), making it a world class resource. Technical and financial studies were finalised in 2019. The targeted production capacity is 24 kt LCE per year.

From top to bottom

View of the Moanda manganese mine in Gabon

Manganese ore transportation

Transportation of mineral sands to the Port of Dakar in Senegal

Quinoa crop in Argentina's Puna region.

The ambition and vision of the Eramet Group are also based on managerial transformation and digital transformation, which is a cross-cutting growth and performance driver.

Managerial transformation

In-depth managerial transformation, a key condition for properly executing the current strategy, is in progress. Its aim is to deploy managerial and operational excellence at all levels of the organization: upward revision of the level of ambition; light, flexible and responsive organizations; skills enhancement in leadership, empowerment and performance management; rigorous approach to execution; focus on results. This transformation should improve performance and make it easier to realise our strategic ambitions; Eramet has been strengthened with the addition of new skills, a key factor in this transformation's success, with close to half of positions on the senior management team in the last two years held by new recruits from both inside and outside the Group.

Digital transformation

Today, thanks to the exponential increase in computing power, digital technologies make it possible to rethink the ways we operate, both in mines and in plants, and even transform business models. Digital transformation is a major component of value creation for Eramet. Mining and Factory 4.0 are becoming a reality: IOT coupled with predictive or conditional maintenance algorithms, drones in mines, artificial intelligence in geology or metallurgy are some of the areas where rapid progress is being made.

Our CSR commitment

"We create sustainable value by combining operational performance with a positive impact on our environment and society."

Eramet's CSR approach is an integral part of its strategic vision. Implemented in each of the five pillars of the strategic vision, it is embodied most specifically by its ambition to be a committed and contributive corporate citizen and a home for best talents.

3 thematic thrusts

Serving as a meeting point between its businesses, its strategy and the global challenges to which Eramet is confronted, the 2018-2023 Roadmap provides a framework for the Group's organised, defined and measurable approach to progress in terms of corporate social responsibility.

Commitment to people

1. Ensure the Health and Safety of employees and subcontractors
2. Build skills and promote talent and career development
3. Strengthen employee engagement
4. Integrate and foster the wealth of diversity
5. Be a valued and contributing partner of our host communities

Be a responsible economic player in daily life

6. Be an energy transition leader in the metals sector
7. Actively contribute to the development of the circular economy
8. Be a company of reference in terms of respect for Human Rights in our field of activity
9. Be an ethical partner of choice
10. Be a responsible company of reference in the mining and metallurgy sector

Commitment to the planet

11. Reduce our atmospheric emissions
12. Protect water resources and accelerate the rehabilitation of our mining sites by fostering biodiversity
13. Reduce our energy and climate footprint

Each of the above commitments is associated with a public objective, which Eramet aims to achieve by 2023. All of the targets and the progress made in 2019 by the Group are presented in chapter 6.

MORE INFORMATION
For more information on Eramet's CSR commitment and its achievements in 2019 refer to the Group's Non-Financial Performance Statement (chapter 6).

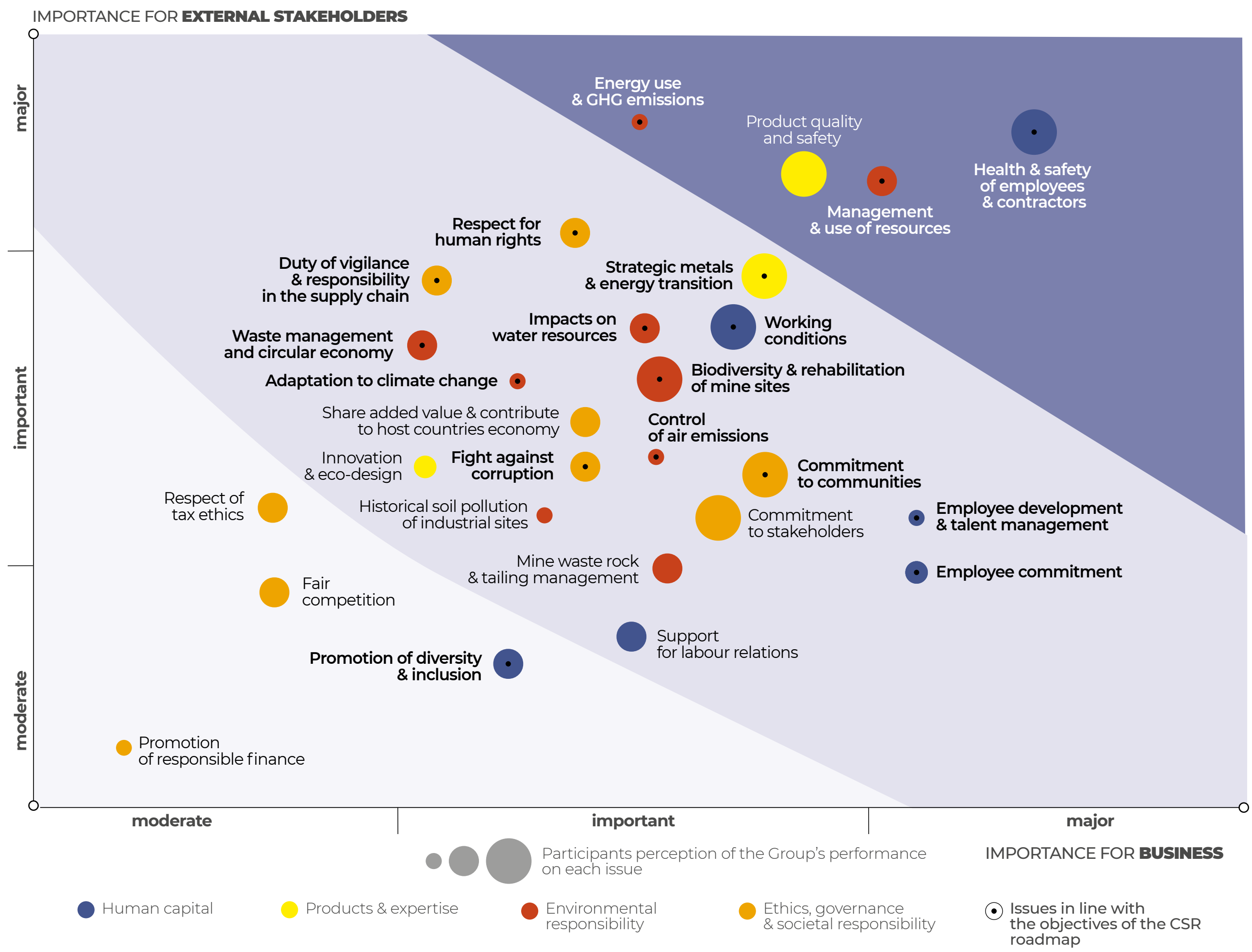
Contribution to Agenda 2030

Through its economic and productive activities, Eramet directly meets the United Nations' Sustainable Development Goals (SDGs) 8, 9, 12 and 13. Eramet's CSR Roadmap, based on these goals, particularly contributes to the human, ethical and environmental issues.

- Eramet committed to people
- Eramet committed to economic responsibility
- Eramet committed to the planet

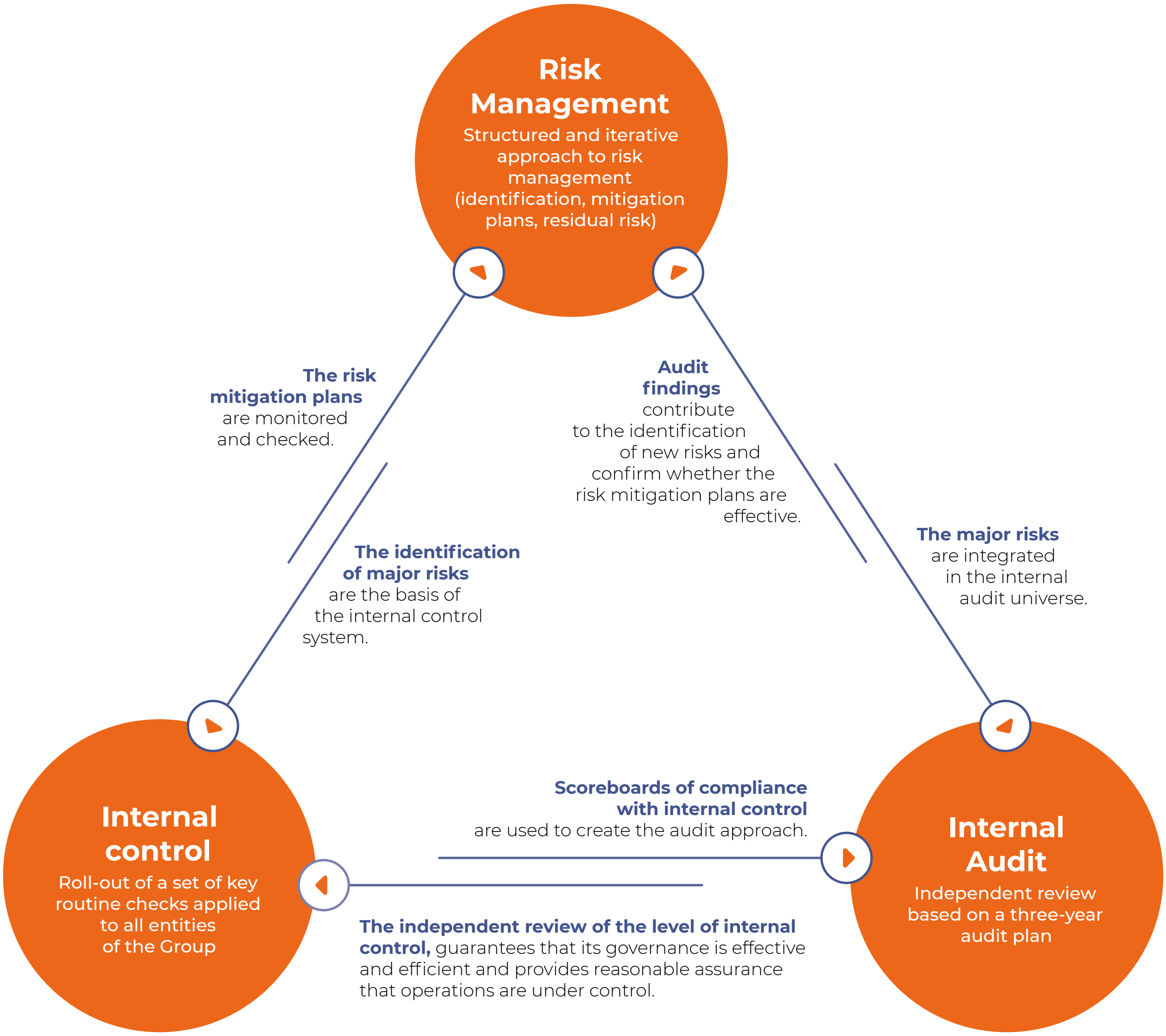
Materiality matrix

As a cross between the importance of CSR issues to the company and stakeholders' expectations on these issues, the materiality analysis leads to the management of an open and dynamic CSR strategy. The exercise conducted in 2019 clearly indicates the relevance of the issues that make up the CSR roadmap. For more information on this initiative, refer to chapter 6.



Risk Management

To fully realise its strategic objectives and develop its activities, Eramet put a risk management system in place built on an integrated approach and a dedicated governance.



MORE INFORMATION
For more information on Eramet's risk management, refer to chapter 5.

Governance dedicated to risk management with a stringent action plan

The Eramet Group is committed to a risk management approach that provides a better understanding of its risks and engages in calculated risk-taking to increase its performance and enable it to take better advantage of opportunities. In this respect, risk management is considered by the Eramet Executive Committee to be a key component of the Group's governance system.

Risk mapping

The 2019 update of the Group risk mapping shows the following risks.

CATEGORY	RISK FACTORS	NET SIGNIFICANCE LEVEL
• **Strategic**	Geopolitical risks	High
	Risks that the Group's portfolio assets which have not been sufficiently profitable will not be recovered, or inability to reposition certain Group entities in terms of competitive costs	Average
	Risks of social and environmental acceptability	Average
	Risks related to non-execution of the chosen strategy of profitable growth with a diversified portfolio of activities	Average
• **Operational**	Risks related to the Supply Chain – Manganese ore	High
	Risks of breakdown in delivery to a strategic client of Aubert & Duval	High
	Risks inherent to production reliability and the development of new metallurgical products	Average
	Risk of failure of information systems, protection of information and cyber attacks	Average
	Risks related to security	Low
	Risks related to industrial and environmental safety	Low
	Risks to the health and safety of persons	Low
• **Legal**	Risk of legislative and regulatory changes	Average
	Risk of non-compliance with regulations and ethics	Low

Our governance

Board of Directors

Eramet shares are traded on the Euronext Paris market. At 31 December 2019, the number of shares owned by the group formed between Sorame and Ceir, on the one hand, and FSI Equation (subsidiary of Agence des Participations de l'État, acting on behalf of the government) represented 62.51% of the share capital. Eramet refers to the principles of corporate governance of listed companies set out in the Afep/Medef code, which can be consulted on Medef's website.
The Board of Directors exercises the powers conferred by law to act in all circumstances in the name of the company.

19
MEMBERS

Christel Bories
Chairperson and CEO
French nationality

Michel Antseleve
Director
Gabonese nationality

Emeric Burin des Roziers
Director
French nationality

Christine Coignard
Independent Director
French and Canadian nationality

François Corbin
Independent Director
French nationality

Jérôme Duval
Director
French nationality

Sorame, represented by Cyrille Duval
Director
French nationality

CEIR, represented by Nathalie de La Fourniere
Director
French nationality

Frédéric Gaidou
Director representing employees
French nationality

Jean-Yves Gilet
Director
French nationality

Philippe Gomes
Director
French nationality

Manoelle Lepoutre
Independent Director
French nationality

Jean-Philippe Letellier
Director representing employees
French nationality

Miriam Maes
Independent Director
Dutch nationality

Louis Mapou
Director
French nationality

Catherine Ronge
Independent Director
French nationality

Sonia Sikorav
Independent Director
French nationality

Claude Tendil
Independent Director
French nationality

Bruno Vincent
Director appointed by the Government
French nationality

Proportion of independent directors (7/17):
41%*

Parity level on the Board of Directors (7/7):
41%*

** These ratios do not include directors representing employees.*

Board of Directors

7
Meetings in 2019

93%
Average attendance rate of Directors at meetings

Board of Directors and its Committees*

NUMBER OF COMMITTEE MEETINGS IN 2019

6
Audit, Risks and Ethics Committee

3
Strategy and CSR Committee

5
Remuneration and Governance Committee

3
Appointments Committee

98%
Average attendance rate at committee meetings

* *External assessment of the operations of the Board of Directors and of its Committees*

Executive Committee

This Committee consists of Operational Departments as well as Support Departments. As at the date of this Universal Registration Document, the Executive Committee has three women members and is made up as follows:

• **Christel Bories**	Chairperson and CEO
• **Virginie de Chassey**	Communications and Sustainable Development Director
• **Thomas Devedjian**	Deputy CEO in charge of Finance and Digital Transformation
• **Jérôme Fabre**	Deputy CEO in charge of the High Performance Alloys Division
• **Philippe Gundermann**	Director of Strategy, Innovation and Investor Relations
• **Jean de L'Hermite**	Group Legal Director
• **Anne Marie Lemaignan**	Human Resources, Health and Security Director
• **Kléber Silva**	Deputy CEO in charge of the Mining and Metals Division

Financial performance

EBITDA at €630 million in 2019, reflecting good operating performance, in a deteriorated manganese price environment.

N.B.: all the commented changes in FY 2019 are calculated with respect to FY 2018, unless otherwise specified.

CHIFFRES CLÉS D'ACTIVITÉ

The Group's FY 2019 sales totalled €3,671 million, down 4%. At constant scope[1,2], and exchange rates[2], the change in sales declined 8%, mainly owing to the decline in manganese ore prices, in addition to the logistics situation at Aubert & Duval, due to bringing quality processes into conformity.

Group EBITDA ended at €630 million, down -€213 million, impacted by a -€268 million manganese price effect and -€49 million due to logistics difficulties at Aubert & Duval. Operating improvements (+€39 million) were also penalised by the strikes in H2 2018 and H1 2019 at SLN, which affected ore supplies and operations at the Doniambo plant, as well as by an increase in transport costs at Comilog. These effects hindered the operational breakthroughs made in 2019, specifically production records in the mines.

The Group's current operating income ended at €341 million, down 41%.

Income before tax amounted to €89 million, after recognition of -€118 million in non-operating income and expenses, including a provision for an asset impairment at Erasteel (-€25 million), and -€134 million in financial result.

Net income, Group share reported a loss of -€184 million, including a -€227 million tax charge. This charge is largely owing to taxes in Gabon (-€147 million).

Investments have been focused on modernising industrial tools and preparing strategic projects. Related cash outflow totalled €423 million, of which €132 million in preparation work for the two strategic projects in Gabon and Argentina.

Free Cash-Flow (FCF) ended at -€358 million at end-December 2019, of which -€274 million in non-recurring items. This includes the -€160 million non-recurring effect related to logistics difficulties at Aubert & Duval, of which -€80 million due to the strong increase in work-in-progress inventories. FCF was also penalised by a -€114 million payment made to the Gabonese government related, on the one hand, to the advance and exceptional payment of corporate income tax, and on the other, to the payment of a tax audit.

Finally, dividends paid to Eramet shareholders and Comilog minority shareholders in respect of the 2018 financial year amounted to €20 million and €86 million respectively.

Net debt stood at €1,207 million, excluding the IFRS 16 impact. Eramet has applied IFRS 16 since 1 January 2019 with a simplified retrospective application, resulting in an increase of €97 million, with no impact on cash, and total recorded net debt of €1,304 million.

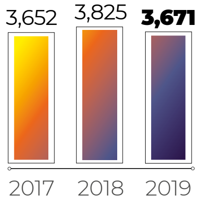
At December 31, 2019, **Eramet's financial liquidity** remained high at €2.3 billion, including available cash of €848 million in the balance sheet.

The evolution in the **Group's financial ratios** (gearing at 74% excluding IFRS impact and gearing at 63%[3] within the meaning of the financial covenants) drove management to start an action plan. The Group took measures to maintain cash position, including strict industrial capex control, with the aim of controlling the level of net debt and preserving gearing. The Group might also plan initiatives to strengthen its financial structure such as disposals or partnerships.

Moreover, a proposal not to pay out any dividends in respect of the 2019 financial year will be made at the Shareholders' general meeting held on 26 May 2020.

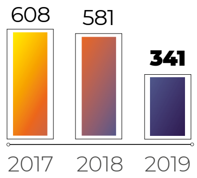
1 The scope effect corresponds i) to the 100% consolidation of the Mineral Sands activity in the Group reporting beginning on July 1, 2018, following the acquisition of the shares of Mineral Deposits Limited, an Australian company which owned 50% of the capital of TiZir, and ii) the equity consolidation starting January 1, 2019 of UKAD (High Performance Alloys Division).
2 See Financial Glossary on page 394.
3 Excluding IFRS 16 impact and excl. French government loan to SLN.

SALES
(€ millions)



Sales down by **4%** compared with 2018.

CURRENT OPERATING INCOME
(€ millions)



The Group's current operating income is down by **41%**, compared with 2018.

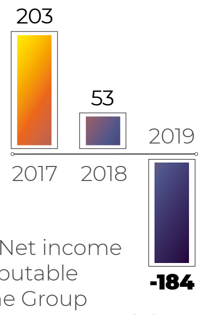
€630M

EBITDA 2019

€2.3bn

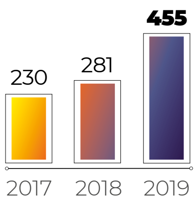
of financial liquidity
(at 31 December 2019)

NET INCOME GROUP SHARE
(€ millions)



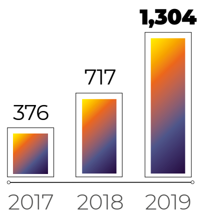
The Net income attributable to the Group is down **-€184 million**, after recognition of non-operating result and expenses (-€118 million), financial result (-€134 million) and a tax expense (-€227 million) mainly due to taxes in Gabon.

INDUSTRIAL INVESTMENTS
(€ millions)



Industrial investments stood at **€455 million** and were dedicated to the modernisation of industrial tools and the preparation of strategic projects.

NET FINANCIAL DEBT
(€ millions)



Net debt at **€1,207 million** (excl. Impact of IFRS 16 – non-cash) at 31 December 2019.

BREAKDOWN OF CURRENT OPERATING INCOME

(by business sector)	**2019**	2018[2]
• **Mining and Metals Division**		
Manganese BU	459	699
Nickel BU	-58	-111
Mineral Sands BU[1]	64	35
• **High Performance Alloys Division**	-68	-8
Holding	-56	-34
Total	**341**	581

1 Mineral Sands activity fully consolidated in the Group's accounts as of 1st July 2018, versus 50% previously.
2 See note 2 of "Summary consolidated financial statements" table.

BREAKDOWN OF INDUSTRIAL INVESTMENTS

(by business sector)	**2019**	2018
• **Mining and Metals Division**		
Manganese BU	234	140
Nickel BU	35	57
Mineral Sands BU	13	12
Lithium BU	101	0
• **High Performance Alloys Division**	53	63
Holding	20	9
Total	**455**	281

SUMMARY OF THE CONSOLIDATED FINANCIAL STATEMENTS

(€ millions)[1]	2019	2018[2]	Change (€m)	Change[3] (%)
Sales	**3,671**	3,825	-154	-4 %
EBITDA	**630**	843	-213	-25 %
Current operating income	**341**	581	-240	-41 %
Net income - Group share	**-184**	53	-237	N/A
Free Cash-Flow	**-358**	-211	-147	-70 %
Net debt (Net cash), excl. impact of IFRS 16	**1,207**	717	490	+68 %
Gearing excl. impact of IFRS 16[4]	**74%**	38%	+36 pts	N/A
Gearing incl. impact of IFRS 16[4]	**80%**	38%	+42 pts	N/A
ROCE (ROC/Capital employed[5] of year n-1)	**12%**	22%	-10 pts	N/A

1 Data rounded to the nearest million. 2019 figures after application of IFRS 16 on 1 January 2019, except for net debt and gearing. The comparative tables are presented in chapter 3 (3.1, Note 3) of this document, with a non-significant impact on EBITDA and COI.
2 Until 2018, restated data from the Group reporting in which joint ventures are accounted for using the proportionate consolidation method. Reconciliation with the published financial statements is presented in chapter 3 (3.1, Note 4) of this document.
3 Data rounded up or down to the nearest %.
4 Ratio of net debt to shareholders' equity.
5 Sum of equity, net financial debt, provisions for restoration of sites, provisions for restructuring and other social risks, less non-current financial assets, excluding capital employed at Weda Bay Nickel.

NON-FINANCIAL PERFORMANCE

ACHIEVEMENT OF TARGETS IN 2019

In 2018, Eramet outlined its CSR Roadmap, which establishes a link between its priority environmental and societal issues and the Group's strategic vision. This 2018-2023 CSR Roadmap is structured around three core components: A committed player for women and men, A responsible economic player and A committed player for the planet. For each of the thirteen objectives that make up the Roadmap, Eramet has defined quantitative and qualitative targets, with progress assessed every year.

In order to assess the overall progress of its Roadmap, Eramet measures its CSR performance index based on the year's achievements. For 2019, this index reached 112 (with 100 indicating achievement of all targets). Most of the targets set for the year were achieved. More than half of them even exceeded the set targets. This is particularly the case for three of the environmental targets, relating respectively to rehabilitation of mining sites, dust emissions and recovery of industrial waste.

112

2019 CSR performance index (target 100)

80%
of industrial sites ISO 14001 certified in 2019

1.2
ratio of rehabilitated/cleared areas at mining sites (target ratio 1)

€20.2 MILLION
invested for the benefit of communities*

87%
of low carbon footprint electricity bought

** Expenditure for the benefit of local populations and for sponsorship, including Comilog's exceptional contribution this year for financing road rehabilitation works in Moanda (€5 million).*

The Group's outlook in 2020

At the date of publication of this Universal Registration Document and in the current context of the Coronavirus pandemic marked by the uncertainty in the global economy, Eramet is fully committed to tackling developments in the situation.

THE GROUP HAS TWO PRIORITIES:

- **Protecting the health of all its employees as well as their family, and contributing to containing the pandemic, while complying with all health safety measures imposed by relevant authorities**
- **Ensuring, to the extent possible, business continuity by adapting organizations, working closely with employees, suppliers and customers.**

A crisis meeting is held on a daily basis to coordinate actions in all the Group's locations. A health protocol compliant with authorities' recommendations is being rolled out across all sites.

Considering the uncertainty surrounding the length of the pandemic as well as its scale and impact on the Group's supplies and markets, Eramet is currently not in a position to accurately measure its impact on production and performance targets for 2020. As a result, the Group decided to suspend guidance for 2020 production and EBITDA as communicated to the market in its press release of 19 February 2020. Once there is more visibility on the impact of the pandemic, Eramet will provide an update on its outlook for the current financial year.

The Group's liquidity level - €2.3bn at 31 December 2019, which includes lines of liquidity that had not been drawn down at that date for €1.5bn - remains high. All credit lines have since been drawn down as a precaution. Cash preservation measures have also been strengthened and accelerated in order to preserve Group liquidity and financing capacity; main levers include cost and capital expenditures cutting to a strict minimum, as well as new measures put in place to closely control invoicing flows and cash collection processes.

As regards the Mining and Metals division, in a fast-changing environment, it is still too soon to assess the pandemic's overall impact in the quarters ahead. There is still considerable uncertainty about how the pandemic will affect the outlook for end-markets, notably the carbon steel and the stainless steel industries and the entire value chain. Some countries, including South Africa and India, have temporarily suspended their mining and metallurgy activities. Parallel to this, business activity is gradually resuming in China, the main global consumer of manganese, nickel and raw materials overall. Nonetheless, Chinese producers have built up large carbon and stainless steel inventories that are likely to weigh on demand for raw materials eventually. In Europe, steel industry players have announced a number of slowdowns and temporary suspensions in production, especially impacting products in the automotive sector.

Mining and metallurgy production have not been significantly impacted to date (Gabon, New Caledonia, Senegal, mainland France, Norway and the United States). However, the situation could change rapidly. First-quarter order intakes are still at a normal level, particularly in Asia, which accounts for more than half of the division's sales. As it stands, the division's mines and metallurgical plants are in a position to provide the volume ordered.

In Indonesia, as announced end-February, the low-grade nickel ferroalloy (NPI) plant that the Group is developing in a joint venture should start operations in first-half 2020.

Moreover, manganese ore market prices [1] observed since early 2020 are above those of fourth-quarter 2019 on average. Conversely, nickel prices at the LME are down approximately 17% on average since the start of the year versus fourth-quarter 2019.

Regarding the High Performance Alloys division, as a result of the health protocol being rolled out across all sites, the division is currently reorganising its plants' production lines to ensure continuity in its industrial operations.
This adaptation results in a temporary shutdown or suspension for some activities in France.
With half of its activity driven by the aerospace sector, the division expects to start operations again gradually in line with the rebound in business for large accounts in the sector.

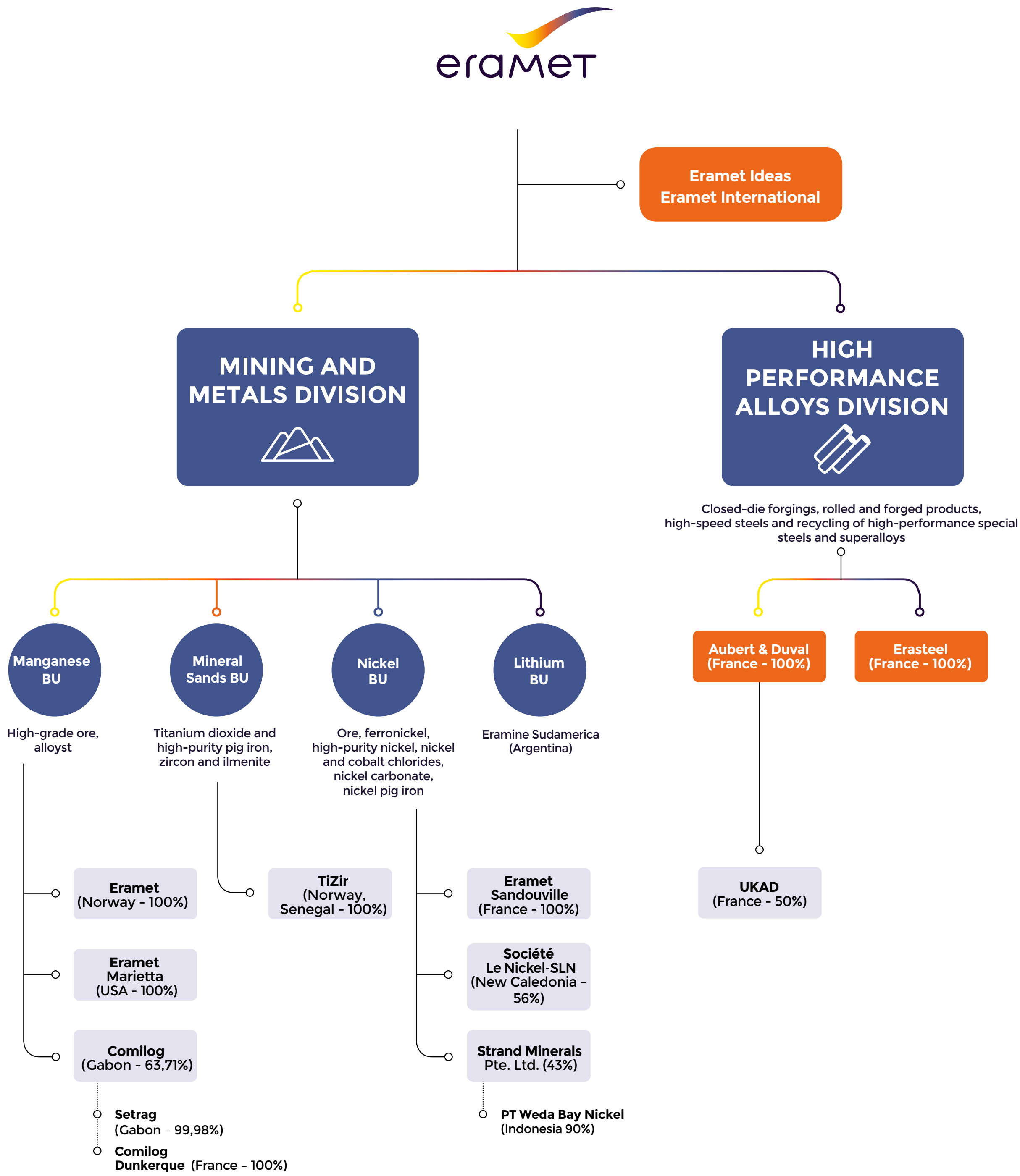
Moreover, the Group has set up a systematic teleworking system for service functions.

(1) Eramet estimations.

2

Activities

Group structure



2.1 MINING AND METALS DIVISION

2.1.1 Manganese BU

2.1.1.1 The manganese market

2.1.1.1.1 Demand for manganese

Main applications

Steel

Over 90% of the world's manganese is used for the production of steel. All steel producers use manganese in their production processes – an average of 6-7 kg per tonne of steel. Manganese is used in steel in the form of manganese metal (pure manganese) or as an alloy (ferromanganese or silicomanganese) with an average content of 70% manganese: 1.8 tonnes of ore with roughly 40% manganese content are required to produce one tonne of alloy.

Manganese is mostly used in manganese alloys and accounts for a very small portion of the cost of steel production. It is mainly used as an alloying element to improve hardness, abrasion resistance, elasticity and surface condition for rolling. As an alloy element, it cannot be replaced by other non-ferrous metals. It is also used for deoxidation and desulphurisation during production.

Other applications

- Batteries: mainly alkaline batteries. A less significant application is in saltwater batteries, which have an inferior performance. Manganese derivatives are also used in rechargeable lithium batteries;
- Ferrites: used in electronic circuits;
- Agriculture: fertiliser and animal feed;
- Various chemicals: pigments, fine chemicals;
- Other metallurgical uses: mainly as a hardening agent for aluminium (beverage cans).

Carbon steel, main market

Demand for manganese largely depends on changes in the global production of carbon steel. The economic take-off of China, which has experienced rapid urbanisation with growing demand on its infrastructure, has also contributed significantly to the long period of strong growth in steel production and demand for manganese over the last two decades.

World gross production of carbon steel, the main outlet for manganese, increased by 3.6% in 2019 compared with 2018, to 1,867 Mt, an all-time record. China accounts for more than 50% of global production.

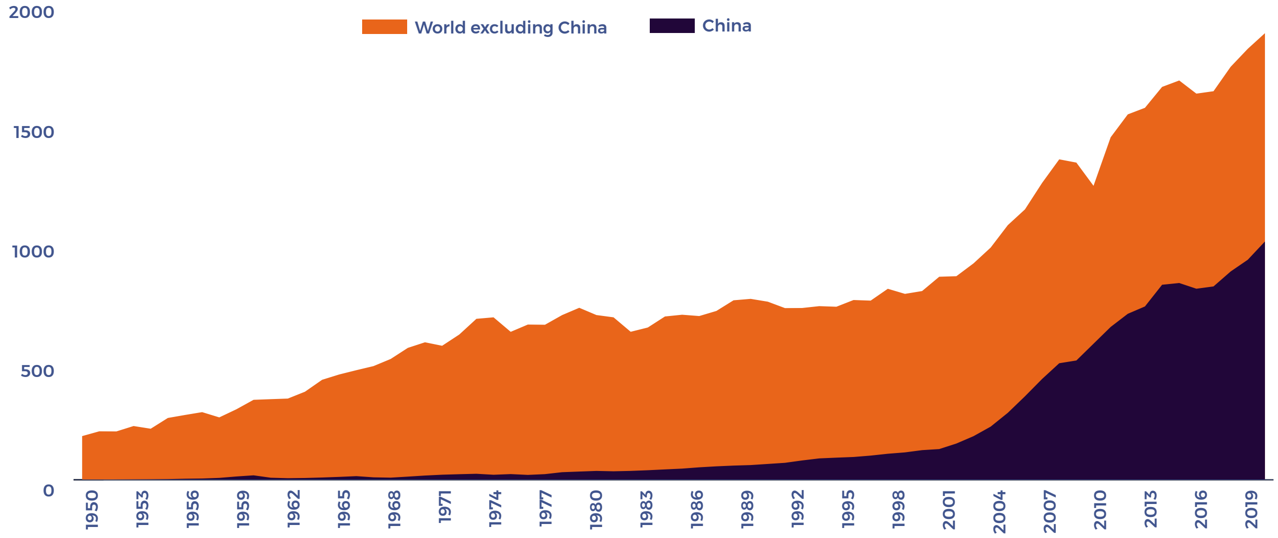
The medium and long-term outlook remains positive. Demand for steel is likely to continue to be driven by developing countries.

BREAKDOWN OF CRUDE STEEL PRODUCTION (67 COUNTRIES)

Global production of raw steel	Volumes *(millions of tonnes)*					% annual growth				
	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
European Union	166.0	161.7	168.7	167.7	159.2	-1.9%	-2.6%	4.3%	-0.6%	-5.1%
Other Europe (including Turkey)	35.5	37.4	42.1	42.3	39.2	-2.0%	5.4%	12.6%	0.4%	-7.4%
CIS	101.6	102.1	100.8	101.1	99.7	-4.1%	0.5%	-1.3%	0.3%	-1.4%
North America	110.9	110.6	115.8	120.9	119.2	-8.4%	-0.3%	4.6%	4.4%	-1.4%
South America	43.9	40.2	43.7	45.0	41.2	-2.5%	-8.4%	8.6%	3.0%	-8.5%
Africa	13.2	12.5	14.0	14.9	14.9	-7.7%	-4.6%	11.2%	6.6%	0.5%
Middle East	27.4	29.2	32.5	36.5	43.3	-2.1%	6.6%	11.1%	12.4%	18.6%
China	798.8	808.4	870.9	920.0	996.3	-2.9%	1.2%	7.7%	5.6%	8.3%
India	89.0	95.5	101.5	109.3	111.2	2.0%	7.2%	6.3%	7.7%	1.8%
Other Asia and Oceania	228.1	226.8	236.8	244.2	243.0	5.0%	-0.6%	4.4%	3.1%	-0.5%
67 COUNTRIES	**1,614.4**	**1,624.5**	**1,726.6**	**1,801.9**	**1,867.1**	**-2.0%**	**0.6%**	**6.3%**	**4.4%**	**3.6%**

Source: World Steel Association, January 2020.

Trends in global crude steel production *(millions of tonnes)*



Source: World Steel Association, Eramet. January 2020.

2.1.1.1.2 Manganese supply

Manganese ore

The supply of manganese ore is made up of several types of ore of varying qualities. A distinction is generally made between the supply of medium to high-grade ore (30-48% manganese content), which is profitable to transport and export (these ore flows are classified as "seaborne"), and low-grade ore, which is consumed and transformed locally.

Even though these two types of ore are used in combination by alloy producers, the use value of high-grade ore is far greater than that of lower-grade ore.

Global ore production in 2019 was estimated at approximately 20.1 million tonnes of manganese content.

MANGANESE ORE PRODUCTION *(MILLIONS OF TONNES CONTENT)*

	2014	2015	2016	2017	2018	2019
South Africa	5.4	4.7	4.4	5.9	6.8	6.9
Australia	3.2	3.0	2.3	2.6	3.4	3.1
China	4.0	3.3	2.4	1.7	1.3	1.3
Gabon	1.5	1.7	1.4	2.0	2.2	2.5
Brazil	0.9	0.9	0.9	1.1	1.2	1.5
India	0.8	0.7	0.7	0.8	0.9	0.9
Kazakhstan	0.4	0.2	0.2	0.2	0.2	0.2
Ghana	0.4	0.4	0.6	0.8	1.1	1.5
Ukraine	0.4	0.3	0.5	0.4	0.5	0.4
Malaysia	0.2	0.1	0.2	0.3	0.4	0.3
Other	3.2	3.0	2.3	2.6	3.4	3.1
WORLDWIDE	**17.9**	**15.9**	**14.2**	**16.7**	**19.2**	**20.1**

Source: producer reports, Eramet estimates, January 2020.

Manganese alloys

Manganese alloys are produced by reducing manganese ore at a temperature of approximately 1,600°C. This process is carried out by adding coke to furnaces, which are mostly electric. However, some producers, mainly based in China, use blast furnaces but this process is less and less used, given the price of coke. Outside of China, blast furnaces can also be found in Japan and Eastern Europe.

There are four families of manganese alloys:

- high carbon ferromanganese (HCFeMn) contains 65-79% manganese and 6-8% carbon. It can be produced using an electric furnace or a blast furnace;
- silicomanganese (SiMn) contains 60-77% manganese. It can only be produced by reduction in an electric furnace using ore, possibly supplemented by an addition of HCFeMn slag;
- refined ferromanganese (MCFeMn and LCFeMn) is a higher value-added product containing less carbon. It is mainly produced by transferring molten HCFeMn alloy to an oxygen converter which reduces the carbon content to the desired level, or by a high temperature reaction between silicomanganese, which is intrinsically low in carbon, and calcined ore. A distinction is made between medium carbon ferromanganese (1.5% carbon: MCFeMn) and low carbon ferromanganese (0.5% carbon: LCFeMn), mainly used in the production of flat steels and special steels;
- refined silicomanganese (low carbon, LCSiMn) is primarily used to produce stainless steel. It is obtained using a process similar to that using in silicomanganese production, but at higher temperatures and requiring more reducers (coke).

Manganese BU is the world's leading producer of refined alloys

MANGANESE ALLOY PRODUCTION *(MILLIONS OF TONNES GROSS)*

	2014	2015	2016	2017	2018	2019
China	10.8	7.7	9.0	9.5	12.5	14.7
India	2.3	2.0	1.9	2.2	2.3	2.4
Ukraine	1.0	0.8	0.9	0.9	1.0	0.9
Japan	0.5	0.5	0.7	0.7	0.7	0.7
Norway	0.6	0.6	0.6	0.7	0.7	0.6
South Korea	0.8	0.7	0.6	0.6	0.6	0.6
Russia	0.4	0.3	0.4	0.5	0.5	0.6
South Africa	0.9	0.6	0.4	0.4	0.4	0.4
Brazil	0.2	0.2	0.3	0.2	0.3	0.3
Georgia	0.2	0.2	0.2	0.2	0.3	0.3
Australia	0.3	0.3	0.2	0.2	0.3	0.2
Mexico	0.2	0.2	0.2	0.2	0.2	0.2
France	0.2	0.2	0.2	0.2	0.2	0.2
Spain	0.3	0.3	0.2	0.3	0.2	0.2
United States	0.2	0.2	0.2	0.2	0.2	0.1
Kazakhstan	0.2	0.2	0.1	0.1	0.1	0.1
Other	0.5	0.4	0.5	0.9	1.1	1.2
WORLDWIDE	**19.4**	**15.4**	**16.5**	**18.0**	**21.6**	**23.7**

BREAKDOWN OF GLOBAL MANGANESE ALLOY PRODUCTION

	2014	2015	2016	2017	2018	2019
Silicomanganese	67%	69%	73%	70%	73%	76%
High-carbon ferromanganese	25%	22%	20%	22%	19%	18%
Refined ferromanganese	8%	9%	7%	8%	8%	6%

Source: International Manganese Institute, producer reports, Eramet estimates, January 2020.

Silicomanganese has experienced the strongest growth of all the standard alloys. The availability in China (as well as in India and Ukraine) of local low-grade ore, which can easily be used to produce silicomanganese, has favoured its development. However, low-grade ores are always mixed with rich imported ores in an ongoing attempt to achieve a price/performance balance.

The Chinese market is characterised by a very large number of alloy producers that are very dependent on high-grade imported ores, which consume more than 60% of global ore flows (seaborne ore). As a result of the introduction of export taxes in 2008, China is not a significant player in the international alloy market, unlike India, which is a major exporter of commodities (SiMn and HCFeMn). However, the Chinese export tax was lifted in 2012 for Electrolytic Manganese Metal, a competitive product to refined alloys.

Manganese metal

Manganese metal is produced using a hydrometallurgical process during electrolysis (Electrolytic Manganese Metal or EMM). It is an extremely pure manganese product (over 99% Mn content), generally produced in the form of flakes. Since the hydrometallurgical process is adapted to the treatment of low-grade ores, EMM production is concentrated in China, the main exporter of metal with a traditionally very fragmented industry, but which has been highly concentrated in the last five years with the emergence of one producer that alone accounts for more than 50% of global production capacity. Apart from China, the only other countries producing manganese metal are South Africa (MMC) and Gabon, with the Moanda Metallurgical Complex (C2M of Eramet's Manganese BU).

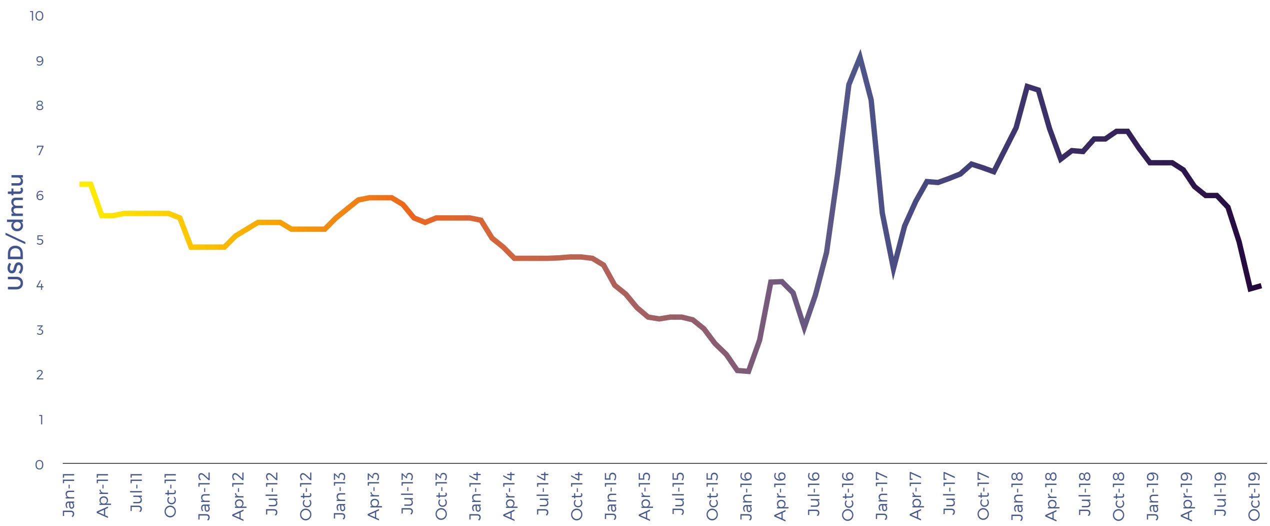
The main markets for manganese metal are carbon steel, stainless steel and aluminium production. Global manganese metal production varies between 1.1 and 1.5 million tonnes annually, depending on the year.

2.1.1.1.3 Recent market and price trends

Formation and monitoring of manganese ore prices

The sale price of manganese ore is the result of direct negotiations between buyers and sellers. It is conventionally expressed in USD/dmtu (dry metric tonne unit). One dmtu corresponds to 10 kg of manganese content. The dmtu price is higher for high-grade ores, and also depends on particle size and the possible presence of impurities.

Monthly price of manganese ore 44% CIF China *(USD/dmtu)*



Source: CRU (an independent company specialising in the analysis and publication of reference prices for the mining and metal products markets).

Formation and monitoring of manganese alloy prices

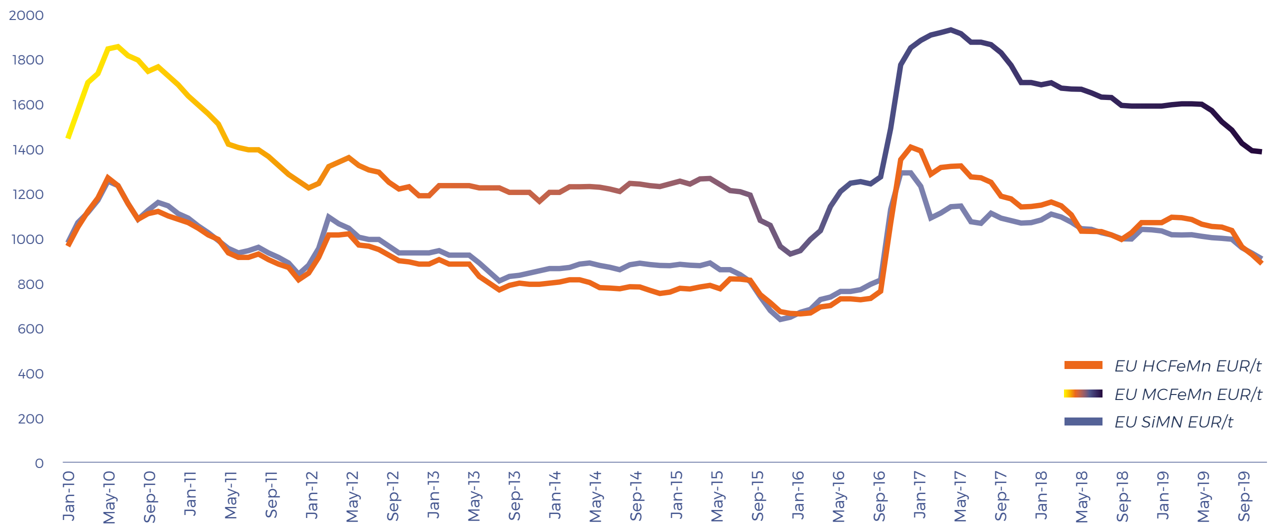
There is no market as such for manganese alloys. Prices are negotiated directly between producers and customers. As far as scheduled sales are concerned, alloy prices are often negotiated on a quarterly basis. Non-scheduled sales are often negotiated on the basis of spot prices.

The manganese alloys market is a highly competitive global market. The movement of alloys between large areas is relatively limited, due to shipment costs. Prices may vary between major geographic areas (Europe, North America and Asia) due to changes in exchange rates or lags in economic cycles.

There are also discrepancies between the different alloy families due to differences in value in use. Refined alloys in particular have a much higher sale price than standard alloys.

There are several publications specialising in metals, which track trends in manganese alloy prices using monthly spot price surveys. The graph below is based on data published by CRU.

Price of manganese alloys in Europe *(€/tonne)*



Generally speaking, fluctuations in the price of manganese alloys reflect those of ore. However, the ability of producers to preserve their margins largely depends on supply and demand regional balances for each type of alloy.

Recent market and price trends

In 2019, steel production increased by 3.6% compared with the previous year.

In 2019, manganese ore production increased by 6% in tonnes of manganese content (20.2 Mt). West Africa was the main contributor to this increase, particularly Nsuta in Ghana and NGM in Gabon, and to a lesser extent Côte d'Ivoire and Eramet's Manganese BU in Gabon. In Brazil, Buritirama and local miners largely compensated for the decrease in Vale's manganese ore production.

Growth in South Africa continued, stimulated by greater use of rail to transport manganese ore from production areas (Kalahari) to ore port terminals. Meanwhile, Australia was severely affected by the rainy season and a sharp contraction in extraction at the Bootu Creek site.

All producers thus operated at a sustained level, higher than demand, in the wake of several years with high selling prices. This resulted in an increase in ore stocks, mainly concentrated in Chinese ports.

The stocks of manganese ore in Chinese ports gradually increased to almost 5 Mt at the end of 2019 (+2.5 Mt), reflecting a surplus market.

This oversupply had a negative effect on the price of manganese ore, which decreased throughout 2019, and particularly in the last quarter, to reach 4.20 USD/dmtu (44% Mn CIF China) at year-end, a decrease over the year of almost 40%.

The sustained production of manganese metal, coupled with a slowdown in demand at the end of 2019, particularly for 200 series stainless steels in China, accentuated the fall in prices at the end of 2019 (a drop of more than 20% over the year).

Prices of silicomanganese slumped by more than 10% in Europe in 2019.

2.1.1.1.4 Market outlook

The market for manganese, used primarily in carbon steel (90% of demand), is a mature market, with limited but relatively firm growth prospects. Currently at a high level (around 1,850 million tonnes per year), demand for carbon steel is expected to grow by around 0.5-1% per year over the next few years, driven by emerging and developing countries.

2.1.1.2 Manganese BU overview

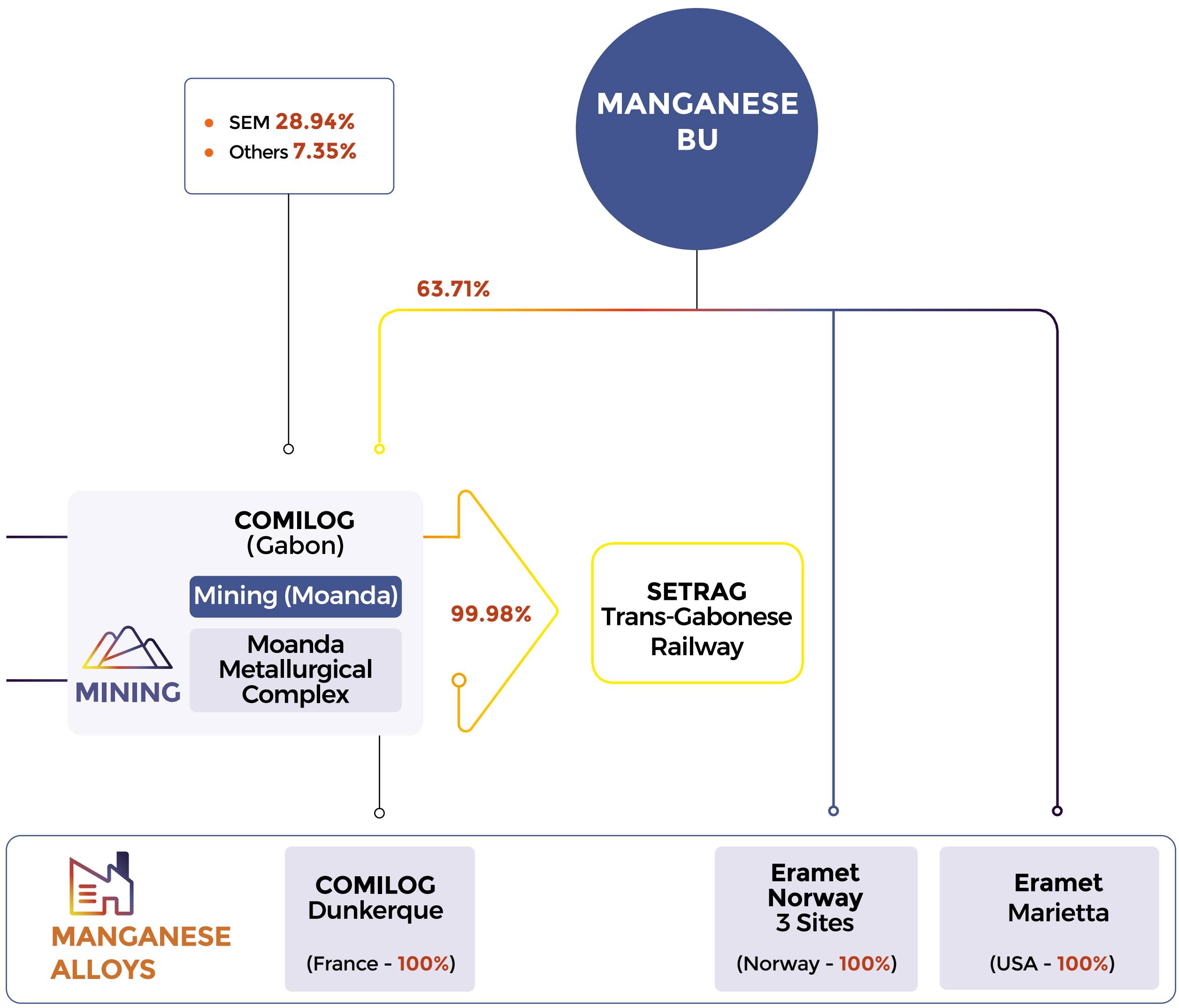
2.1.1.2.1 Manganese BU: a global leader in manganese ore across the entire value chain

The Manganese business includes ore extraction by Comilog in Gabon, its transportation by rail (including other transport activities related to the Trans-Gabonese railway concession) and its loading at the port, as well as ore recovery activities, mainly in the form of manganese alloys for the steel industry. The Manganese BU is a leading global player in the manganese industry, in both mining and ore processing, through its majority stake in Comilog alongside the Republic of Gabon and through several plants located close to consumption zones, it is:

- the world's second largest producer of high-grade manganese ore;
- the world's second largest producer of manganese alloys;
- the world's largest producer of refined alloys.

2.1.1.2.2 Structure

Organization at 31 December 2019



- Comilog is a company operating under Gabonese law and Eramet owns 63.71% of its shares. Its activities include:
  - operation of the manganese mine and sinter plant in Moanda (Gabon);
  - operation of Setrag (concession holder of the Trans-Gabonese Railway);
  - production of manganese alloys and manganese metal in Moanda (Gabon) and manganese alloys in Dunkerque (France);
  - the Maboumine (niobium/phosphates) project in Gabon.
- Eramet Norway has three alloy plants in Porsgrunn, Sauda and Kvinesdal (Norway).
- Eramet Marietta (United States) produces manganese alloys.

2.1.1.2.3 Manganese BU's activities

Manganese mining operations and processing (manganese alloys)

The mine, sinter plant and metallurgical complex in Moanda (C2M)

The Moanda mine is one of the richest manganese deposits in the world. The ore content averages about 46%. The mine's reserves are discussed at the end of this section.

Mining operations are carried out in open pits. The layer of overburden covering the ore is a few metres thick. The run-of-mine ore is extracted using excavators and loaded onto 100-tonne trucks. Ore is processed at the Moanda beneficiation unit. The resulting enriched ore is transported by conveyor to Moanda railway station.

The Moanda industrial complex processes the fine by-products of beneficiation, as well as manganiferous sediments extracted from the bed of the River Moulili. The fine products are enriched by dense medium or by high-intensity magnetic separation so as to increase their manganese content from 35% to a little over 50%. Part of the concentrates produced by this process is sold directly, while the rest is mixed with coke and sintered at a temperature of 1,300°C to achieve a product with approximately 56% manganese content. This product is then transported by conveyor and loaded onto goods wagons at Moanda railway station. The sinter plant has a production capacity of 650,000 tonnes per year.

The Moanda Metallurgical Complex (C2M) began production in late 2014. Its target production is 60,000 tonnes of silicomanganese and 20,000 tonnes of manganese metal.

The Trans-Gabonese Railway (Setrag, a subsidiary of Comilog) transports Comilog's manganese ore, as well as wood, general cargo and passengers, between Franceville and Libreville, a distance of more than 600 kilometres. Comilog owns and operates its own locomotives and goods wagons.

As of November 2005, Comilog obtained the concession for the Trans-Gabonese Railway for a duration of 30 years. This allows it to secure its connections and ensure the shipment of sharply growing quantities of ore. In 2016, the company embarked on a major railway renovation programme which will take nearly 10 years, the first stages of which have already allowed it to make significant progress in terms of logistics.

Through its subsidiary, Port Minéralier d'Owendo, Comilog is a concession holder for its ore carrier port, the port of Owendo, with a storage capacity equal to roughly one month's production. The port can accommodate 55,000-tonne ships and load them in three days.

Manganese alloy production

The Group is the world's second largest producer of manganese alloys and the world's largest producer of refined alloys, products with high added value.

The Group produces a wide range of alloys: high-carbon ferromanganese, silicomanganese, low and medium-carbon ferromanganese and low-carbon silicomanganese. The Manganese BU has been gradually increasing the proportion of refined alloys it produces. In 2014, the Moanda Metallurgical Complex (C2M) in Gabon added manganese metal to its range of products.

ERAMET MANGANESE'S PRODUCTION OF MANGANESE ALLOYS

(thousands of tonnes)	2019	2018	2017	2016	2015	2014	2013
High-carbon ferromanganese	83	54	60	76	62	68	118
Standard silicomanganese	271	281	265	268	278	237	267
Refined alloys and manganese metal	386	385	391	359	370	389	366
TOTAL	**740**	**720**	**716**	**703**	**710**	**694**	**750**

MANGANESE ALLOY PRODUCTION SITES

Site	Country	Production capacity	Type of furnace	Products
Dunkerque	France	70 kt	Electric furnace	SiMn
Sauda	Norway	220 kt	Electric furnace	HC, MC, LC FeMn
Porsgrunn	Norway	170 kt	Electric furnace	HC, MC, LC FeMn, SiMn
Kvinesdal	Norway	165 kt	Electric furnace	SiMn, LCSiMn
Marietta	United States	120 kt	Electric furnace	HC, MC, LC FeMn, SiMn
Moanda	Gabon	65 kt	Electric furnace	SiMn
Moanda	Gabon	20 kt	Hydrometallurgy	Metal manganese

In Europe, three alloy plants are located in Norway. The fourth plant is located in France (Dunkerque).

In the United States, Eramet Marietta is the larger of the two local manganese alloy producers.

Manganese BU marketing policy

Thanks to its industrial presence, the Manganese BU can offer a very comprehensive range of products and a flexible response to its customers' various manganese-related needs.

The Group maintains partnerships with its customers, providing significant technical and sales support in order to help them derive maximum benefit from their products in their own production processes. The marketing policy is managed by Eramet Comilog Manganese, which relies on the Eramet Group's international sales network, Eramet International, in a number of countries such as China, Japan, Korea and India.

2.1.1.2.4 Manganese BU in 2019

(€ million)	2019	2018
Sales	1,765	1,857
EBITDA	560	784
Current operating income	459	699
Net cash generated by operating activities	206	499
Capital employed at start of year	963	854
Industrial investments(1)	234	140

(1) Excluding right-of-use assets per IFRS 16 (€16 million).

OPERATIONAL INDICATORS

(thousands of tonnes)	Financial year 2019	Financial year 2018
Manganese ore and sinter production	4,765	4,330
Volume of ore and sinter transported	4,627	3,954
Manganese alloy and metal production	740	720
Manganese alloy and metal sales	733	703

Manganese activity

The Manganese BU's sales, which accounts for 48% of the Group's consolidated sales, fell by 5% to €1,765 million in 2019, compared with 2018. Despite significant increases in ore production levels (+10%), ore and alloys market prices declined considerably, particularly at year-end, generating EBITDA of €560 million, down 29%.

In Gabon, Comilog set a new record for ore production at 4.8 Mt (+10%), greatly exceeding the target of 4.5 Mt set for 2019. This excellent performance reflects continued operational improvements in mines, complying with CSR standards. It was achieved thanks to the new dry ore processing process started end-2018, which extracted approximately 0.5 Mt of ore during the year.

Thanks to logistics improvements, produced and transported manganese ore volumes increased by 17%, to 4.6 Mt. The renovation programme for the Trans-Gabonese railway has shown signs of success. Global freight volume (mining and others) increased 22% in 2019 from 2018 (+70% since the programme started end-2016), benefitting all Gabonese economic stakeholders. 2019 marked a key milestone with the establishment of the new traffic control centre equipped with digital communication resources with mobile trains. A total of €166 million in capex has been made as part of the programme since its launch in 2016, with €19 million paid for by the Gabonese government.

Thus, external ore sales grew 15% to 3.9 Mt over the same period.

Manganese alloys production totalled 740 kt in 2019 (+3%). Sales volumes were up 4% to 733 kt, propelled by standard alloys (+16%), with a decrease in refined ferromanganese alloys (-8%) due to a sharp downturn in the market. This unfavourable mix in addition to the margin squeeze for manganese alloys – particularly due to the downward momentum in sales prices – adversely affected performance in this activity.

Outlook

The growth outlook for global carbon steel production remains favourable in the short and medium term.

Mine reserves in Moanda, Gabon, allow a manganese ore production capacity of approximately 7 Mt in the long-term. In 2019, Eramet thus continued its brownfield expansion study for the mine aimed at the development of the Okouma plateau, in parallel with the Bangombé plateau currently in operation. Cash outflow for preparation work in 2019 totalled €51 million. The target set for manganese ore production in 2020 is more than 5 Mt.

The expansion project was reviewed based on a new modular approach. This approach optimises capex and is based on the start of production at the Okouma plateau and on the intensified use of the alternative dry processing for the entire mine. This process gives greater flexibility in mining operations and extends the mine life.

Looking ahead, the modular approach shows an initial production improvement phase of around 25% on 2019, representing approximately 6 Mt. This phase will account for overall capex estimated at €150 million over a two-year period. The schedule for roll-out is being finalised with our partner, the Gabonese government.

2.1.1.2.5 Detail of investments

(€ million)	2015	2016	2017	2018[1]	2019[1]
Industrial investments	164	104	89	140	234

Excluding IFRS 16.

(1) Excluding the Mineral Sands BU, incorporated within the Manganese BU until 2017.

Until 2016, the historical series included the mineral sands activity.

In 2019, despite worsening market conditions, the Manganese BU intensified its investments, focusing in particular on strategic, safety and environmental investments and maintaining its industrial facilities.

Within the manganese alloy plants, the main investments have been directed towards maintaining the main production tools, in particular the revamping of a furnace at Eramet Norway and the implementation of new facilities with the aim of improving environmental performance (Eramet Marietta in particular).

Renovation of the Setrag railway line

The investment package required to increase the reliability of the Trans-Gabonese railway network and strengthen its logistical capacity was continued in 2019 with the implementation of a multi-year plan for the refurbishment of the railway line. In particular, the manufacture of new rails (284,000 pieces produced by the end of 2019) and the renewal of the track superstructure (107 km renewed by the end of 2019) are progressing at full capacity. The aim of Setrag's proposed renovation is to restore and then increase the original transport capacity of the Trans-Gabonese railway. Spread out over almost 10 years, the cost of this operation is approximately €500 million, of which €150 million provided by the Gabonese government. The remainder will be borne by Setrag, which benefits from international financing obtained via IFC (World Bank) and Proparco (subsidiary of the French Development Agency), with Comilog's guarantee.

As provided in the amendment to the Concession Agreement signed in October 2015, the Gabonese State and Setrag funded the remedial investment plan as follows:

- the Gabonese government, with the signing of a Financing Agreement with the French Development Agency (AFD) in December 2016;
- Setrag, with the signing in June 2016 of the first tranche of a credit of €85 million over a period of 15 years with the International Finance Corporation (IFC – World Bank) and Proparco (*Promotion et Participation pour la Coopération Économique* – a subsidiary of the French Development Agency, AFD) with guarantee and commitment of support from Comilog.

The year 2019 was marked, amongst other things, by ongoing work to consolidate the rail platform (work carried out by the Gabonese State), work to renovate the track superstructure (rails, tracks, ballast), and the installation and commissioning of equipment required for the new Train Controlling System (TCS).

In addition to this project, investments were made to improve safety (particularly by closing off the area and building pedestrian walkways over the platforms), reduce the environmental impact and boost the productivity of production facilities.

Dry processing of ore/organic growth in ore production (Comilog 2020)

In 2019, Comilog invested in two mobile screening machines enabling it to carry out dry processing of part of its ore. This treatment complements the existing wet processing method and aims to increase short-term production (+0.4 Mt in 2019, with growth continuing in 2020).

In total, €51 million in investments were made in Comilog's organic growth in 2019, devoted to increasing resources for dry ore processing and preparing access to the plateau (see Chapter 1). Investments were also made in strengthening transport capacity (wagon delivery, work to prepare storage and loading areas). Other activities related to the studies required for future development.

2.1.2 Nickel BU

2.1.2.1 The nickel market

2.1.2.1.1 Uses for nickel

Nickel is primarily used to make many special steels in the broadest sense (stainless steels, steel alloys and superalloys), which together account for roughly 85% of nickel uses. Its rich and varied properties also lend it to smaller-volume uses, such as electroplating, the process of forming a thin coherent metal coating using electrochemistry on valves or auto parts. Another booming application for nickel is its use in rechargeable batteries and in particular for electric vehicles. Finally, nickel also has catalytic properties. In 2019, global primary nickel consumption, estimated at around 2.4 million tonnes, was distributed as follows:

- stainless steel: 68%;
- nickel-based alloys: 10%;
- electroplating: 7%;
- casting and alloy steels: 6%;
- batteries: 7%;
- other uses (including catalysis and pigments): 2%.

Source: Eramet estimates, January 2020.

Stainless steel

The stainless steel industry is by far the largest consumer of nickel. Combining nickel with chromium makes it corrosion-resistant, more ductile and much more malleable. The primary uses for stainless steel are:

- food safety and hygiene: household equipment (e.g. sinks, cutlery, pots), electrical appliances (e.g. washing machines, microwave ovens) and also the agrofood industry, with tanks and pipes for milk and wine production, pharmaceutical preparations and surgical equipment;
- core industries for corrosion resistance: chemicals, petrochemicals, paper, energy production, etc.;
- building and construction industry (aesthetics, durability and low maintenance costs): lifts, ramps, street furniture, building accessories;
- transport (limitation of corrosion, low maintenance costs): trains, ships, tanker trucks, aeronautics and automotive catalytic converters.

Nickel-based alloys

Superalloys used in aerospace are able to retain their mechanical properties at increasingly high reactor operating temperatures. To achieve this level of mechanical performance, superalloys contain more than 45% nickel along with other metals, such as cobalt and chromium.

Nickel-iron alloys are used for the production and transportation of industrial gases as well as liquefied natural gas. The very low temperatures used in these processes make the use of certain nickel-iron alloys essential.

Other nickel-based alloys are primarily used for their resistance to corrosion in chemical industries and environmental protection facilities, such as smoke and gas processing and wastewater treatment.

Nickel recycling

Nickel is infinitely recyclable, and its high economic value makes it profitable to collect and recycle. The structure of the nickel recycling industry has been in place for many years. Nickel is most commonly recycled in the production of stainless steel.

2.1.2.1.2 Recent trends in nickel prices

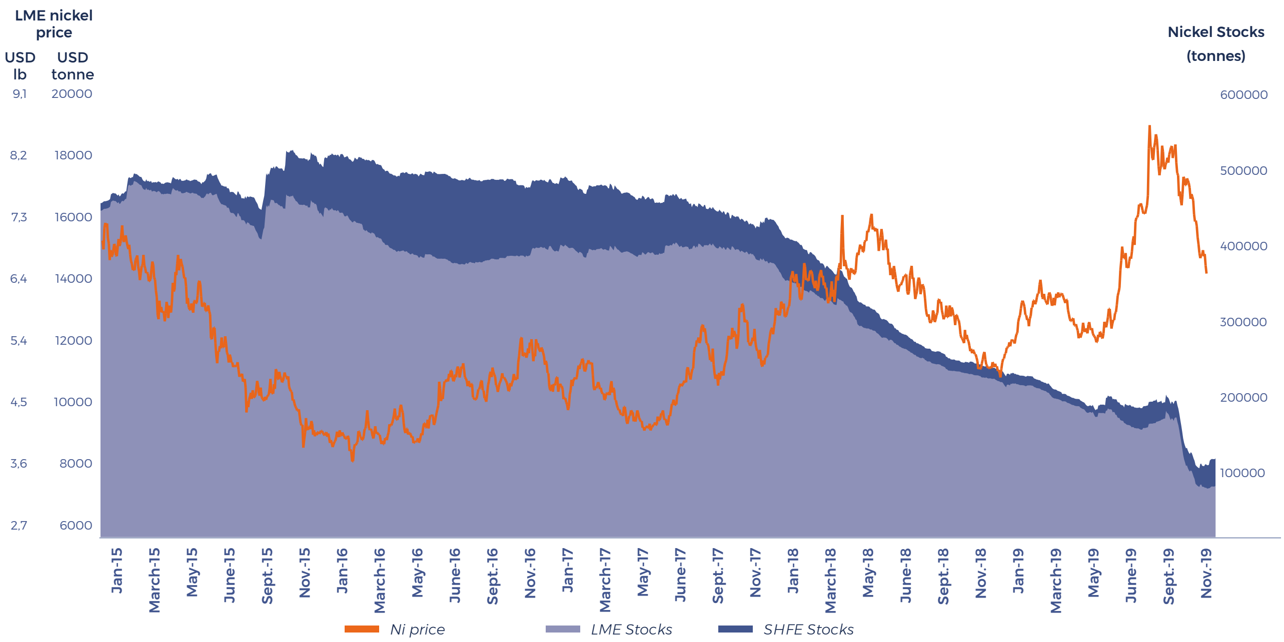
Nickel is listed on the London Metal Exchange (LME).This market offers the option but not the obligation to deliver or take delivery of physical metal associated with futures contracts. As of the end of March 2015, nickel is also listed on the Chinese SHFE (Shanghai Futures Exchange).

Premiums or discounts are applied to this base price according to the quality of the products, their degree of processing, their location and the equilibrium of the physical market at the time. Nickel prices are presented in the form of "cash seller and settlement" contracts.

After a second half of 2018 when trade tensions between the United States and China and a near-equilibrium market severely impacted nickel prices, they recovered in early 2019. This was due to several factors, including renewed interest from investors amid declining stocks in LME warehouses. The increase was short-lived, as the stainless steel market outside of China quickly lost momentum, particularly in Europe. Nickel prices averaged 12,315 USD/t (5.6 USD/lb) in the first half, compared with 13,871 USD/t (6.3 USD/lb) in the same period in 2018, and 12,391 USD/t (5.6 USD/lb) in the second half of 2018.

Prices rose again from July 2019, after rumours that exports of Indonesian ore not processed locally would be banned from early 2020. The Indonesian government's decision to introduce this provision from January 2020 was confirmed in early September 2019. Prices therefore peaked at 18,624 USD/t (8.4 USD/lb) on 2 September. At the same time, nickel stocks in LME warehouses were reduced substantially. This situation caused a loss of interest on the part of certain funds specialising in commodities, which interpreted these movements as a speculative manoeuvre to keep prices artificially high. They effectively remained above 16,000 USD/t (7.3 USD/lb) until early November.

Prices then collapsed, following a slowdown in Chinese demand for stainless steel at the end of 2019 and a sluggish market in most other countries, with production surpluses. The average for the second half was 15,495 USD/t (7.0 USD/lb) and the annual average was 13,936 USD/t (6.3 USD/lb), compared with 13,122 USD/t (6.0 USD/lb) in 2018.



2.1.2.1.3 Top nickel-producing countries

PRODUCTION OF ORE *(THOUSANDS OF TONNES OF NICKEL CONTENT)*

	2014	2015	2016	2017	2018	2019
	Year	Year	Year	Year	Year	Jan-Nov
Indonesia	177.1	129.6	204.0	355.0	606.0	752.0
Philippines	443.9	470.0	348.9	339.4	346.7	316.9
Russia	264.0	261.0	223.0	221.0	218.0	204.7
New Caledonia	175.2	193.2	204.2	215.4	216.2	195.9
Canada	235.0	234.9	235.7	211.2	180.0	176.2
Australia	244.7	224.2	203.1	184.3	169.9	148.8
China	100.0	93.0	90.0	94.5	99.0	95.2
Brazil	102.0	94.8	86.4	76.8	74.4	56.9
Cuba	51.6	53.8	51.4	52.9	52.8	48.4
Colombia	62.2	41.1	41.1	45.6	47.7	41.2
South Africa	55.0	56.7	49.0	48.4	43.2	39.5
Finland	18.7	9.7	21.0	35.5	42.8	36.3
Madagascar	40.3	49.0	45.7	38.5	36.1	35.7
Guatemala	46.8	56.4	45.9	53.7	39.6	33.2
Papua New Guinea	21.0	25.6	22.3	34.7	35.4	31.6
Dominican Republic	0.0	0.0	9.9	15.6	18.2	23.8
Myanmar	19.0	23.0	20.0	20.0	21.0	20.3
Zimbabwe	16.6	16.1	17.7	17.7	17.7	16.3
Other	90.9	114.1	79.1	70.8	64.1	61.7
WORLDWIDE	**2,163.8**	**2,146.3**	**1,998.4**	**2,130.9**	**2,328.7**	**2,334.6**

Source: INSG (International Nickel Study Group), January 2020.

PRODUCTION OF FINISHED PRODUCTS (FERRONICKEL, NICKEL PIG IRON, NICKEL METAL, BRIQUETTES, NICKEL SALTS, OTHER PRIMARY NICKEL PRODUCTS) *(THOUSANDS OF TONNES OF NICKEL)*

	2014	2015	2016	2017	2018	2019
	Year	Year	Year	Year	Year	Year
China	693.5	587.2	585.3	614.9	655.0	801.2
Indonesia	20.9	44.1	111.2	195.1	273.1	369.9
Russia	240.6	233.8	194.5	161.1	159.4	168.0
Japan	180.5	192.0	189.6	188.4	154.2	150.9
Canada	149.9	153.7	158.3	140.9	140.7	128.1
Australia	139.7	136.8	118.7	112.2	113.5	106.7
Norway	90.5	91.2	92.7	86.5	90.8	92.1
New Caledonia	66.7	76.8	93.0	105.1	108.5	88.1
Finland	42.6	43.5	53.7	59.7	60.8	62.4
Brazil	79.2	74.6	75.7	68.5	65.2	51.5
Korea	24.3	36.9	46.0	48.0	46.0	45.6
Colombia	41.2	36.7	37.0	40.6	43.1	40.6
South Africa	34.1	42.3	41.9	42.5	39.5	39.0
Madagascar	37.1	47.3	42.1	35.5	33.5	33.7
United Kingdom	39.1	39.1	43.1	35.0	38.2	33.3
Myanmar	11.5	20.0	20.0	22.0	22.0	20.0
Kosovo/Macedonia	24.0	26.0	13.8	15.2	13.0	17.0
Ukraine	19.7	18.0	19.3	15.3	16.3	15.1
Cuba	15.0	15.6	17.4	19.0	14.0	14.0
Greece	18.5	17.1	17.1	16.8	15.7	11.3
France	8.4	6.5	4.6	2.3	3.7	6.9
Other	12.9	18.7	23.0	29.0	36.2	38.2
WORLDWIDE	**1,990.0**	**1,957.8**	**1,997.9**	**2,053.6**	**2,142.4**	**2,333.7**

Source: Eramet, January 2020.

2.1.2.1.4 Market outlook

Stainless steel will remain the largest consumer of nickel, but the most sustained growth prospects for nickel demand are driven by batteries for electric vehicles.

The consumption of primary nickel in stainless steel is expected to continue to grow at a rate of 2% per year over the next five years, mainly driven by China, India and Indonesia.

Nickel demand is also now supported by the very good prospects offered by the development of the Lithium-ion battery sector, primarily for electric and hybrid vehicles. Eramet estimates that demand for nickel excluding stainless steel will grow by approximately 7% per year over the next five years, of which around 20% per year will be specifically in the battery sector.

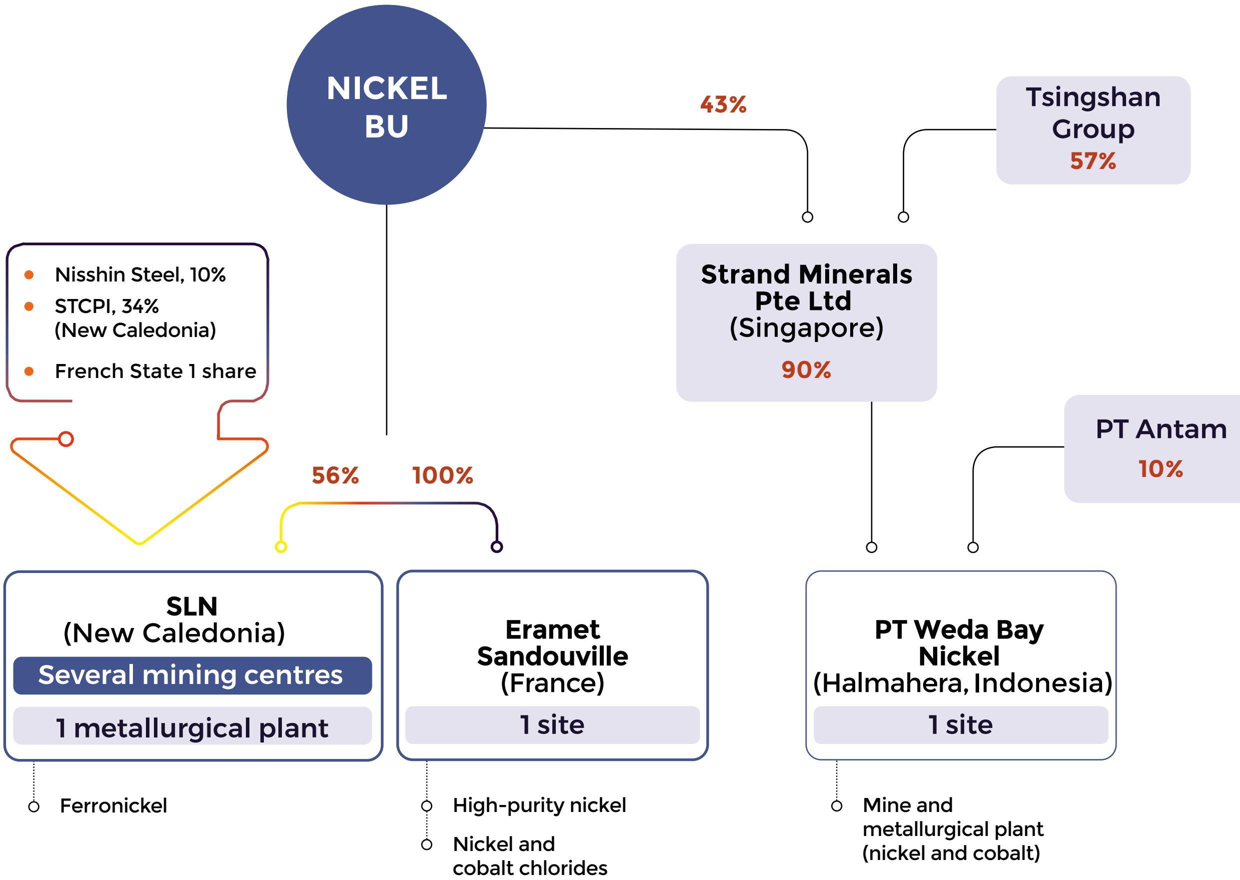
Overall, this has resulted in global demand that could grow by around 3-4% in the next five years.

2.1.2.2 Nickel BU structure

The Nickel BU pursues the strategy of developing ores locally and positioning itself on high value-added products, relying on the Eramet Group's internal R&D. The BU currently consists of:

- Société Le Nickel-SLN in New Caledonia, a 56% owned subsidiary and the main mining and metallurgical centre, produces high-grade ferronickel at the Doniambo plant;
- the Le Havre Sandouville nickel refinery, specialising in high value-added products (nickel salts, high-purity electrolytic nickel, cobalt salts), has been supplied with nickel matte by a new European source since mid-2017;
- the Pt Weda Bay company in Indonesia, which has begun operating a world-class deposit, developed in partnership with the Chinese company Tsingshan, the leading producer of stainless steel. Production of a low-grade nickel pig iron (NPI) from Weda Bay ore is scheduled to start in the first half of 2020.

Structure of BU Nickel



2.1.2.2.1 Société Le Nickel (SLN)

Eramet has a long-standing presence (since 1880) in New Caledonia through Société Le Nickel (SLN), its 56%-owned subsidiary. The other shareholders as of 31 December 2019 were:

- STCPI with 34%, a structure representing the interests of New Caledonia's three provinces;
- Nisshin Steel with 10%, an important client producer of stainless steel in Japan;
- the French government, which holds one share in SLN.

The mines operated by SLN are high quality in terms of their nickel content and their reserves. As this is the case for the entire mining industry, their operating conditions have evolved over the last few years, primarily due to the recovery of larger volumes of waste rock, which has impacted production costs. However, the Group's research centre (Eramet Ideas in Trappes) has enabled the Group to adapt its metallurgical process to these changes while continuing to enhance the operating efficiency of its mines and invest in scaled-up mining equipment.

SLN produces ferronickel from its own mines at the Doniambo plant in New Caledonia.

Eramet markets all Société Le Nickel (SLN) products, including low-grade nickel ores. Eramet also provides technical support to Société Le Nickel (SLN) in a number of areas, particularly in procurement management, research, engineering, and legal and financial requirements.

Société Le Nickel (SLN) sells all of its Doniambo metallurgical production to Eramet. The sale price of the ferronickel sold by SLN to Eramet depends on the average price at which Eramet sells to its customers, minus marketing costs and a sales margin for Eramet.

SLN's governance system closely involves the stakeholders of New Caledonia.

In order to guarantee its future, SLN aims to recast its model by strengthening it and rebalancing it on its two pillars of mining and metallurgy:

- Metallurgy must be strengthened: this is the current transformation and productivity plan for the Doniambo plant in New Caledonia, which can still be improved with competitive energy costs. It will be completed by a reflection on the evolution of its tools in line with the need to renew furnaces.

- The mining sector must be better exploited: SLN has moved from a mining model exclusively in the service of Doniambo's metallurgy operations to a mining exploitation that optimises the resource extracted. In 2019, SLN obtained authorisations to export ore of a grade not suitable for the Doniambo plant at a rate of 4 million tonnes a year for ten years. Strengthening exports is absolutely necessary to make the SLN model competitive and sustainable, with beneficial consequences for the environment and the region. It also results in increased resources and reserves and extends the lifespan of mines.

Nickel mines

Société Le Nickel-SLN's garnierite and saprolite oxide deposits are mined in open pits. They are generally located at altitudes of 500 to 1,000 metres. SLN has extensive experience in mining deposits in New Caledonia. These deposits are defined by geological, geochemical and geophysical surveys and their geological structures are modelled. Deposits are extracted using hydraulic excavators based on mine planning geology. The ore is then transported by trucks with payloads of 50 to 100 tonnes, depending on the model.

Eramet's internationally recognised mining techniques are designed to preserve the environment: storage of tailings in stabilised heaps, control of water run-off, revegetation, etc.

Népoui and Tiébaghi beneficiation plants

In Népoui, ore is hydraulically sent to the beneficiation plant using a seven-kilometre pipeline. The plant was opened in 1994 and uses a technology that was innovative at that time, which is based on sorting by particle size and density to increase ore content. This allows a larger proportion of the deposit to be exploited (by including lower-grade ores), thus extending the lifespan of the reserves. A similar process was adapted to process ore from the Tiébaghi mine. The Tiébaghi beneficiation plant was opened in November 2008.

An enrichment process through optical sorting was also tested in 2019 to recover certain sterile ore fractions on the Népoui site, resulting in a product of exportable quality.

Transportation of ore to the Doniambo plant

The mining production is mostly sent to the Doniambo plant. The first stage of ore transportation is from the mine to the coastal storage areas, either by truck, or in the case of Kouaoua via an 11-kilometre conveyor, or in the case of Népoui and Tiébaghi in the form of slurry to feed the beneficiation plants. At the port, the ore is stored and standardised before being loaded onto ships for transfer to the Doniambo plant.

Doniambo metallurgy plant

The Doniambo plant produces directly marketable ferronickel. The ore mined is standardised and then dried. It is then calcined in five rotary furnaces. The following step is melting the ore in three Demag electric furnaces. The resulting product is transformed into marketable ferronickel (SLN25) by ladle refining followed by shot blasting.

The Doniambo plant is one of the two largest ferronickel production sites in the world. Its location close to the port of Nouméa allows direct access to ore carriers and cargo ships.

2.1.2.2.2 Sandouville refinery

The Le Havre-Sandouville refinery uses a hydrometallurgical process specially developed by Eramet research teams. Nickel matte has been supplied since mid-2017 under a long-term contract with a European metallurgist. 2017 was a year of transition, as previously the raw material had been supplied entirely by the Société Le Nickel-SLN metallurgical plant in Doniambo, New Caledonia.

The nickel matte is crushed and then dissolved using a chloride solution. Several successive extraction stages in mixer-settlers separate out iron in the form of ferric chloride (commercial product), and cobalt in the form of cobalt chloride (commercial product). The remaining impurities are then removed. The resulting pure nickel chloride solution can be marketed as it is (liquid nickel chloride), in the form of nickel salts (nickel carbonate, nickel chloride hexahydrate or anhydrous) or fed into a series of electrolytic tanks. The result is a very pure nickel cathode (over 99.97% nickel content).

2.1.2.2.3 Nickel BU sales network

The Group maintains long-term partnerships with its customers. It has its own global sales network: Eramet International. The Group provides significant technical and sales support to its customers in order to help them derive maximum benefit from its products in their own production processes:

- the Group's entire ferronickel production (SLN25) is sold to stainless steel producers, for which the Group supplies both nickel (20 to 25% of the gross weight) and iron of excellent quality. The Group generally operates under medium or long-term contracts, providing for commitments of volume in accordance with periodically negotiated prices. These contracts ensure relatively regular shipments for Eramet;
- the nickel ore is sold to customers that use a pyrometallurgical process in Japan, South Korea and China;
- nickel metal, or NICKEL HP, is produced in the form of high-purity nickel cathodes that meet the most stringent requirements and are mainly sold to nickel alloy manufacturers (superalloys for aerospace and nuclear power) and nickel electroplating workshops (nickel plating);

- nickel chloride, or SELNIC, is used in nickel plating and in the chemical industry (catalysts). Some of the nickel chloride is converted into anhydrous nickel for the electronics industries;
- nickel carbonate ("Nickel ONE™") is primarily used in the refining industry to manufacture catalysts and in the ceramics industry as a pigment;
- cobalt chloride is used in the tyre industry, in the chemical industry as catalysts and also in powder metallurgy.

2.1.2.3 Major events

Through SLN in New Caledonia, the Nickel BU is the world's tenth largest nickel producer.

SLN produced 47,400 tonnes in 2019, down compared with 2018, due to the adverse effects of the industrial disputes at the mining sites on the East coast, which resulted in an imbalance in the mining map, disrupting the operation of the furnaces.

METALLURGICAL PRODUCTION (FERRONICKEL + MATTE) FROM THE DONIAMBO PLANT

	(tonnes of nickel content)
2015	53,369
2016	55,227
2017	56,707
2018	54,250
2019	47,400

After a year in 2018 that was affected by the change in raw material mentioned above, extensive efforts were made at the Sandouville plant, with the creation of a task force. These efforts paid off, as production increased markedly, reaching 6.6 kt in 2019, including all nickel products.

2.1.2.4 Specific activities

Electricity supply to Société Le Nickel-SLN

Electricity at Doniambo is currently supplied by an oil-fired power plant which will be replaced in the coming years in order to reduce the energy costs for the plant. The scheme adopted in the second half of 2016 is to install a new natural gas-fired electricity generation plant on the island. The project will be managed by a public structure in New Caledonia. The investment will be guaranteed by the State under the provisions adopted by the French Parliament in December 2016 up to an amount of €320 million and should not affect Eramet's balance sheet.

A sustainability plan for the existing plant has been pursued. The plan, totalling €21 million, includes investments to replace the critical units of the current plant over five years.

In 2019, as a result of negotiations with Société Néo-Calédonienne d'Énergie (Enercal), the plant operator, progress was made with optimising the energy mix (hydro/fossil) and with the pricing structure.

2.1.2.5 Weda Bay Nickel in Indonesia

Shareholding, governance and regulatory framework

The Indonesian company, Pt Weda Bay Nickel, was created to develop the Weda Bay nickel deposit – one of the world's largest – situated on the island of Halmahera in Indonesia.

This company is 90% owned by Strand Minerals (Indonesia) Pte Ltd. ("Strand"), based in Singapore, and 10% owned by the Indonesian public company, Pt Antam Tbk ("Antam"), which specialises in exploration, mining operations, refining and distribution of mining products, including nickel, gold and bauxite.

On 8 June 2017, after approval by Eramet's Board of Directors, a partnership agreement was signed with the Chinese steel group Tsingshan, the world's largest producer of stainless steel, in order to obtain maximum value from this mining asset. This partnership will enable both the development of the Weda Bay mine, which will fuel several transformation plants, and the production, in Indonesia, of a nickel ferroalloy, based on ore from Weda Bay, using a pyrometallurgical process, for a volume of around 30,000 tonnes of nickel content a year.

On 21 September 2017, the preconditions for Tsingshan to participate in Strand's capital through Tsingshan's subsidiary Newstride Ltd. Co ("Newstride") were met. On that date, Newstride acquired 57% of Strand's capital through a reserved capital increase, partially paid up.

On 19 May 2018, as the conditions for the confirmation of the partnership between Tsingshan (through its subsidiary Newstride Ltd Co or Newstride) and Eramet had been met, the increase in Strand's capital reserved for Newstride was fully paid up. As a result, Eramet holds 43% of Strand's shares and the Tsingshan Group holds 57%.

Antam and Eramet are each represented by a director on the Board of Directors of Pt Weda Bay Nickel, out of a total of five directors, three of whom represent Newstride.

Eramet is represented by two members of Strand's Board of Directors, out of a total of five directors, three of whom represent Newstride.

The development of Weda Bay is governed by a Contract of Work ("COW") defining, among other things, the tax regime applicable to production activity at the start of the site's operations. This COW was amended on 14 March 2018 and is currently aligned with the prevailing laws and regulations on issues related to state revenues (royalties, tax incentives, VAT) as well as divestment obligations to Indonesian interests. A ministerial decree of 14 November 2017 confirmed the start of the period of exploitation of the deposit within the framework of the COW which will extend until 27 February 2048.

It should be noted that Antam has several purchase options allowing it to increase its holding, the terms and conditions of which are in the process of renegotiation, following the amendment of the COW.

Launch of mining operations in October 2019 with a view to the first metal castings in 2020

Following the creation of the Tsingshan partnership within Strand, the Weda Bay nickel deposit development project was relaunched in the summer of 2018, with the start of engineering works for the construction of roads and structures for access to mining sites, their opening, and transporting the ore to the plant.

At the same time, Tsingshan formed an Indonesian company called Pt IWIP (Pt Indonesia Weda Bay Industrial Park), which in the summer of 2018 started work on the construction of an industrial park on the Weda Bay site on Halmahera Island, which will house, among other things, the Pt Weda Bay plant for the transformation of Pt Weda Bay ore into nickel ferroalloy.

Pt Weda Bay began mining operations in 2019 (first tonnes produced in October). In late 2019, inventories of 0.5 Mt of ore were created with a view to launching ore fusion operations on the island. The launch of the ferroalloy plant (production of NPI in a JV with Tsingshan) is scheduled for 2020.

Under the partnership agreements on Pt Weda Bay, each of Strand's shareholders (and therefore Eramet for 43%) will have a contractual off-take right to Pt Weda Bay's production of nickel ferroalloys based on market conditions.

The desire to implement strong environmental and societal commitments for this project is an integral part of the objectives set out in the agreements signed between Eramet and Tsingshan.

2

2.1.2.6 Nickel BU in 2019

(€ million)	2019	2018
Sales	778	738
EBITDA	38	(18)
Current operating income	(58)	(111)
Net cash generated by operating activities	(17)	(21)
Capital employed at start of year	611	711
Industrial investments[1]	35	57

(1) Excluding right-of-use assets per IFRS 16 (€43 million).

Operational indicators

(thousands of tonnes)	Financial year 2019	Financial year 2018
Nickel production[1]	54.3	58.0
Nickel sales[2]	53.7	58.8

(1) Ferronickel and high-purity nickel.
(2) Finished products.

The Nickel BU's sales increased 5%, ending at €778 million in 2019 with EBITDA of €38 million. SLN[1] achieved EBITDA of €59 million, up 74% from 2018. In a favourable price environment, SLN recorded the initial effects of its rescue plan, despite operating performance that was strongly impacted by a decline in ferronickel production due to disruptions and strikes in the mines. At the same time, the Sandouville plant's operating loss was halved, with EBITDA of -€21 million.

(1) According to World Steel Association forecasts.

Activities

After a tough first half in New Caledonia, hit by strikes in one of the main mining centres, the second half of the year saw the continued implementation of the SLN rescue plan, which has partially borne fruit.

In 2019, despite large-scale strikes in the first half, nickel ore production was up 15%, reaching a record[(1)] level of 4.7 Mwmt[(2)]. This was attributable to the new working hours applied since mid-May at all mining centres. Exports of low-grade ore exceeded the target to hit 1.6 Mwmt[(2)] (+32%). We expect to increase our export target of 4 Mwmt of ore in 2021, due to the new working hours and the overhaul of our approach to community relations.

Due to the prolonged blocking of the mining centres on the east coast, supply to the furnaces at the Doniambo plant remained disrupted for the entire year, and ferronickel production decreased by 13%, to 47 kt, in 2019. Ferronickel sales volumes also decreased by 15% to 47 kt in the same period.

Although the mining and plant operations had been reorganised, the sharp drop in ferronickel volumes affected SLN's cash costs, which reached 5.91 USD/lb in 2019. Cash costs improved considerably in H2, decreasing to 5.74 USD/lb (6.05 USD/lb in H1), mainly reflecting export volumes and the rise in ore prices after the Indonesian ban was announced.

On this basis, SLN generated cash in H2, particularly in the fourth quarter.

In November, the Group achieved a third milestone[(3)] in the implementation of the rescue plan by signing an agreement with Enercal, SLN's electricity provider, which will enable Eramet to achieve one third[(4)] of the required target reduction in energy prices. We are also discussing other avenues with local partners to identify the additional measures needed to achieve the overall objective of the SLN rescue plan.

The aim of reducing intrinsic cash costs by 1.30 USD/lb[(5)] in full-year 2021 still depends on operation without disruption, particularly on the industrial relations and societal front.

Moreover, digital transformation, specifically connected mines, should improve productivity. It is also a lever for performance improvement at SLN.

The new economic model now in place at SLN has also resulted in a substantial increase in the company's mining reserves and resources, mainly due to the addition of lower-grade tonnages for export. SLN's mineral resources increased approximately fourfold (~4), amounting to 19.4 Mt of contained nickel, with an average grade of more than 1.85%. This makes SLN one of the world's leading mining operators.

At Sandouville in Normandy, the plant continued to make progress, due to the technical corrections made by the task force of experts and improvements to the site's management. Nickel salt and high-purity nickel metal production roughly doubled (~2), versus 2018. This resulted in the plant doubling its sales to €90 million. The loss was halved and cash consumption decreased considerably, with free cash flow of -€32 million in 2019 (compared with -€54 million). Given the progress made in 2019, 2020 EBITDA should be close to break-even.

Outlook

At Weda Bay in Indonesia, in the context of the partnership with Tsingshan, work on the mine began in late 2019: 900 people are now working on one of the world's largest nickel deposits. This mine will provide ore for several NPI (Nickel Pig Iron)[(6)] plants on the island of Halmahera. The target for nickel ore production is 6 Mt in the longer term, including more than 3 Mt from 2020. Inventory of more than 0.5 Mwmt[(2)] of nickel ore was created at the end of 2019 in order to launch calcination/melting at the plant owned by the JV with Tsingshan at Weda Bay.

Meanwhile, construction of this plant is in its final phase. The plant is scheduled to begin operation ahead of schedule, in H1 2020. However, the coronavirus epidemic could affect the launch schedule.

The plant is expected to ramp up production quickly, achieving 80% of nominal capacity by the end of 2020, thereby benefiting from an environment favourable to NPI, due to the Indonesian ban. The plant is expected to be very well-positioned in terms of production cost, with cash costs in line with those of Indonesia's best producers.

(1) Over five years.

(2) Mwmt: millions of wet metric tonnes; Kwmt: thousands of wet metric tonnes.

(3) After obtaining authorisation from local government to export 4 Mwmt of low-grade nickel ore per year for ten years and the signing of new agreements on working hours at the mines and plant.

(4) This proposal represents an initial step in lowering energy prices as of 1 January 2020, leading to a maximum flat-rate reduction of €8.5 million per year, subject to various conditions, assuming that the price of nickel is below 6.5USD/lb. Conversely, SLN has undertaken to sell back part of its profits for a maximum one-off amount of €8.5 million per year, if nickel prices on the international markets exceed 10.0 USD/lb.

(5) At the end of 2018, the launch date of the plan.

(6) Low grade nickel ferroalloy.

2.1.2.7 Detail of investments

(€ million)	2015	2016	2017	2018	2019
Industrial investments	56	56	80	57	35

Excluding IFRS 16.

Improvement of production equipment

In 2019, the Nickel BU's investments were stable compared to previous years, including major renewal or renovation investment projects. Strict criteria were used to appraise projects to be undertaken in order to ensure they met the priority needs of safety and environmental protection, improved productivity, or were used to replace obsolete equipment. As part of this systematic search for performance, in a context of a limitation on the sums available to invest, the most important investment projects were given priority:

- for Société Le Nickel-SLN, investments concerned mines, specifically the maintenance or renewal of mining equipment and the installation of a new system for the management of the mining machines fleet in Népoui (FMS), as well as the Doniambo plant, in particular the completion of works for the replacement of critical elements for the power plant;
- at the Sandouville refinery, investments were dedicated to finalising the modification of the nickel matte treatment process in order to adapt it to the new matte now supplied to the plant.

2.1.3 Mineral Sands BU

Mineral sands are mineral raw materials that contain heavy minerals concentrated over time in an alluvial environment (rivers, coasts and lakes) or a windy environment (dunes). Mineral sand deposits are thus old beaches, dunes or riverbeds. These sands contain titaniferous ore deposits, mainly found in the form of ilmenite ($FeTiO_3$), but also rutile (TiO_2), and to a lesser extent leucoxene (ilmenite partially altered into rutile) and zircon ($ZrSiO_4$).

The levels of these ores in the sand are often in the order of a few percent. One of the most economical methods of extraction entails using a floating dredge in a basin. However, this is only possible if the sands contain very few clay particles, which is the case at the TiZir mine in Senegal (Grande Côte Operations – GCO). Otherwise, more conventional mining methods (excavators and dumpers or bull dozers) are used – for rocky titaniferous ore, for example.

Ilmenite is the main titaniferous ore in terms of tonnage, but its titanium dioxide (TiO_2) content is relatively low. As a result, it is often enriched by transformation into synthetic rutile or TiO_2 slag, as at the TiZir Titanium and Iron (TTI) plant in Norway, before being used mainly by pigment producers.

2.1.3.1 Markets of the Mineral Sands BU

2.1.3.1.1 The titanium dioxide market

While titanium metal is well known for aerospace uses, as is the case in the High Performance Alloys Division, it accounts for only 6% of the TiO_2 units sold in terms of consumption. The white pigment industry alone accounts for 90% of the demand for titanium dioxide.

The producers of white pigments make extensive use of a raw material rich in TiO_2. TiO_2 gives the pigment two exceptional properties, which are essential: opacity and pure whiteness. It is widely used in paint, plastics, textiles and paper.

Use of TiO_2-based white pigment:

- paint: 57% (about two-thirds for construction and one-third for industry);
- plastics: 24%;
- paper: 8%;
- other: 11%.

The five leading producers of TiO_2-based pigments are responsible for two-thirds of global production[1]:

- Tronox: 18% (acquisition of Cristal by Tronox in April 2019);
- Chemours: 17%;
- Lomon Billions: 9%;
- Venator: 8%;
- Kronos: 8%.

The vast majority of TiO_2 pigments are produced through two processes:

- the sulphate process is used in China and partly in Europe;
- the chloride process is used in North America and partly in Europe. In recent years, the leading Chinese producers have been adopting this technology.

(1) Source: TZMI PSD, November 2019.

The chloride process (CP) requires high grade feedstock such as CP ilmenite, leucoxene, CP slag and enriched CP slag, and natural or synthetic rutile. TiZir essentially produces and sells these types of products.

Since 2013, demand for titanium raw materials has increased by around 3% a year on average.

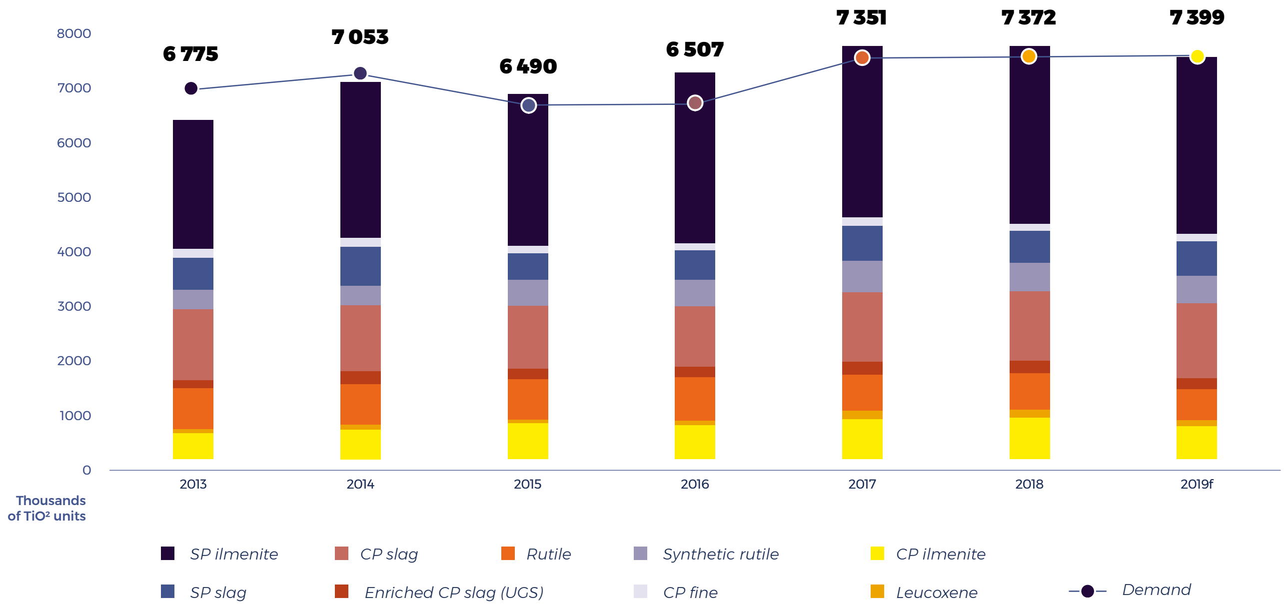
The top eight producers of titanium-containing raw materials outside China account for about 50% of the world's production of TiO_2 units:

- Rio Tinto: 17%;
- Tronox: 9%;
- Kenmare Resources: 6%;
- TiZir: 6%;
- Iluka: 4%;
- Base Resources: 4%;
- Kronos: 3%.

Following a long period of stability followed by a surge in prices between 2010 and early 2012, the titanium dioxide industry has experienced difficult conditions characterised by overproduction and low prices during 2015. The balance between supply and demand recovered gradually, starting from 2016, leading to an increase in ilmenite prices.

Global demand for TiO_2 pigments (~90% of titanium product uses) remained stable in 2019. Demand for high grade feedstock benefited CP quality titanium slag (CP slag), as produced in Norway. The average market price of CP slag therefore increased by 11% compared with 2018.

Titanium-containing raw materials – Offer and demand



2.1.3.1.2 The zircon market

The main application for zircon (about 50% of global consumption) is for the ceramics industry, where its properties of whiteness in particular are unmatched, especially for tiles surfaces and bodies and sanitary equipment. Zircon is thus used as a fine or micronised powder in sintering, glazing or enamelling processes.

Zircon's second property, which makes it a material of choice for industry, is its refractory nature (accounting for about 30% of consumption). It is thus used in the production of refractory materials or as a mould for the production of high-precision castings.

The chemical derivatives of zircon (accounting for about 20% of consumption) include many different applications, such as abrasive or abrasion-resistant materials, jewellery (zirconium dioxide), nuclear (zirconium metal), certain catalysts and dental prostheses.

From 2013 to 2018, demand for zircon grew steadily, by around 2.3% per year, before declining in 2019[(1)].

The top four producers of premium or standard quality zircon account for around 60% of global production[(2)]:

- Iluka;
- Rio Tinto;
- Tronox;
- TiZir.

TiZir has a market share of approximately 5%.

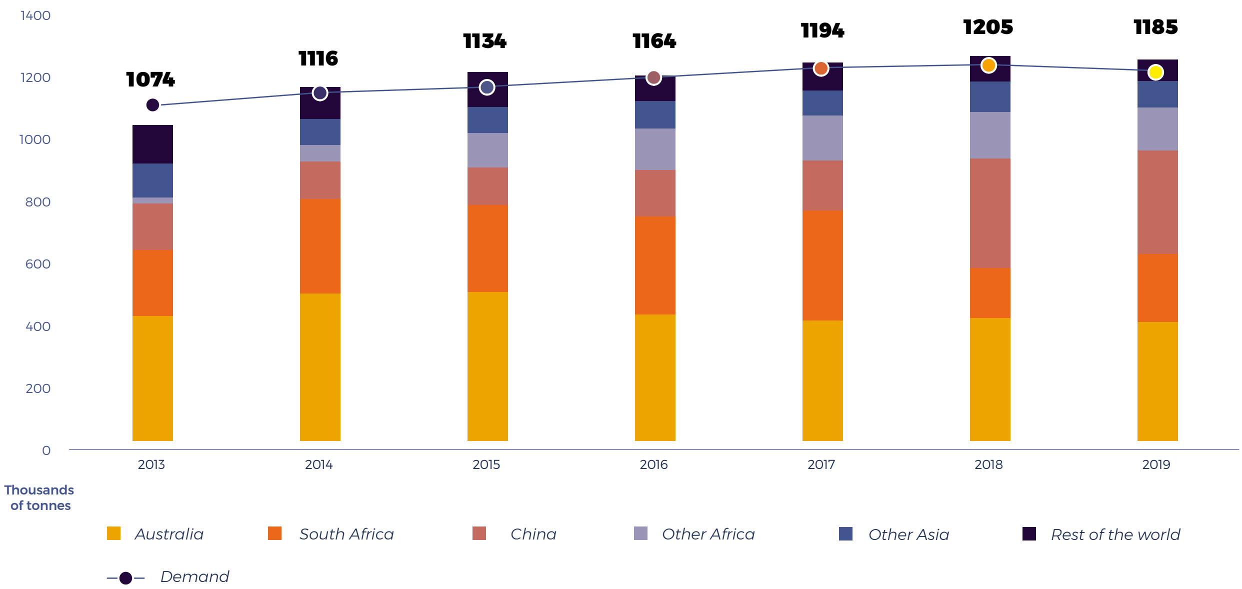
(1) Source: TZMI ZSD, November 2019.
(2) Source: Iluka, Rio Tinto, Tronox, Eramet, TZMI ZSD, November 2019.

As with titanium dioxide, the zircon market experienced a period of very high prices at the beginning of the decade. In 2013, the trend was reversed due to a decline in underlying demand, accentuated by a partial and long-term substitution of zircon for certain uses. At the same time, the period of high prices had caused an increase in production capacity, which accentuated the build-up of surpluses and inventories among producers between 2013 and 2015. As a result, prices fell sharply in 2013. They were relatively stable in 2014 and 2015, and continued to decline in 2016, under the pressure of a decrease in ceramic tile production in China.

By mid-2017, surplus stocks had been cleared (lower primary supply and strong demand) and prices resumed an upward trend. The average import price in China increased by 17% in 2017 and 33% in 2018.

In 2019, global demand for zircon decreased by 10% compared with 2018, mainly due to a contraction in the ceramics market (~50% of zircon uses). The other application sectors (mainly the chemicals and refractory markets) were broadly stable over the year, with a decline at the end of the year for refractories. The supply of zircon remained strong, leading to a surplus supply/demand balance in 2019.

Zircon – Supply by region and demand



Source: TZMI Aug. 2019.

2.1.3.1.3 The high-purity pig iron market

Pig iron is a particularly pure source of iron. It dilutes impurities from recycled scrap metal for casting or carbon steel production. In casting, in particular, the quality of the raw material is important to guarantee low levels of unwanted trace elements and to guarantee the properties of the pieces.

There are three main types of pig iron quality, depending on the raw materials (ore and coke) used:

- basic pig iron, which accounts for 60% of global production, is used in electric furnaces for steel production;
- haematite pig iron (20% of the market), which allows for the production of grey pig iron, is alloyed with Cu, Ni or Si;
- nodular or ductile pig iron (20% of the market) is characterised by low manganese, phosphorus or sulphur content. It is produced in a blast furnace from iron ore or in an electric furnace from ilmenite and is used mainly in casting.

Global pig iron production amounts to 12.5 million tonnes. The main producers are Russian, Ukrainian and Brazilian. These three countries account for 75% of global production.

The nodule-type pig iron produced by TTI is intended for the European foundry market. A large part of the production is high-purity pig iron with a particularly low trace element content.

In the first half of 2019, the price of pig iron remained stable, after decreasing in the second half of 2018. In the second half of 2019, falling scrap prices put downward pressure on pig iron prices.

2.1.3.1.4 Market prospects for the Mineral Sands BU

The outlook for TiZir's markets for early 2020 is expected to be mixed:

- even though the end markets for titanium products are generally flat, demand for titanium slag remains robust;
- however, the world zircon demand continues to slow down.

2.1.3.2 Presentation of the Mineral Sands BU

2.1.3.2.1 Presentation of the Mineral Sands BU

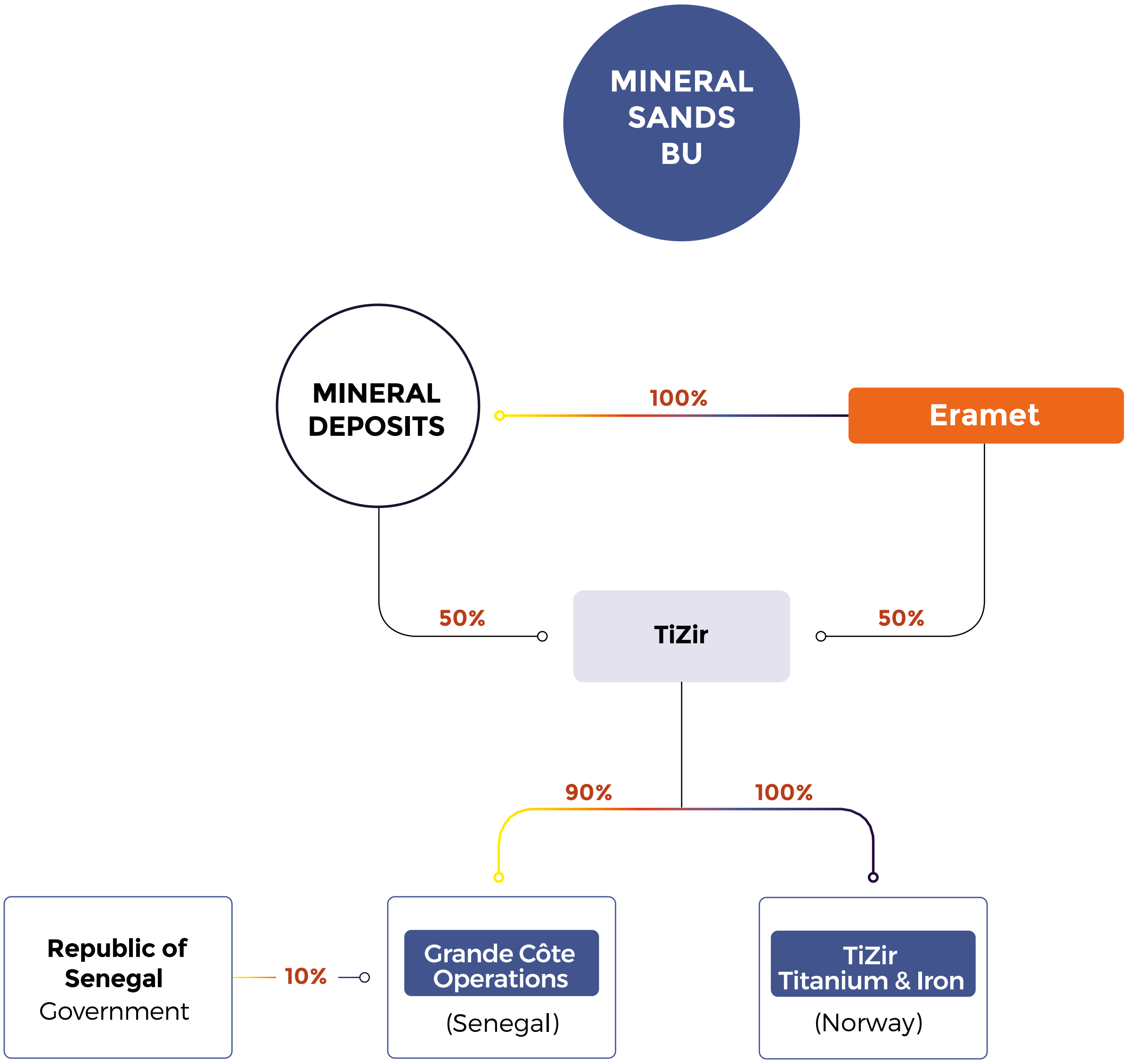
TiZir was formed in 2011 by Eramet and the Australian company Mineral Deposits Limited. Each shareholder held 50% of the joint venture. Following the success of Eramet's tender offer for MDL's shares in August 2018, Eramet now owns TiZir in its entirety.

TiZir, a major player in the mineral sands industry, has two sites:

- Grande Côte Operations (GCO) in Senegal, which operates a mineral sands deposit and mainly produces ilmenite (iron oxide and titanium ($FeTiO_3$)) and zircon (zirconium silicate ($ZeSiO_4$));
- the TiZir Titanium and Iron plant (TTI) in Tyssedal, Norway, which transforms ilmenite to produce titanium dioxide slag for the pigments industry and high-purity pig iron.

Site	Country	Products
GCO	Senegal	Mineral sands: titaniferous ore (ilmenite, rutile, leucoxene) and zircon
TTI	Norway	Titanium dioxide slag (pigment industry) High-purity pig iron (casting)

2.1.3.2.2 Structure of the Mineral Sands BU



2.1.3.2.3 Activities of the Mineral Sands BU

Grande Côte Operations (GCO)

The Grande Côte mineral sands mine is located along a stretch of the Senegalese coast. The concession begins about 50 km north of Dakar and stretches north for more than 100 km.

Construction of the project began in the second quarter of 2011. Industrial production began in April 2014 and was ramped up for two and a half years.

The industrial facilities include:

- a dredge and a floating concentration unit that produces a concentrate containing the heavy minerals;
- a heavy mineral separation plant producing ilmenite, rutile, leucoxene and various grades of zircon;
- a power plant;
- a railway line of which GCO is the concession holder, together with the associated railway equipment;
- port and storage infrastructure in Dakar.

The site employs approximately 1,800 people (including subcontractors), 97% of whom are Senegalese nationals.

TiZir Titanium & Iron Plant (TTI)

The TTI plant in Tyssedal, Norway, produces titanium dioxide slag, used as a raw material for the production of titanium dioxide or titanium metal pigments. The plant has an annual capacity of 230 kt of titanium dioxide slag. TTI also produces high-purity pig iron with an annual capacity of 95 kt.

This plant benefits from cutting-edge technology, which only four companies world-wide have mastered, and 30 years of operational experience. The site also benefits from privileged access to hydroelectric power.

The particularly complex technology used for processing ilmenite, the flexible nature of the TTI production process (which can produce slag for the production of pigments using either chloride or sulphate processes) and its unique access to a competitive source of energy make the TTI plant a major player in the titanium industry.

The site employs approximately 220 people.

2.1.3.2.4 Products of the Mineral Sands BU

GCO produces three qualities of ilmenite (54%, 56% and 58% TiO_2). Ilmenite 54, produced in the greatest quantity, is mainly sold to TTI, while ilmenite 58 is sold for direct production of pigments by chloride process. GCO also sells small quantities of its ilmenite 56, rutile and leucoxene production. These titanium ores are mainly intended for welding flux producers.

GCO also produces two grades of zircon (premium and standard) and a lower-grade zircon concentrate. GCO zircon is of excellent quality and is mainly used in ceramic and chemical derivative applications.

Lastly, the TTI plant produces titanium dioxide slag, most of which is sold to producers of titanium dioxide pigments that use the chloride process or to producers of titanium metal.

TTI also produces a variety of high-purity pig iron grades used in casting, including wind turbine production.

2.1.3.3 Mineral Sands BU in 2019

(€ million)	2019[2]	2018[3]
Sales	286	212
EBITDA	106	62
Current operating income	64	35
Net cash generated by operating activities	55	41
Capital employed at start of year	754	269
Industrial investments[1]	13	12

(1) Excluding right-of-use assets per IFRS 16 (€4 million).
(2) TiZir at 100% throughout the year.
(3) TiZir at 50% until 30 June 2018, then at 100% from 1 July 2018.

Operational production indicators of TiZir

		2019	2018	2017	2016	2015	2014
GCO – MINE							
Sand extracted	(Mt)	49.4	47.0	45.1	39.2	34.8	14.1
Heavy mineral concentrate	(kt)	735	774	725	614	633	184
GCO – FINISHED PRODUCTS							
Ilmenite	(kt)	492	507	492	416	428	101
Zircon	(kt)	58.4	64.3	61.6	52.6	45.2	9.0
Zircon concentrate	(kt)	22.3	29.3	20.2	0.0	0.0	0.0
Rutile and leucoxene	(kt)	10.1	9.6	10.0	9.7	5.3	0.7
TTI							
Titanium dioxide slag	(kt)	189	189	181	104	107	184
High-purity pig iron	(kt)	74	78	74	43	59	103

The decrease in GCO production in 2019 compared with 2018 is due to two factors:

- a decrease in heavy mineral content in the extracted sand;
- better operational performance: more sand extracted and a higher heavy mineral recovery rate.

In 2018, the breakdown of a mechanical drive part in the TTI rotary furnace caused the plant to function at a very low load for six weeks. In 2019, a metal tapping incident stopped production for four weeks. This explains the plant production stability in 2019 compared with 2018.

The Mineral Sands BU now represents around 17% of Group EBITDA, confirming the Group's success in mineral sands. TiZir's sales grew by 5% in 2019, to €286 million (100% on a comparable basis). EBITDA grew considerably, by 32%, to €106 million, reflecting a strong operating performance and favourable prices.

Upstream, in Senegal, due to another improvement in operating performance[(1)] (+6%), annual production of heavy mineral concentrates at the Grande Côte (GCO) site reached 735 kt, exceeding the target. The decrease in production (-5% compared with 2018) is a reflection of the anticipated lower grade (-11% on average in 2019 compared with 2018) of the area of the deposit currently mined under the mine plan.

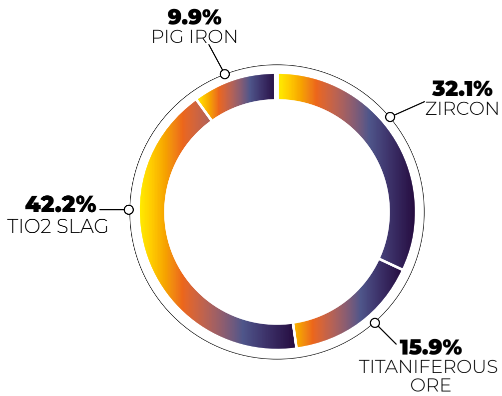
Zircon sales volumes were down 11% in 2019 at 58 kt. H2 offset part of the decline at the start of the year (-16% in H1).

Downstream, at the Norwegian TiZir plant, titanium slag production was stable at 189 kt, affected by a metal casting incident that halted production for four weeks. Sales volumes decreased by 10% to 180 kt, as 2018 had benefited from destocking.

Outlook

The Group is looking into de-bottlenecking options in the medium-term for mineral sands production in Senegal, aiming for organic growth in GCO's production. The preliminary results of this study should be available in H2 2020. The aim is to optimise the use of the available capacity of enrichment and transport units, in order to achieve incremental production increases.

Eramet also obtained mining exploration licences for the Akonolinga rutiliferous block in Cameroon, after an international tender procedure, which will enable the Group to carry out work on the ground and feasibility studies for a period of three years. This long-term project will diversify the Group's product offering on the particularly attractive rutile market, which is fully in line with its exploration strategy.



2.1.3.4 Main investments of the Mineral Sands BU

(€ million)	2015	2016	2017	2018	2019
Industrial investments	56	56	51	12	13

Excluding IFRS 16.

TTI commissioned a facility to recycle carbon monoxide from the furnace that had previously been burned. This gas is now used to dry the slag, which avoids the use of fuel oil and has reduced the plant's CO_2 emissions by 3,000 tonnes per year.

GCO began preliminary studies for a solar power plant and an increase in production in 2019. These studies will end in the second half of 2020.

(1) OEE, or overall equipment efficiency, reflects the intensity of mining production (real production/maximum theoretical production).

2.1.4 Lithium BU

2.1.4.1 The lithium market

Lithium has particular physical and chemical properties that make it a metal used in various applications: energy storage, glass and ceramics, continuous casting, aluminium lithium alloys, pharmacy, etc. The most dynamic application market is energy storage in the form of lithium-ion batteries. These batteries can be found in portable electronics, electric vehicles and high-voltage electricity storage.

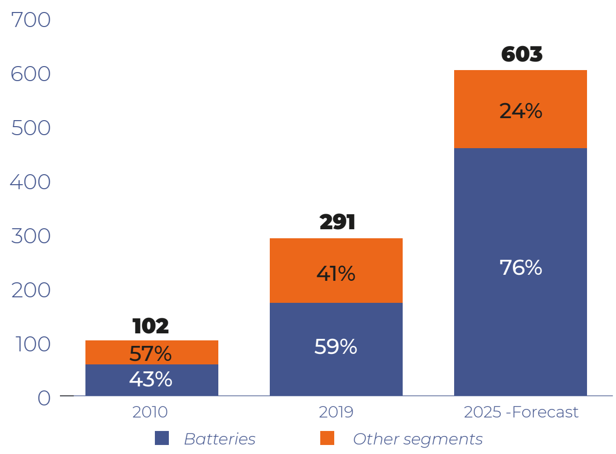
Numerous studies of this market converge to predict strong growth in demand: in 2025, the Li-ion battery market will account for about three-quarters of the total demand for lithium, compared with 59% in 2019. Driven by the battery market, the lithium market's annual growth rate is estimated at a minimum of 13% for the next few years (see graph below).

Lithium compounds, of which lithium carbonate is the most widespread, are mainly produced from:

- *salar* flats, which are large salt lakes mostly located in the "Lithium Triangle" in Latin America (Chile, Argentina, Bolivia);
- lithiniferous minerals, mainly spodumene, mined in Australia and processed in China.

Five producers of lithium compounds (SQM, Albemarle, Livent, Tianqi and Ganfeng) accounted for 82% of the lithium supply in 2019. The entry of new players will diversify the production landscape by 2025.

Evolution of lithium demand *(thousands of tonnes of LCE)*



Source: Eramet Marketing

2.1.4.2 Centenario Project

In 2012, Eramet discovered the Centenario-Ratones deposit, located at an altitude of 3,800 metres in the province of Salta in the north-west of Argentina. With Chile and Bolivia, this country forms part of the "lithium triangle", which, according to the USGS (United States Institute of Geological Studies) represents more than half of the world's lithium resources.

Since April 2014, the Group has held mining rights to this salt flat, which extends over more than 500 square kilometres. It contains very substantial drainable resources, estimated at 9 million tonnes of lithium carbonate equivalent (LCE).

Eramet is developing a project on this deposit to produce 24,000 tonnes of lithium carbonate per year.

The project is based on a direct extraction process developed by Eramet Ideas, Eramet's R&D centre, in association with IFPEN, the French Institute of Oil and New Energies.

Eramet's direct extraction process offers several advantages over the conventional natural evaporation process used by most producers of lithium from brine:

- Eramet's yield from the process is approximately 90%, compared with around 50% for the conventional evaporation process, and thus requires the consumption of half as many resources from the deposit for the same final production;
- the production cycle, between the pumping of the brine and achievement of the final product, is much shorter, at about one week, compared with 12 to 18 months for the conventional process;
- as Eramet's production process does not include a natural evaporation stage, production is much less exposed to changing weather conditions.

The main permits required to build and operate the future plan have been obtained, including the environmental permit and the permit to build and operate a pipeline to supply the site. The Argentine government has granted fiscal stability to the project under the mining investment law. The technical and economical feasibility study for the project was completed in April 2019.

Preparatory work has begun at the site. This first phase represented an investment of around €79 million in 2019[1] (disbursement).

The technical progress of the project was on schedule at the end of 2019. The on-site Training Center, a reproduction of the future industrial plant on a reduced scale was started under satisfactory technical conditions and the first batches of lithium carbonate were produced in December.

The project is currently suspended, and expenditures reduced to a minimum, as the conditions to launch it have not yet been met, particularly the regulatory context in Argentina and the economic environment.

Beyond this project, Eramet is studying other areas of development in lithium, notably in Chile and Europe.

2.1.4.3 Lithium BU in 2019

(€ million)	**2019[2]**
Sales	-
EBITDA	-
Current operating income	-
Net cash generated by operating activities	(13)
Capital employed at start of year	0
Industrial investments[1]	101

(1) Excluding right-of-use assets per IFRS 16 (€0 million).

(2) The Lithium BU was part of Holding and Other activities until 31/12/2018.

2.1.4.4 Main investments of the Lithium BU

(€ million)	**2019**
Industrial investments	101

Excluding IFRS 16.

(1) In addition, €2 million for purchases of mining concessions.

2.2 HIGH PERFORMANCE ALLOYS DIVISION

Key points on the strategic positioning of the High Performance Alloys Division

The High Performance Alloys Division develops its metallurgical business upstream of strategic industries including aeronautics, space, energy and defence. It operates through two main subsidiaries: Aubert & Duval and Erasteel, two renowned experts in the design, development, transformation and manufacture of cutting-edge metallurgical solutions.

This positioning is based on:

- a unique industrial set-up in France and Europe;
- the capacity to secure the supply of critical materials such as special steels, superalloys and titanium to French and European industries;
- an integrated offer, from developing the materials to transforming them into finished products;
- R&D management, an essential part of meeting future challenges in materials' design and transformation, combined with historic metallurgical know-how recognised worldwide.

2.2.1 Businesses of the Eramet Group's High Performance Alloys Division: a high-end metallurgist supplying strategic industries, notably in the aerospace and defence sectors

Melting

Melting activity is the manufacturing of special steels, high-speed steels, superalloys and titanium alloys, through various metal fusion techniques.

To give the materials the appropriate characteristics for the intended applications, development can rely on air fusion, vacuum or atomisation (powders) processes. Melting also extends to remelting processes, which can complete the primary process to improve the mechanical properties of the materials depending on the intended applications.

Our steels and alloys are produced in the form of electrode ingots or powders, which can be sold directly to our customers or are transformed in-house.

Processing

Whether developed in-house or by other steel-makers, the steel and alloy transformation is at the core of the Division's expertise and is done through various processes: the manufacture of critical parts by open-die or closed-die forging, the manufacture of semi-finished products (bars, billets, wire rods, etc.) by rolling or drawing.

Recycling

Since 2016, two new recycling activities have been developed in the High Performance Alloys Division:

- a new business recovering industrial waste containing metals, particularly catalysts, has been installed at the Erasteel Commentry site. Non-ferrous metals recycled in this way are mainly molybdenum, nickel and cobalt;
- EcoTitanium is Europe's leading recycling business for aviation-grade titanium alloys, making use of massive titanium scrap and chips collected from major aircraft manufacturers and their subcontractors.

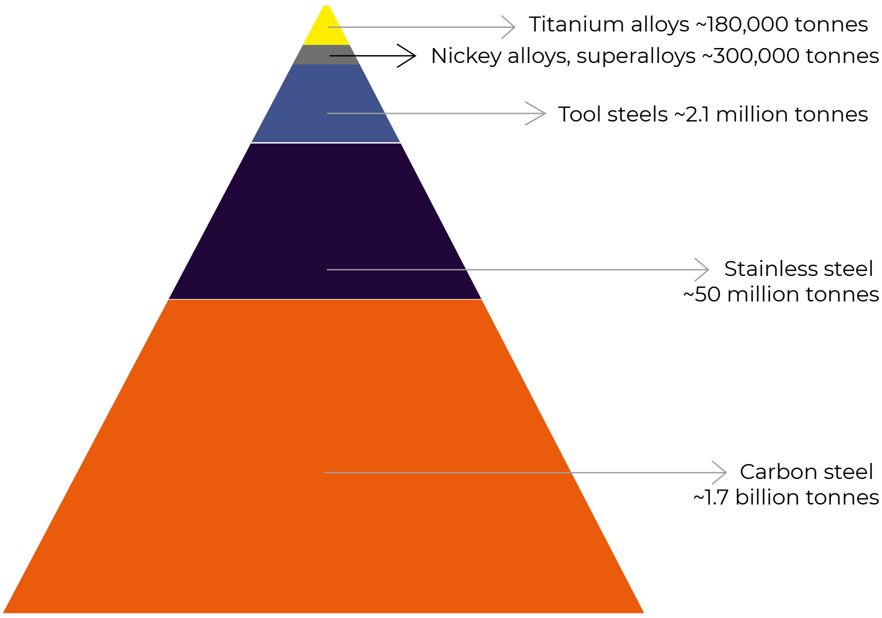
Furthermore, for the past several years, the High Performance Alloys Division has been rolling out a plan to manage its waste by emphasising recycling and the circular economy. The Division's steel plants currently post a secondary raw material utilisation rate of between 85 and 95%, by adding up internal recycling flows and the use of secondary raw materials purchased from outside. More than 90% of the waste produced is recovered internally or externally.

2.2.2 High-end positioning of the High Performance Alloys Division

The materials and products marketed by the High Performance Alloys Division are positioned in niche markets at the top of the steel pyramid:

- Aubert & Duval is a producer of high performance steels (stainless steels, tool steels) and nickel-based or cobalt-based superalloys and is also developing its position in aeronautical-grade titanium alloys;
- Erasteel produces high-speed steels, using both conventional methods and powder metallurgy.

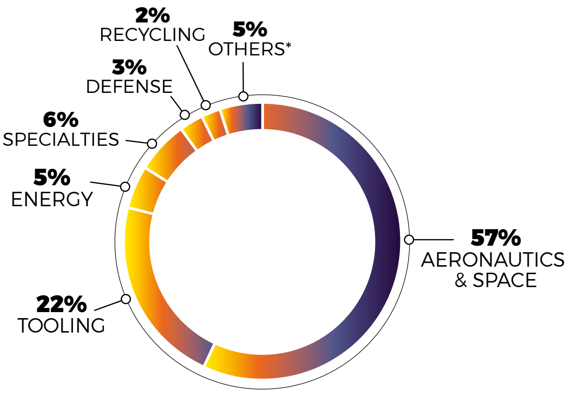
Global production of the main steel and alloy families in average annual volumes (Eramet's estimates)



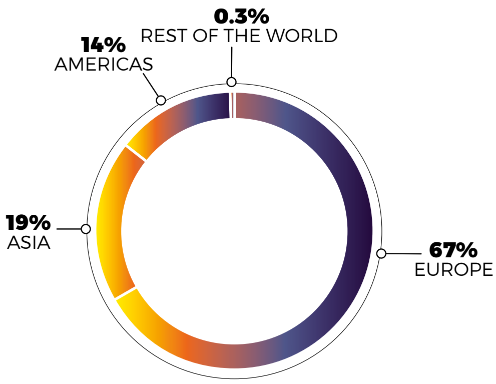
2.2.3 The markets of the High Performance Alloys Division

The High Performance Alloys Division develops its metallurgical business upstream of strategic industries including aeronautics, energy and defence. It also provides metallurgical solutions for the most demanding applications (cutting tools, motor sports and tooling).

Breakdown of the sales of the High Performance Alloys Division in 2019



The High Performance Alloys Division operates worldwide and holds a strong position in the European market (67% of sales). The Asian market accounts for 19%, followed by the American market at 14%.



2.2.4 The competitive environment

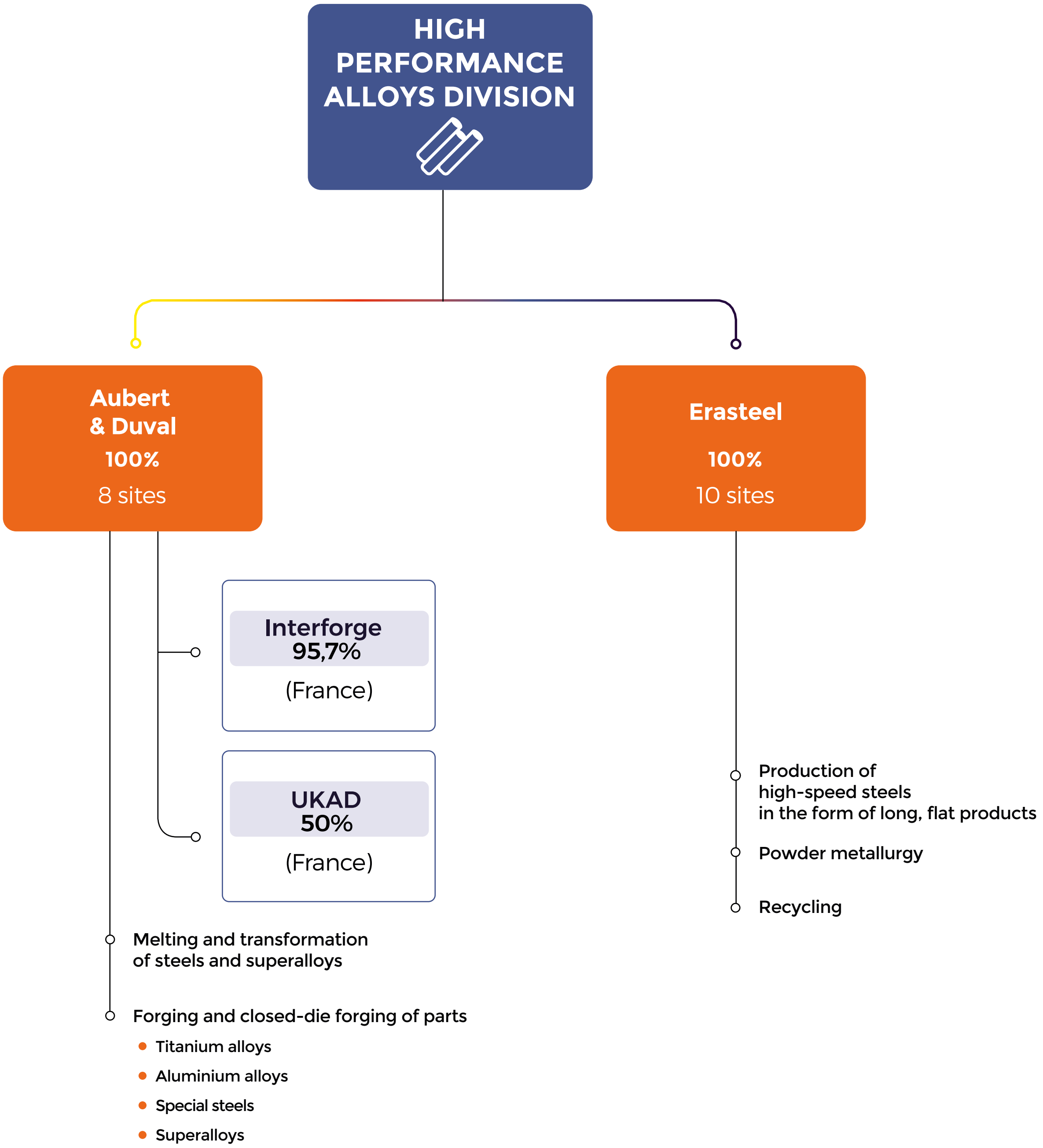
The High Performance Alloys Division has to deal with a complex competitive environment, according to markets, product types and alloys sold.

Broadly speaking, the following macro trends are worth noting:

- horizontal and/or vertical consolidation (e.g. development, open-die forging, closed-die forging, casting, machining, powder metallurgy, additive manufacturing);
- multi-material consolidation (e.g. titanium, steels, aluminium, nickel-based superalloys, composites);
- development of new technologies, such as additive manufacturing (3D printing), fused deposition modelling and hybrid technologies (3D printing and die-forging).

For closed-die forged or forged parts, the main competitors of Eramet's High Performance Alloys Division are: Allegheny Technologies Corporation, Arconic, Otto Fuchs Precision Castparts Corporation and VSMPO-AVISMA. For long products and high-speed steels, the main competitors are also located in America, Europe and Asia: Allegheny Technologies Corporation, Carpenter Technology, Hitachi Metals, Liberty Speciality Steels and voestalpine. For powders for additive manufacturing, the main competitors are Carpenter Technology, Oerlikon, Praxair Surface Technologies and Sandvik Osprey.

2.2.5 Organizational structure at 31 December 2019



2.2.6 Presentation of Aubert & Duval

- One of the leading global producers of large closed-die forged parts.
- The second-largest global producer of closed-die forged aeronautical parts.
- One of the world's largest producers of special steels and high-performance superalloys.

Aubert & Duval is positioned as a metallurgist specialising in the most demanding metallic materials – high-performance steels, superalloys, titanium and aluminium – intended for advanced industrial applications, particularly in aerospace, energy and defence.

Aubert & Duval's expertise in these materials covers a wide range of skills: design, development and transformation through various processes – forging, closed-die forging and rolling – to manufacture parts or semi-finished products (round bars, flats, metal powders, etc.).

Aubert & Duval's processes and products meet the most stringent specifications and certifications, in line with the standards of the critical industries it works for: aeronautics, space, nuclear, defence, energy, etc.

2.2.6.1 Aubert & Duval's business activities

- The Les Ancizes (France) site specialises in the development of high-performance steels and superalloys and has integrated forging and hot rolling operations as well as the atomisation of superalloy powders for aeronautics engine applications.
- The Firminy plant (France) specialises in open-die forging and heat treatments to manufacture long forged parts and meet the demanding specifications of the defence and nuclear industries.
- The Imphy site (France) specialises in metal cold working processes, particularly for the nuclear industry, and has special production and powder atomisation processes for aeronautics applications (engines).
- The Pamiers, Issoire and Interforge sites (France) and the SQuAD site (India) specialise in producing closed-die forged parts for the aeronautics and energy sectors using several presses with power levels of between 1,200 and 65,000 tonnes.
- The Irun unit (Spain) is developing the manufacturing of powders in special steels and superalloys for additive manufacturing for the aeronautics and energy markets.

Aubert & Duval's main subsidiaries

- ADTAF (custom-heat treatment), a company specialising in customised heat treatment and thermochemical processing services, based in Gennevilliers.
- SQuAD, a joint venture with Indian company Aequs Pvt. Ltd, based in Belgaum in India, specialising in the close-die forging of small aeronautics parts.

The integrated titanium business

Over approximately the past ten years, the High Performance Alloys Division has established several strategic partnerships in order to create, around its activities of specialised closed-die forging of titanium alloy parts, an integrated industrial business producing semi-finished products (ingots, billets) and titanium parts, from production to final machining.

This business is the only one of its kind in Europe and is based on a circular economy principle thanks to the EcoTitanium plant. It currently comprises:

- EcoTitanium, a joint venture between UKAD, ADEME and Crédit Agricole Centre-France: the only European unit that produces aviation-grade titanium alloys through the recycling of massive titanium scrap and chips collected from major aircraft manufacturers and their subcontractors;
- UKAD, a joint venture with UKTMP (Kazakhstan) which forges titanium ingots and semi-finished products (bars, billets, etc.);
- MKAD, a joint venture between Aubert & Duval and Mecachrome for the final machining of titanium parts, based in Ariège near Pamiers.

2.2.6.2 The Aubert & Duval product family

Closed-die forgings

Aubert & Duval is one of the top three producers of high-power closed-die forged parts for aerospace structures, landing gear, aircraft engines and land-based turbines. It is one of the only producers that uses closed-die forging processes for all four types of materials: steels, superalloys, aluminium and titanium alloys.

Open-die forgings

Aubert & Duval is one of the European leaders in open-die forged parts for critical applications in defence and nuclear energy. Aubert & Duval produces open-die forged parts in special steels, titanium alloys and superalloys, which are suitable for the most demanding applications.

Long products

Bars, wires and sheets made from high-performance steels, nickel-based alloys or superalloys are designed to be transformed or processed. Aubert & Duval's products are used for critical applications in the following fields: aerospace, medical, defence, nuclear energy, hot tools and motorsports. Aubert & Duval also produces compacted powders in the form of semi-finished products for closed-die forging of aerospace turbine discs.

Metallic powders for additive manufacturing

With its metallurgical expertise and the Division's extensive experience in powder atomisation, Aubert & Duval has been developing an offer of metallic powders (superalloys and special steels) for several years for additive manufacturing, particularly for aerospace.

2.2.6.3 Outlook for Aubert & Duval's markets

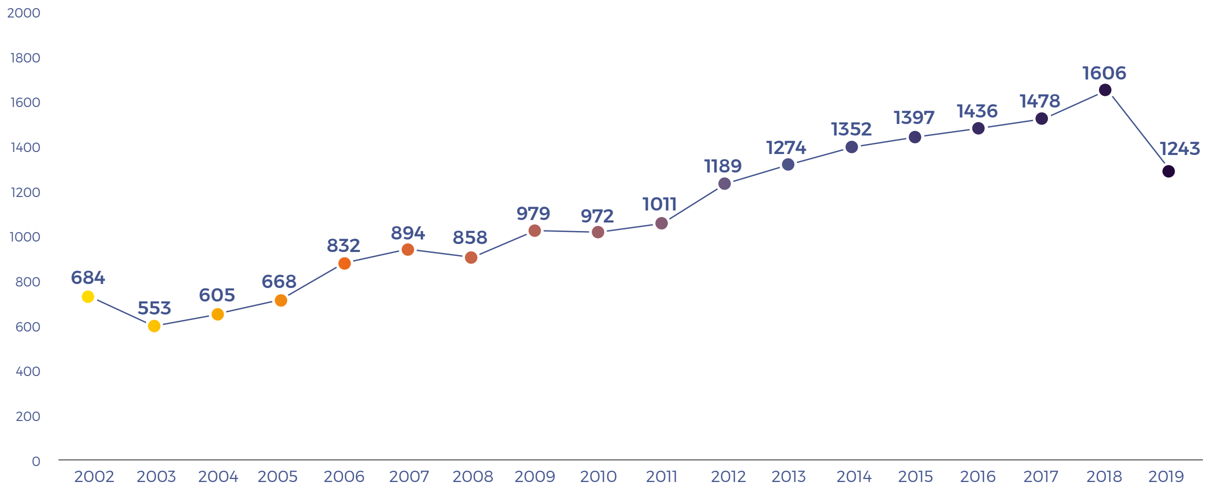
Aeronautics

The aeronautics sector, which is the biggest market of the High Performance Alloys Division, has been in turmoil since the announcement of the end of Airbus A380 production and Boeing's difficulties with the 737 MAX. In this unfavourable context, the market saw its first decline in the number of aircraft delivered (down 346 compared with 2018) in ten years.

The situation, is not the same, however, for the two large customers: while Boeing is facing an unprecedented crisis, Airbus has seen an increase in orders and deliveries, driven by its Airbus A320 family of single-aisle aircraft.

2

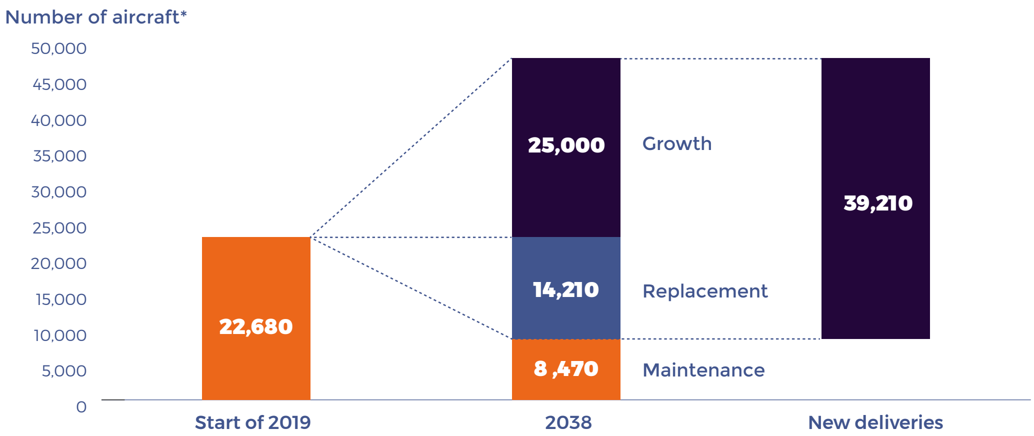
Trends in the number of aircraft delivered by Airbus and Boeing



Sources: Data published by Airbus and Boeing.

Due to its diversified product portfolio, covering narrow-body and wide-body aircrafts, Aubert & Duval was not significantly affected by Boeing's situation in 2019. Production slowdowns of the Boeing 737MAX and the announcement of the end of production of the Airbus A380 have been offset by an increase in orders for Airbus A320 LEAP engine parts and production of Boeing's new 777X programme.

The medium/long-term outlook remains positive in terms of demand for aircraft, driven by the increase in global traffic, orders from emerging countries and the renewal of the current aviation fleet, as shown in the diagram below.



Notes: Commercial aircraft (≥ 100 seats), cargo (≥ 10 tonnes), figures rounded to the nearest 10.
Source: Airbus GMF 2019.

Defence

In 2019, the global defence industry became stronger and global military spending continued to increase. In 2020, the segment of forged products for defence applications continues to show a positive trend, with forecasts pointing to further growth, driven by the demand for military equipment.

With its metallurgical solutions designed for the most extreme demands of landing, naval and air defence applications, Aubert & Duval is a leading supplier and continues to grow in the European and US markets.

Energy

Given its role in the energy transition, the share of nuclear power in global electricity production is expected to remain at around 10% over the next ten years. In a context of increased energy production, the nuclear industry will have to redouble its efforts to introduce new capacities in order to maintain its share of the energy mix[1].

The uptick in uranium prices since 2016 is stimulating activity upstream of the fuel cycle, while the maintenance and decommissioning markets are being driven by the ageing of the overall fleet. The search for new technological solutions to meet new safety standards both in the field of reactor design and in the treatment and storage of waste, has provided a boost of momentum to research programmes and new industrial projects in the civil nuclear sector.

Gas turbines accounted for 23% of global electricity production in 2019. By 2030, power generation from natural gas is expected to increase by approximately 23%[2]. This growth will be supported by the construction of high-performance, more flexible turbines.

2.2.7 Presentation of Erasteel

- A global player in conventional high-speed steels.
- A leader in metallurgy of gas-atomised powder with high-speed steels through ASP® powder metallurgy and PEARL® metal powders.
- A European player in recycling of catalysts, metal oxides and batteries.

Erasteel is one of the major players in high-speed steels and is the leader in the high-end segment of these steels, particularly with its powder metallurgy high-speed steels (PM-HSS), used for cutting and cold-working tools and high-performance mechanical components for the automotive, electronics and aeronautics markets.

Since 2016, Erasteel has also been developing a petroleum catalyst recycling business to recover high value-added metal elements, including molybdenum, vanadium, nickel, cobalt and chrome.

(1) Source: "An independent Global Energy Forecast to 2050", Energy Post of 7 November 2019; "Tracking Clean Energy Progress" of the IEA, updated 11 June 2019.

(2) Source: "Tracking Clean Energy Progress" of the IEA, updated 24 May 2019; "WEO 2019" analysis, November 2019.

2.2.7.1 Erasteel's business activities

Erasteel has eight production sites:

- three sites in Sweden: the Söderfors site specialises in the production of high-speed steel by powder metallurgy sold as long products and has atomisation towers, hot isostatic compaction tools and forging lines; the two plants in Långshyttan and Vikmanshyttan specialise in hot and cold rolling of these high-speed steels;
- two sites in France: the Commentry site specialises in the production of high-speed steels and the drawing of steel bars and has diversified into the recycling of petroleum catalysts; the Champagnole plant manufactures flat and square bars of high speed steel;
- Erasteel has three other drawing plants: Stubs (UK), Tianjin (China) and Boonton (USA).

In addition to these production sites, Erasteel has three service centres and 12 sales offices worldwide.

2.2.7.2 The Erasteel product family

High-speed steels

Erasteel produces high-speed steels in the form of long products, wire rods and metallic powders. These high-speed steels are used in the manufacture of cutting tools used in machining, cold working tools and mechanical parts. These high-alloy steels have high hardness properties and wear resistance due to the significant presence of hardening elements such as tungsten and vanadium.

Erasteel is a well-known player in the production of high-speed steels through powder metallurgy with its ASP® high-speed steel range.

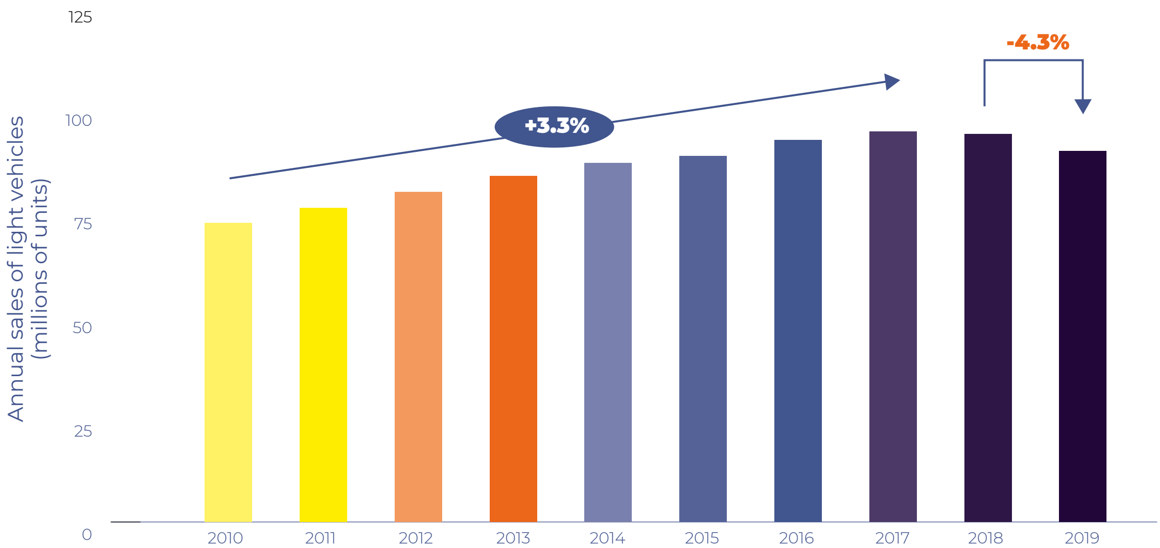
Ferro-alloys from recycling

Through its new industrial waste recovery business (petroleum catalysts, batteries, scalings and other metalliferous waste) at its Commentry site, Erasteel produces ferro-alloys (FeNiMo, FeNi and FeCoMo) which are mainly reused in the metals segment.

2.2.7.3 Market outlook

While the global high-speed steel market grew slightly – by around 2% – in 2018, it contracted sharply in the areas where Erasteel operates in 2019.

The automotive market, which is the primary area of activity of Erasteel's customers, is experiencing a major crisis on all continents. In China, the world's main automotive market, car sales fell sharply for the first time in more than 20 years, down 7% compared with 2018. The market contraction was also significant in Europe (Germany, Italy, United Kingdom) and in the United States.



Sources: Center for Automotive Research, IHS Markit.

In 2019, Erasteel's sales were significantly impacted by this situation.

However, the company has enjoyed commercial success with new applications, thereby limiting the negative impact of the automotive crisis. Thanks to its technical expertise, Erasteel is successfully expanding in the cold working segment for the electronics sector, in particular for leading manufacturers of mobile phone components in China.

2.2.8 High Performance Alloys Division in 2019

2.2.8.1 Logistics crisis at Aubert & Duval following review of quality processes

In 2018, as part of an internal review of quality processes initiated by the new management, the High Performance Alloys Division found instances of non-compliance in Aubert & Duval's quality management system.

As soon as they were discovered, these non-compliant practices were immediately stopped. Eramet notified the market and the public that it had uncovered these practices on 8 December 2018.

The discovery resulted in the establishment of a corrective action plan, in line with the highest international standards, and the implementation of verification and analysis procedures for products in use, in close collaboration with the customers concerned.

All of these actions are transformation and improvement initiatives to enable Aubert & Duval to achieve levels of quality and reliability in line with its customers' expectations and the requirements of their business sectors' standards.

In this context, a non-current provision of €65 million was booked at the end of 2018 to take into account the estimated cost to date of this in-depth review of quality processes, including expertise costs. Joint expert appraisals and root-and-branch work in close collaboration with customers were carried out throughout 2019 and continue apace. As a result, the provision was revised downward to €80 million at the end of 2019, of which €31 million was disbursed in the same year.

The Nuclear Safety Authority (*Autorité de sûreté nucléaire* or ASN) also confirmed via a press release dated 20 August 2019 that, at this stage, it had not identified any risk in terms of nuclear safety stemming from the processes Aubert & Duval had notified the market and its customers about in December 2018. The ASN also announced that it had filed a report with the public prosecutor. Eramet would like to point out that this report was made under the sole responsibility of the ASN and does not in any way presuppose any qualification of the facts reported or the setting in motion of public action. A complaint was also filed by the *"Sortir du nucléaire"* association on 28 August 2019.

To date, there have been no legal developments at Aubert & Duval in connection with the compliance of its quality processes. The review of the quality processes resulted in an increased control load and a consequent slowdown in deliveries.

2.2.8.2 Activity

(€ million)	**2019**	**2018**
Sales	847	1,020
EBITDA	(26)	46
Current operating income	(68)	(8)
Net cash generated by operating activities	(84)	(1)
Capital employed[1] at start of year	488	751
Industrial investments[1]	53	63

(1) Excluding IFRS 16 (€8 million).

The High Performance Alloys Division's sales were down 17% to €847 million and EBITDA showed a loss of -€26 million. This negative performance has resulted in delivery delays at Aubert & Duval after its quality processes were brought into compliance, and particularly poor market conditions for Erasteel.

At Aubert & Duval[1], sales fell sharply, by 19%, to €642 million[2], with EBITDA at break-even (vs. +€36 million in 2018). Steps to ensure the compliance of quality processes continued with all customers concerned and continued to weigh on deliveries and had a significant impact on both sales and performance. The corrective dynamic of the action plans launched at the end of 2018 re-established a normal pace for billing from September for all sites, except Les Ancizes, although it caught up at the end of the year. Aubert & Duval's monthly billing level in Q4 was 15% higher than the monthly average for the year, signalling that the delays had reoriented overall since September.

The closed die forging parts business continued to absorb delivery delays, with a return to normal expected in 2020. There are still significant delays on long rolled and forged products, especially at Les Ancizes. A specific action plan has been implemented to increase capacity in the final stages of production and control.

Joint expert appraisals and root-and-branch work in close collaboration with customers were carried out throughout the year and continue. This expertise has resulted in in-depth restructuring of former production and management routines. This in-depth action will continue throughout 2020. An additional accrual of €15 million was booked in 2019 to take into account the estimated cost to date of processing this in-depth review of quality processes (especially expertise costs). Total costs are estimated to be €80 million.

(1) Aubert & Duval, EHA and others.
(2) 28 excl. UKAD sales, accounted for using the equity method as of 1 January 2019 (2018 UKAD sales: €44 million).

The ramifications of the logistics difficulties have adversely affected Aubert & Duval's performance in 2019: -€49 million impact on EBITDA, -€160 million impact on FCF, including an increase in work-in-progress inventory levels (€80 million).

At Erasteel, sales decreased by 10% to €205 million, in a sharply contracting market. EBITDA is therefore down -€27 million (vs. +€10 million in 2018), with falling raw materials prices also having a pronounced effect in recent months, particularly for cobalt and vanadium. Despite highly unfavourable market conditions, FCF showed marked improvement near break-even at -€3 million. This was particularly due to well managed WCR and specifically stocks.

Given Erasteel's current market outlook, a write-down of €25 million was recognised in other non-recurring income and expenses at end-2019.

2.2.9 Detail of investments

(€ million)	2015	2016	2017	2018	2019
Industrial investments	44	55	59	63	53

Excluding IFRS 16.

The High Performance Alloys Division has continued to make industrial investments to strengthen its position as a strategic supplier to advanced sectors. Several industrial projects launched in recent years are going through important stages:

- EcoTitanium, operational since 2019, has continued its phase of qualifications and approvals by major aeronautical customers;
- SQuAD, which specialises in the forging and closed-die forging of aluminium parts, has begun its qualification phase for critical parts in titanium and superalloys for aeronautical structures and engines;
- the new rolling mill at the Les Ancizes site was commissioned in the third quarter of 2019. The qualification procedures are under way;
- the non-ferrous metal recovery business at the Commentry site has improved its productivity with the installation of new top casting equipment.

The Division is continuing its efforts to roll out its sustainable development policy, in order to respond to changes in environmental standards. New projects were launched in 2019 at the Division's various sites, with the aim of limiting their impact and thus preserving the ecosystem and biodiversity.

2.2.10 Transformation programme for the High Performance Alloys Division

After the strategic review in 2018, the High Performance Alloys Division embarked on an in-depth transformation programme. This includes several series of initiatives:

- the strategic repositioning of the Division, with a focus on its activities and investments in six major segments: aeronautics, land turbines, defence, nuclear, high-speed steels from powder metallurgy and additive manufacturing. A review of the Division's portfolio of subsidiaries was also launched in 2019, leading to the sale of the stake held in C2M, and the announcement of a plan to cease ADTAF's operations;
- the overhaul of management organizations and practices. The Division has therefore set up an organization based on three separate Business Units, responsible for industrial and commercial management in the respective segments: the Closed-Die Forging BU, the Forged and Rolled Long Products BU and the High-Speed Steels and Recycling BU. The organization in charge of quality within Aubert & Duval and on its production sites was also completely overhauled after the review of quality processes announced to the market in late 2018;
- improvement of operational performance, especially in terms of safety, product quality control, customer service and equipment reliability.

These initiatives will continue to be rolled out in 2020 to ensure the sustainable recovery of the Division's performance.

2.3 HOLDING

The company Eramet S.A., the consolidating parent company, has two main functions operationally:

- a pure holding function called Eramet Holding, bringing together the various support services including the Administrative and Financial Department, the Human Resources, Health and Security Department, the Communication and Sustainable Development Department, the Legal Department, the Information Systems Department and the Strategy, Innovation and Investor Relations Department;
- the operational activity of the Nickel BU (excluding personnel costs).

The costs of these different services are billed back to the BUs through management fee contracts. Other operating costs relating to Nickel are directly allocated to the Nickel BU.

Eramet also has directly held subsidiaries, acting on behalf of the various entities or for the parent company. These include:

- Eramet Nickel: a company which brings together the personnel of the support functions of the mining divisions (General Management, Sales Department and Industrial Department);
- Eramet Services: a company that includes accounting, payroll and IT support functions for some of the Group's companies;
- Eramet Ideas: Eramet's Research Centre, responsible for Research and Development as well as project engineering activities and technologies;
- Eramet International: a company that brings together Eramet's sales network for certain activities of the three divisions. Eramet International has subsidiaries and branches throughout the world. The activity of Eramet International is generally remunerated by agency commission contracts;
- Metal Securities: the Group's cash management company, which centralises cash surpluses and short-term requirements for the Group as a whole;
- Metal Currencies: the Group's foreign exchange management company, which carries out all foreign exchange hedging operations for the Group as a whole;
- ERAS: reinsurance company.

In terms of consolidation level, the Holding includes the holding function within Eramet and the consolidated subsidiaries (Metal Securities, Metal Currencies, ERAS, Eramet Ideas and Eramet Services).

2.4 PLANTS AND EQUIPMENT

The Group mostly owns its sites and their various equipment.

Some large equipment is financed under finance leases (IV30 and the 40,000 tonne press at the High Performance Alloys Division, the Tiébaghi beneficiation plant and the mining equipment at the Nickel BU) and are restated in the consolidated financial statements as investments.

The IFRS 16 right-of-use assets (considered as simple leasing elements) allocated to plant and equipment are not covered in this table (total of €91 million in net asset value as at 31 December 2019).

The breakdown of property, plant and equipment by BU and by unit is shown below.

Almost 80% of the value of these non-current assets belongs to around ten industrial sites:

(€ million)	Gross amount	%	Net amount	%
Société Le Nickel-SLN (New Caledonia)	1,930	29.4%	509	20.6%
Other	142	2.2%	50	2.0%
Nickel BU	**2,072**	**31.5%**	**559**	**22.7%**
Comilog S.A. (Gabon)	1,119	17.0%	559	22.7%
Eramet Norway A/S (Norway)	420	6.4%	142	5.8%
Setrag (Gabon)	407	6.2%	242	9.8%
Eramet Marietta Inc. (USA)	183	2.8%	46	1.9%
Other	69	1.1%	11	0.4%
Manganese BU	**2,198**	**33.5%**	**1,000**	**40.6%**
Grande Côte Operations S.A. (Senegal)	560	8.5%	432	17.5%
TiZir Titanium & Iron (Norway)	99	1.5%	55	2.2%
Mineral Sands BU	**659**	**10.0%**	**487**	**19.7%**
Eramine Sudamerica (Argentina)	101	1.5%	99	4.0%
Lithium BU	**101**	**1.5%**	**99**	**4.0%**
Aubert & Duval (France)	998	15.2%	203	8.2%
Erasteel SAS (France)	151	2.3%	12	0.5%
Erasteel Kloster AB (Sweden)	127	1.9%	7	0.3%
Other	203	3.1%	65	2.6%
High Performance Alloys Division	**1,479**	**22.5%**	**287**	**11.6%**
Eramet Holding (France)	**62**		**33**	
TOTAL	**6,571**		**2,465**	

2.5 INNOVATION/RESERVES AND RESOURCES

2.5.1 Innovation by Eramet

The Eramet Group aims to make innovation a performance accelerator for its industrial activities and structures. The purpose of innovation is to create value, in particular by relying on its international influence and its customer partnerships. Eramet needs to develop innovative solutions to create more value, produce more and faster, and be more agile. To achieve this, the innovation teams aim to be proactive, and to demonstrate entrepreneurial spirit, openness, pragmatism and speed, to make Eramet a company where innovation means results.

Eramet, an innovative company

The Eramet Group relies on innovation and transformation to maximise its metals value chain, from mining to products, including recycling loops. This value chain covers exploration, mining, extractive metallurgy, metallurgical processing of high-performance alloys (processing, remelting processes, powder metallurgy), as well as open-die and closed-die forging of these alloys. The Group seeks to maximise metal recycling at every stage of this value chain. This integrated positioning of innovation represents a strategic opportunity for the Eramet Group to deliver value-creating solutions at every stage in the production of its finished products.

Specifically, Eramet is active in innovation for the recovery of a significant number of metals in the periodic table and their mineral derivatives. Listed in order by atomic number, they are: lithium, aluminium, titanium, manganese, iron, cobalt, nickel and zirconium. The Group's projects and those of the clients of Eramet Ideas outside the Group also lead the Group to conduct research on a wide range of additional metals, including the following (listed by atomic number): zinc, germanium, lead, niobium, indium, the lanthanide series, including rare-earth metals such as lanthanum, cerium, praseodymium, neodymium, samarium, europium and dysprosium.

Eramet also conducts a number of innovative projects in the field of High Performance Alloys such as superalloys, special steels, aluminium alloys and titanium alloys, as well as powder metallurgy.

This ability to innovate in multiple metals and alloys along the entire value chain contributes to Eramet's unique positioning.

Areas of expertise

Eramet's people demonstrate world-class expertise in all aspects of extraction, processing, transformation and digital metallurgy.

The Eramet Group's first area of expertise is focused upstream around the main disciplines of extractive metallurgy, i.e. geometallurgy, hydrometallurgy and pyrometallurgy.

Characterisation up to nanometric scales coupled with data processing tools and chemical analysis of the materials processed or produced are elements of digital mineralogy, which is a real asset for the development of the Eramet Group's projects. Digital mineralogy also enables us to carry out geometallurgical procedures on our deposits. Through robust sampling and comprehensive determination of the mineral phases present in the samples, geometallurgy can drive the development of complex deposits by improving and accelerating management decisions for mining operations. Geometallurgy also outlines the best technical and economic way of recovering metal based on a precise mineralogical description of new deposits. Mineral processing consists first and foremost of separating recoverable fractions from ore by using the physical properties of the minerals in the ore, i.e. density, size, magnetism, electrostatic susceptibility or hydrophobicity, etc. If ore beneficiation is not (or no longer) possible through mineral processing, the ore may be treated via more complex chemical or thermal processes. Hydrometallurgy emphasises recovery of ore by chemical treatment in solution. Pyrometallurgy emphasises recovery of ore by smelting and reduction at very high temperatures.

The Eramet Group's second area of expertise is the metallurgical processing of alloys and high-performance steels, covering the development of new innovative alloy grades and all processes associated with metallurgical processing. Powder metallurgy occupies an increasingly important role in this field, with new developments occurring in the area of aerospace, particularly in the expanding field of additive manufacturing.

The Eramet Group's third area of expertise is metal processing. The thermomechanical transformation of alloys by forging and closed-die forging produces near-net-shape parts, particularly for the aerospace, energy, nuclear and defence markets.

Digital metallurgy, the Group's fourth area of expertise, is the use of all the mathematical methods of interpolation, extrapolation and algorithmic processing applied to metallurgy. Digital modelling, applied to areas such as thermodynamics, fluid mechanics, dynamic reactor simulation, chemical engineering and physical metallurgy, are the building blocks of "digital twin" creation to extrapolate the tools in operation and thus accelerate the development and technical and economic optimisation of processes and products. The numerous developments in algorithms as part of the digital transformation are an additional area for improving the conduct of industrial operations through interpolation of the current operations. Digital tools such as artificial intelligence and machine learning are developed to create digital applications to assist with the decision-making of operational staff in the Group's plants and mines.

Innovation organization in the Group

The Group's research and innovation structure is managed operationally for each of the areas of expertise. It is based on a Group innovation centre and cross-functional management dedicated to digital transformation.

The Eramet Group's innovation centre, Eramet Ideas (Innovation, Development, Engineering for Advanced Solutions), was launched on 1 July 2018. This centre is the result of the merger of the Eramet Research R&D centre and Eramet Engineering, the Group's company dedicated to engineering. The administrative merger of these two independent companies took effect on 1 January 2019. As a result of this merger, an innovation centre with a staff of 150 people was created, including 140 technicians, engineers, doctors, project managers, technology specialists and extractive metallurgy experts. This unique force has inspired an approach of open innovation towards the Group's sites and growth projects.

The open innovation process that motivated the creation of Eramet Ideas involves five key tasks:

1. promoting the utmost safety for individuals along with an irreproachable management of the environment is a key value at all stages of R&I (Research and Innovation) and in all the solutions offered;
2. the mission to gather and evaluate opportunities for value creation is organised by the extractive metallurgy experts in the innovation and technology department. Openness is crucial for finding ideas at the Group's plants, in similar industries, at universities across the world, and particularly in European research consortia, among suppliers, related industries or consultants;
3. the task of testing, developing and improving the best opportunities is then the responsibility of the R&D teams. This task is carried out in close collaboration with the Business Unit for which the opportunity for value creation has been identified;
4. industrialisation teams are responsible for the mission of industrial set-up. To guarantee the excellence of the industrial equipment installed in our plants, the industrialisation process is ISO 9001 certified. This task is overseen by project management for the Business Unit concerned;
5. to complete this process, there is an innovation feedback loop between the Eramet Ideas teams and the operational teams. This audit makes it possible to define the points of technical and technological improvement but also, and above all, to identify new sources of value creation in order to go even further.

Eramet Ideas is located in Trappes, Yvelines. The innovation teams benefit from high-performance observational tools, including the first microscope in France, which is equipped with QEMSCAN mineralogical analysis software. Advanced laboratory tools are available for irregular metallurgical testing. Pilot facilities, such as perfectly agitated reactor batteries, screening machines, grinders, filters, ion absorption columns, rotary furnaces, high and low impedance electric furnaces of about 1 MW and semi-industrial size solvent extraction equipment provide continuous weeks-long testing campaigns to test the processes as closely as possible to industrial operation.

The teams dedicated to digital transformation at Eramet comprise 70 data scientists and project managers throughout the Group. These teams work in two key areas: Safety and the environment, and optimisation of mining and metallurgical processes in a transparent value chain. An agile approach called "quick and learn" has been implemented. This approach includes an exploratory, "proof of concept" or POC phase and an industrialisation phase of successful POCs, based on a dedicated Cloud environment, in close interaction with the Group's IT management and the sites. This ambitious and agile approach was granted the 2019 BFM Digital Manager of the Year Award, attributed to the Group's CEO.

For extractive metallurgy, the innovation is relayed by the technical centres closest to the plants, which directly support the operational teams:

- Société Le Nickel-SLN's Technical Studies and Investigations Department (DETI), in New Caledonia, employs around 60 people, about half of whom are dedicated to R&I. This department is in charge of the R&I of SLN's mining sites and pyrometallurgical plant;
- the Studies, Investment and Project Department (DEIP) is the Eramet Sandouville team working on the launch and ramp-up of the new Sandouville workshops built to process a new raw material;
- the small Eramet Norway Trondheim (ENT) team assists the ferroalloy plants of the Manganese BU, drawing on the solid resources of the Norwegian Technological University (NTU) and SINTEF, a Norwegian metallurgical research institute.

For production metallurgy, i.e. the development of new grades of steel, superalloys, powders and associated production processes (conventional and vacuum steelmaking, remelting, plasma fusion, powder atomisation), a dedicated R&D and innovation team is located in Les Ancizes (Puy-de-Dôme, France). In gas-atomised powder metallurgy, the High Performance Alloys Division also benefits from a centre of expertise in Sweden comprising around ten experts and technicians. Its name is PEARL (Powder Expertise Analysis and Research Laboratory). This centre interacts with experts at the Irun and Imphy sites for the production of superalloy powders for additive manufacturing.

For metal processing, the R&D team is based partly at the Les Ancizes site, for open-die forging and developing the simulation of thermomechanical forming processes, and partly at the Pamiers site, for closed-die forging, where the team has a pilot press dedicated to R&I developments.

In total, the Eramet Group employs around 300 people who are completely dedicated to innovation, not counting the operational teams who participate in tests across all the industrial sites. Within the Business Units, these teams coordinate testing and essential phases of industrialisation for the Group's research projects. In all, about 1.5% of Eramet's sales is dedicated to innovation, with the aim of increasing the efficiency and effectiveness of innovation activities.

Main achievements in 2019

Eramet aims to foster innovation to meet the demands of its industrial customers, improve its competitiveness, offer new services and make advances in new opportunities for value creation. CSR factors are always taken into account in the development of new processes, with the aim of optimising their societal and environmental contribution.

Research and innovation efficiency is a decisive asset in the Group's activities, from mining to metallurgical products. In order to meet and even exceed customer expectations, research and innovation programmes allow the Group to strengthen its positions, even in the most competitive markets.

These programmes are conducted within the Business Units or at the Eramet Ideas centre. To ensure the results are wholly relevant, the innovation teams work in close collaboration with the operational staff. This maximizes the effectiveness of R&I programmes, from outlining programmes to implementing innovations on industrial sites, which may relate to products, improving the productivity of processes or reducing their environmental footprint.

Nickel Business Unit

The first area entailed the optimisation of the technical and economic performance of the Group's New Caledonian subsidiary by helping it to adapt its pyrometallurgical process to chemical developments in nickel ores, both current and future. New digital tools were developed to improve process control. These decision-making support tools lead to improvements in the stability and energy efficiency of the electric furnaces.

The second area of research aims to improve environmental performance by testing a densimetric recovery process for mine tailings to reduce the environmental footprint while maximizing the value creation of the mine.

The third area concerned the reliability of the high-purity nickel production plant in Sandouville. The aim of this technical assistance is more robust adjustment of the operating parameters of the new units in order to process the new raw materials.

Manganese Business Unit

For Comilog, the Eramet Ideas teams worked on optimising the operation of the Moanda Industrial Complex (CIM) to maximise the production of mining products and improve the quality of the sinter produced. AF@st'Innov approach implemented in 2019 achieved record daily production levels and a substantial rise in productivity in subsequent months. This approach also forms the basis for a medium-term action plan to achieve a lasting increase in capacity.

From an environmental point of view, new treatment processes for mine tailings have been pilot-tested to reduce the environmental footprint of the mine in Moanda.

With regard to manganese alloys, Eramet Research's work has focused on improving plant performance, particularly increasing refining capacity, lowering production costs, improving furnace stability and decreasing costs for energy. Work on manganese metallurgy is carried out in close cooperation with the Eramet R&I team based in Trondheim. In 2019, a major pilot programme was implemented in Trappes to test the recycling of by-products from operation of the industrial furnaces producing FeMn, in order to maximise recycling. This ambitious programme is partly based on a European collaborative project covering the circular economy.

Lithium Business Unit

The focus of work for the Group's project was the optimisation of the process of direct extraction of lithium from brine from the salt flats in Argentina. In 2019, work was focused on the consolidation of industrial options for the supply of active solid and the launch of the training centre built on the site of the future Centenario-Ratones plant. This training centre is a small-scale replica of the process used for the commercial plant.

An ambitious research programme for the recycling of lithium batteries has identified areas that set them apart and make the Group competitive, with a view to creating a European recycling sector. This initial work will be continued in 2020 as part of the ReLieVe European collaborative project bringing together universities and manufacturers. This programme involves leading industrial partners: Suez for battery collection and dismantling, Eramet for metals extraction and purification, and BASF for incorporation of metals into battery components.

A second European collaborative project was launched in 2019: in partnership with Électricité de Strasbourg, the aim of the EuGéLi project is to apply the Eramet process to the recovery and development of the lithium in the geothermal waters of the Rhine basin.

Mineral Sands Business Unit

For Grande Côte Operations in Senegal, 2019 was marked by a major R&I event: the development of a digital tool to determine the best route for the dredger that extracts the ore, with the aim of significantly increasing production.

High Performance Alloys Division

Thanks to the globally renowned know-how of its metallurgists, the High Performance Alloys Division designs new grades to meet future challenges and continues to optimise standard alloy grades to offer a competitive range to its customers. Production processes are also developed and optimised to guarantee their reliability and repeatability and thus ensure the competitiveness of the products.

Aubert & Duval designs and develops new alloy grades. Among its most recent innovations are: ML340™ (for the shafts of aircraft engines, developed in collaboration with Safran Aircraft Engines), MLX®17 and MLX®19 (stainless steels with structural hardening for the aerospace and motor sport markets) and the superalloy AD730® for high temperature applications. Recently, Aubert & Duval developed ARMAD® a new high-performance steel for the defence market.

These new grades or alloys are tested as part of collaboration programmes with major customers on prototype parts, particularly in aeronautics.

Since its first atomisation more than 50 years ago, Erasteel has continued to develop its ASP® range of high-speed steels produced through powder metallurgy, continually providing innovative solutions for new customer uses.

Collaborations and partnerships

For Eramet, 2019 was marked by an acceleration of the open innovation approach with the launch of the first "Eramet Innovation Challenge" on silica management in chloride-rich solutions. The launch of this challenge was made possible by the Prometia Group (an industrial and academic extractive metallurgy network) and an Open House at Eramet Ideas for all European extractive metallurgy experts. This first-of-its-kind in the world of extractive metallurgy was a resounding success, bringing together participants from all over the world. The winning solution was created by the German technological university of Kaiserslautern. A hackathon, held in connection with the Vivatech technology conference, allowed international teams of students to contribute to the traceability of our alloys. New collaborations with around ten start-ups in the area of digital transformation, chemicals, innovation and knowledge management were launched in 2019. Meanwhile, 2019 again saw successful participation in five major European projects on key Group themes, such as lithium battery recycling. Lastly, an innovation council comprising seven external experts in extractive metallurgy meet regularly to discuss the Group's mining and metallurgical projects.

Eramet Group's innovation is also enriched by its ongoing links with prestigious universities and its partnerships with globally recognized research institutes:

- in France, and in the field of extractive metallurgy, Eramet has ongoing partnerships with Chimie ParisTech, Mines ParisTech, Centrale-Supélec, *École nationale supérieure de géologie de Nancy, École nationale supérieure des mines de Nancy* and Paul-Sabatier University in Toulouse. For many years, the BRGM *(Bureau de Recherches Géologiques et Minières)* has conducted studies for Eramet in a variety of areas (geology, resource audits, research projects);
- the Group is continuing several partnerships in pyrometallurgy research, notably with the University of Trondheim in Norway, KTH (Royal Institute of Technology) in Sweden, and the Swedish semi-public research centre, SWEREA;
- in the field of alloys in France, Eramet maintains a close partnership with academic research centres providing specific expertise on metallic materials (characterisation of micro-structures and properties, production processes, thermomechanical treatments), and is associated with the following engineering schools: Mines ParisTech, *École nationale supérieure des mines de Nancy, École nationale supérieure des mines de Saint-Étienne, École des mines d'Albi*, SIGMA (Clermont-Ferrand), ENSMA (Poitiers). These partnerships mainly take the form of doctoral thesis work allowing for the development and exchange of expertise and innovative techniques in metallurgy, mechanics and process modelling. Eramet is also involved in projects to develop new alloys and their resulting products, initiated in the competitiveness clusters (ViaMéca, Aerospace Valley, *Pôle Nucléaire de Bourgogne*) and in partnership with M2P (Metz, Besançon, Troyes) and Saint-Exupéry (Toulouse) technological research institutes;
- of equal note are the projects undertaken with MetaFensch, a metallurgy research centre in Uckange, with projects aimed at developing titanium production and recycling processes and titanium alloy powders for additive manufacturing processes;
- outside France, in the field of alloys, the Group continues to maintain its partnership with the University of Strathclyde in Scotland, with an active and permanent presence at the centre for research and development on forging parts for the aerospace industry (AFRC).

Since, for several years now, the European Union has placed a focus on innovation and raw materials, Eramet is currently part of several consortia at European level as part of the EIPRM (European Innovation Partnership for Raw Materials) programme headed by DG Growth. Eramet is involved in these collaborative projects as part of European consortia, either as a coordinator or as a partner, in fields as varied as optimisation of mining surveys with online mineralogical analysis, the recycling of dust from manganese furnaces and the development of new processes in extractive metallurgy. Eramet has teamed up with more than 100 industrial partners, academic partners and European research centres as a "core member" of "KIC" Raw Materials, an innovative scheme aimed at strengthening ties between the worlds of research and education within an industrial framework, to encourage innovation, skills and employment in the area of raw materials.

Conclusion

Eramet Group innovation is used across the value chain of its activities, from mining to products. 2019 was a year of transformation consolidation for the Group's R&I, which was reorganised out of a strong desire to innovate and create lasting value. Eramet's centre was organised to bring together teams that take charge of the innovation process from collection of ideas to the industrialisation of innovative solutions, by evaluating and developing the best opportunities. All the innovation and digital transformation teams are focused on the rapid development of value-creating solutions for the Group's sites and its growth plans. The Group's innovation teams are essential contributors both to its long-term strategy and to the resolution of short-term operational challenges.

2.5.2 Mineral reserves and resources

2.5.2.1 Overview

Definitions

Definition of exploration results

Exploration Results correspond to the same materials of economic interest as those assessed for resources and reserves. Prospecting activity may suggest that a mineralised zone will be discovered, but the information available is very tenuous.

Definition of mineral resources

A Mineral Resource is the concentration or occurrence of materials of economic interest in or on the Earth's crust in such quantity and quality that the outlook for economic extraction is reasonable. The location, quantity, quality and continuity of the deposit and the geological characteristics and continuity of these resources are known, estimated or interpreted from specific geological evidence and knowledge. Mineral resources are ranked in ascending order of geological confidence as "inferred", "indicated" and "measured" resources.

An Inferred Mineral Resource is that part of a mineral resource of which the quantity and quality can be estimated on the basis of geological evidence, with a low level of confidence. The geological continuity of the mineralisation and its quality is assumed but not verified. The estimate is based on limited information or information of uncertain quality and reliability, gathered through appropriate techniques from locations such as outcrops, trenches, pits, workings and drill holes.

An Indicated Mineral Resource is that part of a mineral resource for which the tonnages, densities, shape, physical characteristics, quality and grades can be estimated with a reasonable level of confidence. The estimate is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, quarries and drill holes. The locations are too far from each other or spaced too inadequately to confirm the geological continuity and/or quality of the mineralisation but are close enough to reasonably envisage such continuity.

A Measured Mineral Resource is that part of a mineral resource for which the tonnages, densities, shape, physical characteristics, quality and grades can be estimated with a high level of confidence. The estimate is based on exploration, sampling and testing information gathered through appropriate techniques from locations such as outcrops, trenches, pits, quarries and drill holes. The locations are spaced closely enough to each other to confirm the geological continuity and/or quality of the mineralisation and the hydrogeological continuity of the facies of the resource.

Definition of drainable and extractable mineral resources in the case of lithium extracted from brine

A Drainable Mineral Resource is defined by the availability with a given confidence level of brines with a certain lithium content in a medium with a known effective porosity. The classification level is based on a grid of test drill holes which allow the lateral and vertical continuity of the lithology, the lithium brine concentrations and the hydraulic parameters to be assessed.

An Inferred Drainable Mineral Resource is that part of a drainable resource for which only geophysical measurements are available and possibly some drilling sites. Hydraulic continuity is not verified. The lithium content estimate is based on limited information or information of uncertain quality and reliability.

An Indicated Drainable Mineral Resource is that part of the drainable resource for which there is proven lateral continuity less than 6 km from the hydraulic parameters of the aquifer and the lithium content of the brine and vertical continuity between two measurement points in the same well.

A Measured Drainable Mineral Resource is that part of the drainable resource for which the sampling quality, hydraulic parameters and grades can be estimated with a high level of confidence and that meet quality criteria (QA/QC).

The number of lithium measurements higher than the cut-off grade in a particular lithological horizon must be greater than three.

The lithium content of the brine and the hydrodynamic parameters of the aquifer are determined by pumping tests carried out in the volume under consideration, including at least one long-term test (more than 30 days). The reliability and consistency of the content results and the hydrodynamic parameters are analysed using a conceptual model of brine distribution and a numerical model.

An Extractable Mineral Resource is defined by an available volume of brine with a certain lithium content in a medium with sufficient effective porosity to allow its economically viable extraction by one or more pumping wells over a given period. The reliability and consistency of the hydrodynamic parameters are analysed and simulated using a conceptual model of brine distribution and a numerical model.

The classification of extractable mineral resources is a function of the classification of the corresponding drainable mineral resources and of the level of accuracy obtained on the volumes and lithium content of brines that can be extracted by a given pumping system, i.e. accuracies of +/-25% and +/-15% respectively for extractable indicated and measured resources.

Definition of mineral reserves

A Mineral Reserve is the economically exploitable part of the "measured" or "indicated" resources of a deposit. The estimate of reserves is based on a pre-feasibility or feasibility study (mining project in the broad sense) that includes technical constraints (pit drawing, diluting materials and mining losses according to mining methods, efficiency of plants) and economic, commercial, legal, environmental, social and governmental constraints that exist or are foreseeable at the time of the estimate. The pre-feasibility or feasibility study shows that mining is justified at the time of declaration. Mineral reserves are ranked in ascending order of confidence as "probable" and "proven".

A Probable Mineral Reserve is the economically exploitable part of an "indicated" and, in some circumstances, a "measured" resource, while a Proven Mineral Reserve is the economically exploitable part of a "measured" resource.

Location

The Group mines nickel and manganese deposits, respectively, through its subsidiaries, Le Nickel-SLN in New Caledonia and Comilog S.A. in Gabon. With the development of the Weda Bay Nickel project in Indonesia, Eramet has opened up to the prospect of additional expansion.

In New Caledonia, Le Nickel-SLN mines open-pit oxidised nickel deposits formed by the surface weathering of ultrabasic rocks. At the current time, mining and processing are mainly concentrated on the saprolitic part of the weathering profile.

In Gabon, Comilog S.A mines an open-pit high-grade manganese tabular deposit, located under low coverage and formed by the surface weathering of volcano-sedimentary rocks.

In Indonesia, the Weda Bay deposit comprises oxidised nickel ore in a context of lateritic weathering. The pre-requisites for the implementation of the partnership agreement with Chinese steel group Tsingshan, the world's largest producer of stainless steel, were met on 19 May 2018. The partnership entails the production of a nickel ferroalloy in Indonesia, based on ore from Weda Bay, using a pyrometallurgical process. Eramet currently has a 43% shareholding in Strand Minerals (Indonesia) Pte Ltd., the controlling shareholder of Pt Weda Bay Nickel.

In Senegal, Grande Côte Operations (GCO), an indirect subsidiary of TiZir, which holds 90% of its capital, mines a heavy mineral sands deposit. The Grande Côte deposit, located a few dozen kilometres north of Dakar, is a heavy mineral placer deposit of coastal dunes, containing high quantities of titaniferous minerals (ilmenite and rutile) and zircon. The deposit can be mined using dredging. Production began in 2014.

In Argentina, Eramine Sudamerica S.A., a wholly owned subsidiary of Eramine SAS (wholly owned by Eramet S.A.) carried out exploration work on several Argentine *salars,* before focusing on the Centenario and Ratones *salars* north-west of Salta in the Puna region. This exploration work brought to light an exploitable lithium resource in natural brine.

Legal titles

The reserves and resources are shown on the mining titles to which the Group has long-term rights, essentially as follows:

- New Caledonia: perpetual concessions expiring on 31 December 2048 (Article 7 of the Country Law of 16 April 2009) and rights conceded for a period of 75 years, renewable in 25-year tranches;
- Gabon: a 75-year concession expiring on 31 December 2032, renewable in ten-year tranches;
- Indonesia: Contract of Work, ending on 27 February 2048, renewable;
- Senegal: the mineralisation of the Grande Côte project is part of a mining concession awarded in July 2008 to GCO by the Senegalese government for a period of 25 years beginning in November 2007 (date of initial delivery of the concession), renewable;
- Argentina: Eramine S.A. held 62 consolidated mining titles at the end of 2019, issued in perpetuity, subject to the submission of the required impact studies, payment of annual mining royalties and compliance with a development schedule.

The reserves are recognised at historic cost in the accounts in the case of titles purchased, while the granted concessions are not valued. The balance sheet value does not necessarily reflect the market value.

Estimates

Estimated resources and reserves have been established for Le Nickel-SLN, Weda Bay Nickel, GCO and Comilog S.A by professionals employed on a full-time basis by the Group or its subsidiaries, using conventional or geostatistical calculation methods.

For Eramine S.A., the estimated drainable and extractable resources of the lithium project were carried out by Montgomery and Associates, an independent, UK-based firm, acting as "Qualified Persons" in the field of lithium-containing deposits associated with brine.

Geological recognition, the estimation of resources and reserves and the planning of mining and extraction are underpinned by more than 40 years of practice on an industrial scale. However, the methods being used are constantly changing to take advantage of technical advances in these various areas.

The estimates of the Group's resources and reserves, as shown, were established according to the principles of the "JORC Code" (Australian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves), 2012 edition, for everything relating to estimation methods and classification levels.

Basis of estimates

The estimates are based on samples, which may not be fully representative of the complete deposits.

As they are explored and/or exploited, the estimates may change either positively or negatively, according to the improved knowledge of the clusters.

Mineral resources

The mineral resources are established at the same cut-off grades as the reserves (except when explicitly specified otherwise), but with no guarantee that these mineral resources will be fully converted into reserves following further technical, economic and commercial studies.

Drillings and/or intercepts are regarded as positive:

- if they contain at least 2 metres of ore of a higher grade than the cut-off grade;
- if they are not isolated.

An ore-body established by positive drillings is added to mineral resources if its position and geometric and chemical characteristics are such that there are reasonable prospects for economic extraction.

Drainable resources

Drainable resources are established to a concentration level of 200 mg/l lithium, which represents the cut-off grade.

The deposit is recognised by drillings positioned along a grid that verifies the vertical and lateral continuity of the lithological, geochemical and hydraulic parameters of the aquifer and a lithium content higher than the cut-off grade.

Exploration results

The exploration results are estimated using the same approach as that used for resources.

Reserves

Estimates of mineral reserves are based on medium/long-term economic conditions (price of fuel oil, coal, coke, electricity, metal prices, exchange rates, etc.), commercial constraints (quality, customers, etc.), environmental constraints (permits, mining limits, etc.) and on current or projected technical mining and processing procedures.

Reserves are estimated in the context of a complete pit project. No assurance can be given that all of the declared reserves will be recovered, as market fluctuations or technical changes might make the recovery of certain deposits, or parts thereof, economically viable or not viable.

Reserves are included in mineral resources.

Presentation of estimates

The figures for mineral resources and reserves shown in the tables are rounded to reflect the relative uncertainty of the estimates, which might produce calculation differences in the totals. They are provided for the entire mining area. The results may also be compared to production levels, giving an indication of the remaining useful life of the mining operations.

2.5.2.2 Reserves and resources of Comilog S.A.

An external audit was carried out between December 2019 and January 2020 by SRK. In SRK's opinion, the mineral resources and reserves of Comilog S.A., as reported by Eramet, are supported by a sufficient amount and quality of data and were estimated using appropriate techniques conforming to industry standards.

Mineral resources

The table below shows the figures for the mineral resources of the ore deposits of Comilog S.A., updated at 1 January 2020. The figures are given in millions of dry tonnes of run-of-mine ore (Mt), with the weight yield (% Wy) and the associated manganese content (% Mn).

EVOLUTION OF MANGANESE ORE MINERAL RESOURCES AT 1 JANUARY 2020

Resources Minerals	01/01/2020				01/01/2019			
	Mt	% Wy	% Mn	Mt Mn	Mt	% Wy	% Mn	Mt Mn
Measured	104	64.9	44.6	30	43	64.1	43.0	12
Indicated	225	64.2	44.5	64	292	65.1	44.7	85
Inferred	64	56.4	42.9	15	93	55.1	42.2	22
TOTAL	**392**	**63.1**	**44.3**	**110**	**428**	**62.8**	**44.1**	**118**

These resources correspond to the ore located at the following four deposits:

Bangombé deposit

The Bangombé deposit is being exploited. The resources declared on 1 January 2020 correspond to the estimates updated during the year (update of geological models), minus the ore mined in 2019. The mineral resources consist of ore with a Mn content of the rock fraction greater than or equal to 30%.

Okouma-Bafoula deposit

The Okouma-Bafoula deposit, whose two clusters form part of the same geological unit, is not yet being exploited. Following a reduction of the drilling grid, the estimate and classification of the resources were updated in 2019.

The mineral resources consist of ore with a Mn content of the rock fraction greater than or equal to 30%.

Massengo deposit

For the unexploited Massengo deposit, the mineral resources declared on 1 January 2020 are the same as those published on 1 January 2019, with the same parameters as those used to define other deposits.

Moulili sediment

The Moulili River is filled with sediment made up of manganese ore fines. Upstream to downstream, this deposit has been divided into four sections, two of which, MT1 and MT3, are being exploited.

As of 1 January 2020, the mineral resources correspond to the figures that were updated after inclusion of the topography and production at the end of December 2019. No cut-off grade has been applied.

Exploration results

The reconnaissance work done on the Yéyé deposit shows the existence of mineralised ore bodies classified as exploration results according to the quality and quantity criteria of the available information.

Mineral reserves

The table below shows the figures for the mineral reserves of Comilog S.A., updated at 1 January 2020. The figures are given in millions of dry tonnes of run-of-mine ore (Mt), with the weight yield and the associated manganese content (% Mn).

Reserves are included in mineral resources.

EVOLUTION OF MANGANESE ORE RESERVES AT 1 JANUARY 2020

Reserves Minerals	01/01/2020 Mt	% Wy	% Mn	Mt Mn	01/01/2019 Mt	% Wy	% Mn	Mt Mn
Proven	66	66.0	45.6	20	25	63.4	43.7	7
Probable	144	66.8	45.2	44	160	68.3	45.6	50
TOTAL	**210**	**66.6**	**45.3**	**63**	**185**	**67.6**	**45.4**	**57**

The mineral reserves correspond to the ore located at the following three deposits:

Bangombé deposit

The reserves are established taking into account:

- a cut-off grade of 37% Mn on the rock fraction;
- mining and technical factors determined based on reconciliations;
- the presence of long-term infrastructure deemed not to be relocatable at this time;
- mining projects for all the geological areas;
- the long-term mining sequence.

The work done in 2019 on the mining projects and the mining and technical factors led to an increase in the proportion of proven reserves.

Okouma-Bafoula deposit

The reserves are established taking into account the same criteria as those applied to the Bangombé deposit, with the following specificities:

- the inclusion of environmental and community constraints;
- a mining factor based on experience with the exploitation of Bangombé;
- a technical factor based on a conceptual study.

Information from the reduction of the drilling grid resulted in reclassifying close to 20% of reserves as proven reserves at 1 January 2020.

Moulili sediment

The MT1 and MT3 sections have been exploited since 2010 and 2013 respectively. No cut-off grade has been applied to exploitation and the reserves are estimated taking into account:

- the exploitable area;
- mining and technical factors determined based on reconciliations;
- a long-term mining sequence.

The MT2 and MT4 sections are not currently included in the reserves.

Production in 2019 was 8 Mwmt of run-of-mine ore from the Bangombé deposit and 1.8 Mwmt of manganese ore fines from the Moulili sediment.

2.5.2.3 Reserves and resources of Société Le Nickel-SLN

An external audit was conducted at the end of 2019 by OB1 Geostat', which certified that "the figures for audited resources and reserves of nickel-bearing saprolitic and lateritic ore as at 31 December 2019 do not show any anomalies and are evaluated in a generally accepted way in accordance with the recommendations of the Australian JORC code".

Mineral resources and reserves are grouped according to their classification and the type of ore in question. The tables below correspond to: the saprolitic ore which supplies the Doniambo pyrometallurgical plant; and saprolitic ore containing low-grade nickel and lateritic ore, which supply an external market.

Mineral resources

Total mineral resources are mainly estimated by modelling 3D blocks using linear geostatistical methods for all the mineralised clusters.

Ore tonnages are shown in millions of dry tonnes. Humidity, recorded during production in progress or estimated, varies from 22% to 48% for saprolites and laterites, depending on the ore bodies in question.

The figures were established with cut-off grades applied to the altered fraction, which changes according to the type of mineralurgical processing (wet or dry) and economic conditions.

Saprolites

In accordance with the system for describing drill hole data, the tonnages and grades shown correspond only to the altered phase of the saprolites, which entails mineralisation, and not to the entire saprolitic column.

EVOLUTION OF SAPROLITIC ORE MINERAL RESOURCES FOR DONIAMBO AT 1 JANUARY 2020

Resources Minerals	01/01/2020			01/01/2019		
	Mt	% Ni	ktNi	Mt	% Ni	ktNi
Measured	55.5	2.39	1,327	39.4	2.39	942
Indicated	64.5	2.38	1,534	65.7	2.42	1,587
Inferred	108.4	2.40	2,603	84.5	2.43	2,053
TOTAL	**228.3**	**2.39**	**5,463**	**189.6**	**2.42**	**4,582**

EVOLUTION OF SAPROLITIC ORE MINERAL RESOURCES FOR EXPORT AT 1 JANUARY 2020

Resources Minerals	01/01/2020		
	Mt	% Ni	ktNi
Measured	60.8	1.84	1,121
Indicated	104.0	1.82	1,889
Inferred	465.8	1.78	8,272
TOTAL	**630.7**	**1.79**	**11,282**

Including low-grade nickel ore in the estimate of mineral resources increased the ore resources destined for the Doniambo plant by nearly 20% and uncovered more than 630 million tonnes of saprolitic ore for export. The change in the figures is due to the combined effects of changes in the cut-off grade and the deduction of 2019 mining production.

Laterites

EVOLUTION OF LATERITE ORE MINERAL RESOURCES FOR EXPORT AT 1 JANUARY 2020

Resources Minerals	01/01/2020		
	Mt	% Ni	ktNi
Measured	21.9	1.42	311
Indicated	28.8	1.46	420
Inferred	141.7	1.42	2,015
TOTAL	**192.4**	**1.43**	**2,746**

Exploration results

As at 1 January 2020, the saprolite exploration results for Doniambo are evaluated at 1 MtNi (million tonnes of nickel content), representing a substantial increase compared to figures for the previous year (+37%). This change mainly reflects the re-estimate of all the exploration results following the expansion of the estimated perimeters to take account of low-grade saprolites.

As at 1 January 2020, the exploration results for low-grade saprolites are evaluated at 1.2 MtNi.

As at 1 January 2020, the exploration results for mineralised laterites are evaluated at 90 MtNi.

Mineral reserves

Saprolites

The table below shows the figures for saprolite reserves for the Doniambo pyrometallurgical plant recorded at the end of 2019 and published on 1 January 2020. These figures come from the conversion of mineral resources and take into account:

- dry mineralurgical processing of the run-of-mine used at some sites of Le Nickel-SLN and/or subcontracted: screening at around 80 mm, with or without recovery of part of the coarser fractions, depending on the type of ore;
- the wet mineralurgical processing operations at Népoui Kopéto and Tiébaghi;
- optimised mining projects;
- long-term sequencing.

Ore tonnages are shown in millions of dry tonnes and metal tonnages in thousands of tonnes of nickel content in the ore. The ore reserves destined for mineralurgical processing are estimated as “beneficiation plant concentrate”, resulting from the processing of all the ore of Népoui-Kopéto and part of the ore of Tiébaghi, within a grade range of 1.8%-2.4% Ni.

Reserves are included in mineral resources.

EVOLUTION OF SAPROLITIC ORE RESERVES FOR DONIAMBO AT 1 JANUARY 2020

	01/01/2020			01/01/2019		
Reserves Minerals	Mt	% Ni	ktNi	Mt	% Ni	ktNi
Proven	20.1	2.60	524	17.1	2.61	446
Probable	49.3	2.45	1,205	19.2	2.46	473
TOTAL	**69.4**	**2.49**	**1,729**	**36.3**	**2.53**	**919**

The ore reserves for the Doniambo plant are estimated as 1,729 ktNi at 1 January 2020, i.e. nearly double the reserves in the previous year. This increase reflects the effects already mentioned on mineral resources and the fact that a new economic model was taken into account based on the valuation of the mining asset without distinguishing types of ore.

The table below shows the figures for saprolitic ore reserves for export recorded at the end of 2019. These figures come from the conversion of mineral resources and take into account:

- dry mineralurgical processing of the run-of-mine, similar to that used at some sites of Le Nickel-SLN and/or subcontracted: screening at around 80 mm, with or without recovery of part of the coarser fractions, depending on the type of ore;
- optimised mining projects;
- long-term sequencing.

EVOLUTION OF SAPROLITIC ORE RESERVES FOR EXPORT AT 1 JANUARY 2020

	01/01/2020		
Reserves	Mt	% Ni	ktNi
Proven	19.7	1.78	351
Probable	56.0	1.75	978
TOTAL	**75.7**	**1.76**	**1,330**

In addition, the enrichment of saprolitic ore by washing at the Tiébaghi and Népoui sites for Doniambo also produces by-products recovered for export. These by-products are estimated at 170 ktNi.

2

Laterites

The table below shows the figures for lateritic ore reserves for export recorded at the end of 2019 and published on 1 January 2020. These figures come from the conversion of the mineral resources mentioned above and take into account optimised mining projects.

EVOLUTION OF LATERITIC ORE RESERVES FOR EXPORT AT 1 JANUARY 2020

	01/01/2020		
Reserves	**Mt**	**% Ni**	**ktNi**
Proven	11.9	1.48	175
Probable	19.9	1.48	295
TOTAL	**31.7**	**1.48**	**470**

The table below shows the figures for SLN's mining production in 2019, corresponding to the nickel tonnages contained in the ore transported to the various port sites (wharves or mechanical loading).

2019 mining production	ktNi
Saprolitic ore for Doniambo	51.9
Saprolitic ore for export	21.0
Lateritic ore for export	1.0

2.5.2.4 Resources of Pt Weda Bay Nickel

An external audit was carried out between December 2019 and January 2020 by SRK. In SRK's opinion, the mineral resources of Pt Weda Bay Nickel, as reported by Eramet, are supported by a sufficient amount and quality of data and were estimated using appropriate techniques conforming to industry standards.

Mineral resources

The mineral resources are established by the geological team of Pt Weda Bay Nickel based on separate identification of laterite and saprolite products. They are estimated on the basis of 3D-block models, constrained by a limit modelled at the cut-off grade of 1% Ni, and are mainly calculated through ordinary kriging.

The data on mineral resources correspond to dry tonnages, nickel grades and thousands of tonnes of nickel (ktNi).

Given the low proportion of intercalated fresh rock, the tonnages and grades given for saprolites correspond to the entire saprolitic column.

In 2019, no major exploration campaigns took place that would have changed the figures. However, mineral resources were re-estimated, which resulted in some changes, mainly related to topographical corrections.

EVOLUTION OF SAPROLITIC AND LATERITIC ORE MINERAL RESOURCES AT 1 JANUARY 2020

Resources Minerals	01/01/2020 Mt	% Ni	ktNi	01/01/2019 Mt	% Ni	ktNi
LATERITES						
Measured	41	1.27	526	36	1.26	457
Indicated	50	1.25	625	67	1.22	822
Inferred	41	1.24	514	52	1.21	636
Total laterites	**133**	**1.25**	**1,665**	**155**	**1.23**	**1,914**
SAPROLITES						
Measured	130	1.67	2,169	100	1.71	1,700
Indicated	143	1.57	2,246	166	1.53	2,551
Inferred	223	1.51	3,365	213	1.49	3,172
Total saprolites	**496**	**1.57**	**7,780**	**479**	**1.55**	**7,423**
GRAND TOTAL	**629**	**1.50**	**9,445**	**634**	**1.47**	**9,338**

The reserves are being evaluated in connection with the construction of a pyrometallurgical processing unit at the Weda Bay site.

2.5.2.5 Reserves and resources of TiZir

An external audit was carried out between December 2019 and January 2020 by SRK. In SRK's opinion, the mineral resources and reserves of TiZir, as reported by Eramet, are supported by a sufficient amount and quality of data and were estimated using appropriate techniques conforming to industry standards.

Mineral resources

The data on mineral resources correspond to tonnages of mineralised sand and heavy mineral (HM) grades identified in seven adjacent mineralised clusters. The tonnages are expressed in Mt (millions of dry tonnes). The HM grade is the in situ grade of the sand. Updates of the mineral resources on 1 January 2020 are based on the block modelling of the deposit, subtracted from which are the tonnages of sand exploited until 31 December 2019, and the tonnages located under the existing mine path.

Mineral resources are estimated at a cut-off grade of 0.82% HM. The cut-off grade is applied to grade accumulations up to 6 metres below the level of the natural water table. Resources are classified according to the test drill grid (reverse circulation and/or auger drilling).

Groupings of heavy minerals (zircon, ilmenite, rutile and leucoxene) are reported in HM percentages and reviewed according to the production results of recent years.

MINERAL RESOURCES OF TIZIR AT 1 JANUARY 2020

Resources Minerals	01/01/2020 Sands Mt	HM *in situ* Mt	HM grade %	Zircon in HM %	Leucoxene in HM %	Rutile in HM %	Ilmenite in HM %	01/01/2019 Sands Mt	HM *in situ* Mt	HM grade %
Measured	2,000	25.3	1.3	10.3	3.2	2.5	70.0	1,411	20.9	1.4
Indicated	816	9.0	1.1	10.3	3.2	2.5	70.0	368	4.8	1.3
Inferred	66	0.7	1.1	10.3	3.2	2.5	70.0	42	0.5	1.2
TOTAL	**2,882**	**35.0**	**1.2**	**10.3**	**3.2**	**2.5**	**70.0**	**1,821**	**26.2**	**1.4**

Reserves

The data on the reserves correspond to the tonnages of mineralised sand and grades of heavy metals (HM) in situ located in the mine path and in rich adjacent zones exploited using conventional mining methods (dry mining), supplying the spiral separators (rapid sand filters (RSF)) of the floating wet concentrator plant (WCP).

RESERVES OF TIZIR AT 1 JANUARY 2020

	01/01/2020							01/01/2019		
Reserves Minerals	**Sands** Mt	**HM RSF** Mt	**HM grade** %	**Zircon in HM** %	**Leucoxene in HM** %	**Rutile in HM** %	**Ilmenite in HM** %	**Sands** Mt	**HM RSF** Mt	**HM grade** %
Proven	1,029	15.5	1.5	10.3	3.2	2.5	70.0	1,331	19.2	1.4
Probable	291	3.7	1.3	10.3	3.2	2.5	70.0	430	4.9	1.1
TOTAL	**1,320**	**19.3**	**1.5**	**10.3**	**3.2**	**2.5**	**70.0**	**1,761**	**24.1**	**1.4**

The mine path was again subject to economic optimisation in 2019. No cut-off grade was applied in the calculation of reserves within this optimised path, as all the sand in the mine path has been recovered and recycled.

In 2019, exploitation through dry mining was also subject to economic optimisation, with the aim of recovering tonnages close to the mine path, up to a limit of 4 Mt of sand per year. The tonnages recovered through dry mining are included in the reserves and added to those exploited by dredging.

The reserves include mining dilution, dredging and WCP losses and the deduction of production in 2019, and are based on the project economics. The recovery rates of heavy minerals in the processing plants (WCP and MSP) are not applied in the calculation of reserves. The reserves are not added to the mineral resources.

Evolution of resources and reserves in 2019

Compared with 1 January 2019, the mineral resources increased by 58% for the sand tonnage and 36% for the heavy mineral tonnage. This increase was due to a reduction in the cut-off grade used to calculate the mineral resources from 1.00% HM to 0.82% HM. This reduction in the cut-off grade followed an economic study on the cut-off grade carried out in 2019, based on the real costs measured at GCO since the start of exploitation.

The evolution of reserves between 2018 and 2019 shows a decrease of 25% for sand tonnage and 20% for heavy mineral tonnage, mainly due to the following three factors:

- exploitation in 2019;
- application of a mining recovery factor of 0.95. Studies are under way to improve this factor;
- further optimisation of the mine path, which was also reviewed to take into account the exclusion zones over the long term (villages).

2.5.2.6 Resources of Eramine S.A.

Drainable resources

The drainable resources were updated in August 2017 by Montgomery and Associates, acting as Qualified Persons, based on the Centenario and Ratones *salars.*

The calculation uses the effective porosity levels for each lithological unit in the aquifer. The cut-off grade of 200 mg/l was applied to the resource limits. The results shown relate to the zone within the scope of the mining concessions of Eramine S.A.

The LCE (lithium carbonate equivalent) tonnage equivalent is calculated based on the lithium mass multiplied by a factor given by the atomic mass of each lithium carbonate element, i.e. 5.322785.

The drainable resources have not changed since the declaration of 1 January 2019.

DRAINABLE MINERAL RESOURCES AT 1 JANUARY 2020

Drainable resources	Brine volume *(millions of cubic metres)*	Average density	Li content *(mg/l)*	LCE *(kt)*
Measured	916	1.17	408	1,991
Indicated	1,442	1.16	379	2,912
Inferred	3,010	1.16	311	4,987
TOTAL	**5,368**	**1.16**	**366**	**9,890**

Extractable resources

The brine volumes and lithium carbonate equivalent (LCE) tonnages are calculated for a pumping field including a ramp-up of production over the last two years. The well field comprises 27 production wells for annual production of 24 kt of LCE. Each well has an extraction rate of 17 l/s, enabling effective pumping hours to be recorded. The pumping field is only defined on the Ratones *salar.*

The extractable mineral resources have not changed since the declaration of 1 January 2019.

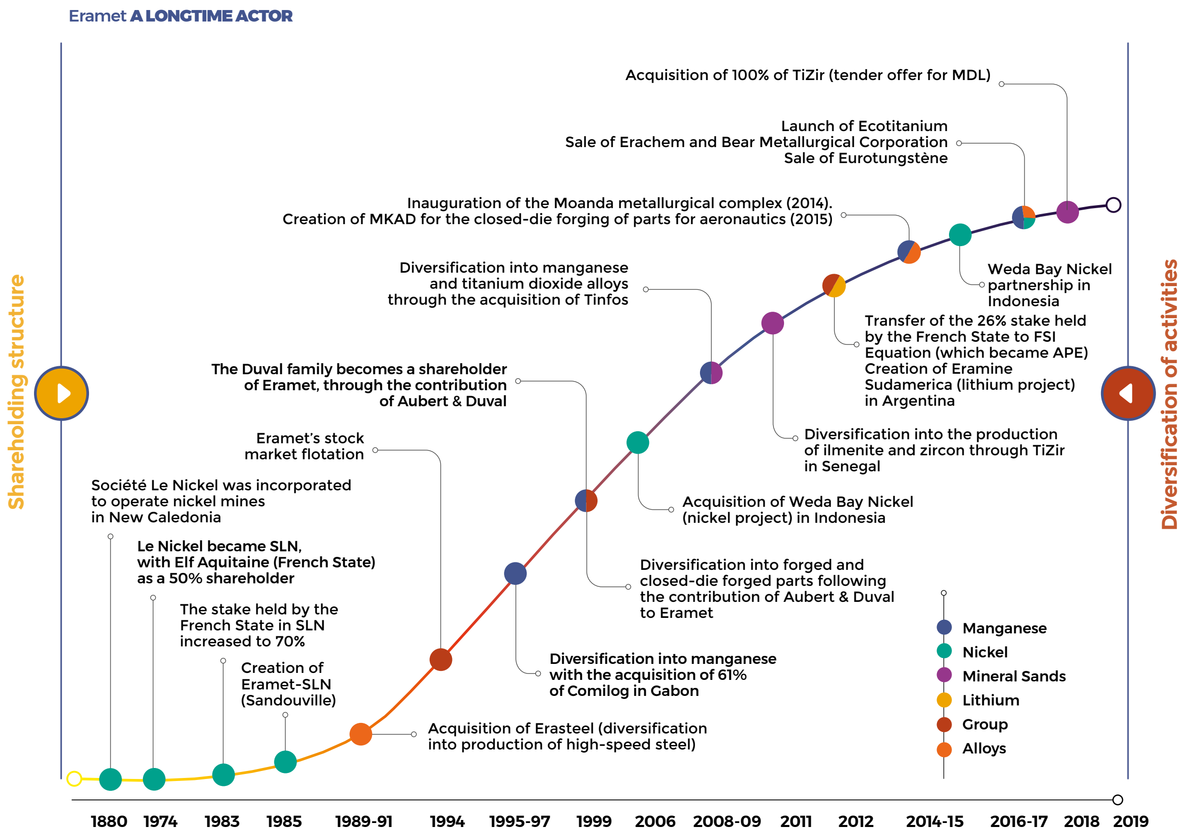
EXTRACTABLE MINERAL RESOURCES AT 1 JANUARY 2020 (2017 MODFLOW MODEL)

Extractable resources	Average annual LCE mass at 40 years *(kt)*	Lithium metal concentration at 40 years *(mg/l)*
Measured (77%) + Indicated (17%) + Inferred (6%)	1153.5	425

The lithium content corresponds to the grades extracted from the well field, as an average over the duration of the pumping period. The LCE tonnage equivalent corresponds to the product of the lithium mass and a factor given by the atomic mass of each lithium carbonate element, i.e. 5.322785.

The average mass of LCE extracted in the fortieth year of production was 25 kt.

2.6 HISTORY OF THE COMPANY



1880

- Société Le Nickel was incorporated in 1880 to operate nickel mines in New Caledonia. Under the majority control of the Rothschild family since the end of the 19th century, in the late 1960s it became the parent company of all the Rothschild group's mining subsidiaries (Le Nickel-Peñarroya-Mokta group).

1974

- The nickel business was spun off into a subsidiary under the name Société Métallurgique Le Nickel-SLN: Elf Aquitaine acquired a 50% interest in this new company. The former company Société Le Nickel changed its name to Imétal, thereafter holding the remaining 50% in Société Métallurgique Le Nickel-SLN.

1983

- As part of an industrial, shareholding and financial restructuring programme, ERAP, a French state-owned company, acquired a 70% stake in the share capital of Société Métallurgique Le Nickel-SLN. Imétal and Elf Aquitaine's interests were reduced to 15% each.

1985

- Société Métallurgique Le Nickel-SLN, owner of the mining assets in New Caledonia, became a wholly owned subsidiary of a new parent company known as Eramet-SLN, in which the shareholders continued to be ERAP (70%), Imétal (15%) and Elf Aquitaine (15%).
- **From 1989 onwards,** in order to smooth out the effects of nickel cycles, the Company adopted a strategy of diversifying into complementary activities.
- **1989-1991** Acquisition of French company La Commentryenne and Swedish company Kloster Speedsteel in the high-speed steels sector. These two companies were merged in 1992 to form a new company known as Erasteel.

1991

- Long-term commercial and financial partnership with Nisshin Steel. At the end of October 1994, Nisshin Steel held a 10% stake in Société Métallurgique Le Nickel-SLN.

1992

- Société Métallurgique Le Nickel-SLN and Eramet-SLN took on their current names of Société Le Nickel-SLN and Eramet, respectively.

1994

- A private placement was followed by a listing of 30% of Eramet's share capital on the Paris Stock Exchange's "Second Marché".
- The BRGM group (*Bureau de Recherches Géologiques et Minières*, a French state-owned company) transferred ownership of its Cofremmi subsidiary, the owner of nickel ore reserves in New Caledonia, to Eramet, in return for shares representing 2.34% of Eramet's new share capital.

1995-1996

- Eramet acquired a 46% stake in Comilog (Gabon), a producer of manganese ore, ferromanganese and manganese-based chemicals products.

1997

- Eramet acquired from Gengabon (Gencor Group) a further 15% of the share capital of Comilog.

1999

- The Group consolidated SIMA (Duval family), a producer and transformer of high-performance special steels.
- Sale of a 30% stake in Société Le Nickel-SLN to ERAP in exchange for Eramet shares; ERAP then transferred the stake to a New Caledonian publicly owned entity, Société Territoriale Calédonienne de Participation Industrielle (STCPI). The French government sold ERAP's remaining interest to Cogema, which then became part of the AREVA group.

After these operations, the Group's businesses were organised into three Divisions – Nickel, Manganese and Alloys – and the Group's capital was mostly held by private shareholders (Cogema/AREVA and Sorame/CEIR – Duval family), with the French government retaining a non-controlling interest.

2000

- Inauguration of the Moanda industrial complex in Gabon.

2002

- Acquisition of the Guilin manganese alloy plant (China).

2006

- Acquisition of Weda Bay Nickel in Indonesia.

2007

- Shares in Eramet were exchanged for those in SLN for STCPI as part of the SLN Shareholders' Agreement.

2008

- Acquisition of a 58.93% controlling interest in Norwegian group Tinfos.
- Creation of UKAD for preliminary mining and first transformation of titanium (forging ingots).

2009

- Eramet increased its stake in Eralloys (formerly Tinfos, Norway) to 100% after buying up the non-controlling interests. Sale of Nizi, an international trading business acquired in 2008 with Tinfos.
- Acquisition of Valdi (France), engaged in the recycling of non-ferrous metals.

2011

- Creation of TiZir, a joint venture in mineral sands with Mineral Deposits Ltd.

2012

- Acquisition by FSI Equation, a subsidiary of Fonds Stratégique d'Investissement (which became Bpifrance, later a subsidiary of APE) of the Eramet shares previously held by Areva.
- Diversification into lithium production with the discovery of a deposit in Argentina, taken on by Eramine Sudamerica (lithium project).

2013

- Appointment, following a joint nomination by BPI and by Sorame and CEIR, of a director to represent Gabon on Eramet's Board of Directors.

2014

- Start-up of the Moanda metallurgical complex in Gabon and (via TiZir) of Grande Côte in Senegal (mineral sands).

2015

- Launch of EcoTitanium, Europe's leading producer of aviation-grade titanium producer using recycled materials.
- Creation of MKAD, a new plant machining large titanium parts, a joint venture between Aubert & Duval and Mecachrome. The aim is to use the plant to transform the titanium produced by EcoTitanium.

2016

- Start of MKAD production.
- Opening of the *École des mines* in Moanda.

2017

- Launch of EcoTitanium.
- The Weda Bay Nickel partnership is signed with the Chinese company Tsingshan, the world's largest producer of stainless steel.

2018

- Success of the tender offer made for the shares of Mineral Deposits Ltd.: acquisition of 100% of TiZir.
- Sale of the Guilin manganese alloy plant (China).
- Lifting of the preconditions of the agreement signed with Tsingshan regarding the Weda Bay Nickel deposit and effective implementation of the partnership (shareholding: Eramet 43%/Tsingshan 57%).

2019

- Obtention of a research permit in the field of mineral sands in Cameroon on the rutiliferous block of Akonolinga.

3 Consolidated financial statements and individual financial statements

3.1 CONSOLIDATED FINANCIAL STATEMENTS

Income statement

(€ million)	Notes	Financial Year 2019	Financial Year 2018
Sales	**5**	**3,671**	**3,725**
Other income and expenses	5	12	24
Cost of sales	5	(2,832)	(2,721)
Administrative and selling expenses	5	(196)	(172)
Research and Development expenditure	5	(25)	(28)
EBITDA		**630**	**828**
Amortisation and depreciation of non-current assets and provision for liabilities and charges	5	(289)	(253)
Current operating income		**341**	**574**
Other operating income and expenses	6	(118)	(177)
Operating income		**223**	**398**
Financial income	7	(134)	(84)
Share of income from joint ventures and associates	7	(7)	48
Income taxes	11	(227)	(243)
Net income for the period		**(145)**	**119**
attributable to non-controlling interests	6	39	67
ATTRIBUTABLE TO EQUITY HOLDERS OF THE PARENT COMPANY		**(184)**	**53**
Basic earnings per share *(€)*	6	(6.93)	2.00
Diluted earnings per share (€)[1]	6	(6.93)	1.83

(1) Where basic earnings per share are negative, the diluted earnings per share are deemed equal to it, in which case the instruments are considered to be antidilutive.

Statement of comprehensive income

(€ million)	Notes	Financial Year 2019	Financial Year 2018
Net income for the period		**(145)**	**119**
Translation differences for subsidiaries' financial statements in foreign currency		(24)	(61)
Change in the fair value reserve for bonds	8	15	(9)
Change in revaluation reserve for hedging instruments	8	6	(9)
Income taxes		4	(8)
Items recyclable to profit or loss		**1**	**(86)**
Revaluation of net defined benefit plan liabilities	12	(26)	6
Income taxes		2	(1)
Items not recyclable to profit or loss		**(24)**	**5**
Other comprehensive income		**(23)**	**(81)**
• attributable to non-controlling interests	4	2	2
• **attributable to equity holders of the parent company**		**(25)**	**(83)**
TOTAL COMPREHENSIVE INCOME		**(168)**	**38**
• attributable to non-controlling interests	4	41	69
• **attributable to equity holders of the parent company**		**(209)**	**(31)**

These items are listed in the table of changes in equity under the section relating to Other Comprehensive Income (OCI).

Statement of cash flows

(€ million)	Notes	Financial Year 2019	Financial Year 2018
OPERATING ACTIVITIES			
Net income for the period		(145)	119
Non-cash income and expenses	7	355	375
Cash flow from operations		**210**	**494**
Net change in working capital requirement (WCR)	9	(124)	(57)
Net cash flow from operating activities[1]		**86**	**437**
INVESTING ACTIVITIES			
Acquisition of non-current assets	10	(423)	(275)
Net change in non-current financial assets	10	(22)	(6)
Disposal of non-current assets	10	(1)	(24)
Net change in current financial assets	7	153	(123)
Joint ventures capital increase	10	-	-
Share capital increase – controlled companies	10	-	-
Impact of changes in consolidation scope	7	(1)	(171)
Net cash used in investing activities		**(294)**	**(599)**
FINANCING ACTIVITIES			
Issue of equity instruments (ODIRNAN)	7	-	
Dividends paid to non-controlling interests	7	(86)	(59)
Payment of dividends and ODIRNAN	7	(20)	(65)
Buyback of equity shares	7	(10)	1
Issue of new debt	7	457	121
Loan repayments	7	(412)	(617)
Change in lease commitments[2]	7	(9)	
Change in bank overdrafts	7	6	(20)
Other changes		2	(9)
Net cash used in financing activities		**(72)**	**(648)**
Impact of changes in exchange rate	7	(12)	5
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS		**(292)**	**(805)**
Opening cash and cash equivalents	**5**	**848**	**1,653**
Closing cash and cash equivalents	**5**	**556**	**848**
(1) Including under operating activities			
Interest income		*12*	*12*
Interest paid (including IFRS 16 charge)		*(124)*	*(93)*
Tax paid		*(262)*	*(205)*

(2) Lease-purchases or financial leases are treated as purchases and recognised as acquisition of non current assets in contrast to other leases.

Statement of changes in equity

(€ million)	Number of shares	Capital	Share premiums	Reserves/ fair value financial assets	Reserves/ hedging instruments	Reserves/ defined-benefit schemes	Translation adjustments	Other reserves	Share attributable to equity holders of the parent	Share attributable to non-controlling interests	Capital equity
Shareholders' equity at 1 January 2018	**26,633,660**	**81**	**377**	**4**	**(9)**	**(65)**	**(6)**	**1,308**	**1,690**	**295**	**1,985**
Net income for the period 2018								**53**	**53**	**67**	**119**
Other comprehensive income				(14)	(10)	2	(61)		(83)	2	(81)
Total comprehensive income 2018		**-**	**-**	**(14)**	**(10)**	**2**	**(61)**	**53**	**(30)**	**69**	**38**
Share capital increase	2,224								-		-
Distribution of dividends								(61)	(61)	(59)	(120)
Equity instruments (ODIRNAN)								(4)	(4)		(4)
Share-based payment								9	9		9
Buyback of equity shares									-		-
Other movements								1	1	(1)	0
Total transactions with shareholders 2018	**2,224**	**-**	**-**	**-**	**-**	**-**	**-**	**(54)**	**(54)**	**(60)**	**(115)**
Shareholders' equity at 31 December 2018	**26,635,884**	**81**	**377**	**(10)**	**(19)**	**(63)**	**(67)**	**1,307**	**1,606**	**303**	**1,909**
Shareholders' equity at 1 January 2019	**26,635,884**	**81**	**377**	**(10)**	**(19)**	**(63)**	**(67)**	**1,307**	**1,606**	**303**	**1,909**
Net income for the period 2019								**(184)**	**(184)**	**39**	**(145)**
Other comprehensive income				15	6	(25)	(25)	4	(25)	2	(23)
Total comprehensive income 2019		**-**	**-**	**15**	**6**	**(25)**	**(25)**	**(180)**	**(209)**	**41**	**(168)**
Share capital increase	116	0							0	-	0
Distribution of dividends								(16)	(16)	(86)	(102)
Interest on equity instruments (ODIRNAN)								(4)	(4)	-	(4)
Share-based payment								9	9	-	9
Buyback of equity shares								(10)	(10)	-	(10)
Other movements								22	22	(17)	5
Total transactions with shareholders 2019		**0**	**-**	**-**	**-**	**-**	**-**	**1**	**1**	**(103)**	**(102)**
SHAREHOLDERS' EQUITY AT 31 DECEMBER 2019	**26,636,000**	**81**	**377**	**5**	**(13)**	**(88)**	**(92)**	**1,128**	**1,398**	**241**	**1,639**

Main components of changes in equity

Premiums essentially consist of issue premiums, representing the difference between the par value of the shares issued and the amount of the contributions in cash or in kind received on issue.

Fair-value reserves on financial assets include changes in the fair value of bonds classified as "Other current financial assets".

Hedging instrument reserves comprise the cumulative change in the effective portion of the fair value of derivatives relating to future cash flow hedging in connection with transactions that have not yet impacted the net income for the period. This is offset in Derivatives under assets or liabilities, depending on whether hedging gains or losses are recognised.

Reserves on Defined benefit plans include the impact of changes in actuarial assumptions used for commitments, and the variance between actual returns and the discount rates on the plans' hedging assets.

Translation adjustments account for the conversion differences deriving from the translation of the financial statements of foreign subsidiaries into euros. They also include the fair value changes of the net investment hedges of foreign subsidiaries.

At 31 December 2018

Significant movements in the Group's translation reserves are related to changes in the scope of consolidation during the period, with the sale of Strand-Weda Bay in the first half of the year and the acquisition of Mineral Deposit Limited and the full consolidation of TiZir in the second half of 2018.

Balance sheet

(€ million)	Notes	31/12/2019	31/12/2018
Intangible assets and goodwill	10	461	455
Property, plant and equipment	10	2,462	2,287
Lease rights of use	10	92	-
Investments in joint ventures and associates	10	22	29
Non-current financial assets	10	257	235
Deferred tax assets	11	8	6
Other non-current assets	10	5	11
Non-current assets		**3,307**	**3,023**
Inventories	9	1,098	947
Customers	9	362	395
Other current assets	9	254	209
Tax receivables	11	14	31
Derivatives – assets	8	25	25
Current financial assets	7	365	517
Cash and cash equivalents	7	556	848
Current assets		**2,674**	**2,972**
TOTAL ASSETS		**5,981**	**5,995**

(€ million)	Notes	31/12/2019	31/12/2018
Capital	7	81	81
Share premiums	7	377	377
Revaluation reserve for available-for-sale assets	8	5	(10)
Revaluation reserve for hedging instruments	8	(13)	(19)
Revaluation reserve for defined benefit plan liabilities	12	(88)	(63)
Translation adjustments	7	(92)	(67)
Other reserves	7	1,128	1,307
Attributable to equity holders of the parent		**1,398**	**1,606**
Attributable to non-controlling interests	4	241	303
Shareholders' equity		**1,639**	**1,909**
Employee-related liabilities	12	215	188
Provisions – long-term portion (more than one year)	13	639	579
Deferred tax liabilities	11	223	207
Non-current borrowings – due after more than one year	7	1,558	1,701
Lease commitment – more than one year	7	84	-
Other non-current liabilities		1	1
Non-current liabilities		**2,720**	**2,676**
Current provisions – due in less than one year	13	23	27
Current borrowings – due in less than one year	7	570	381
Lease commitment – less than one year	7	13	-
Suppliers	9	458	391
Other current liabilities	9	457	407
Tax payables	11	49	144
Derivatives – liabilities	8	52	60
Current liabilities		**1,622**	**1,410**
TOTAL LIABILITIES		**5,981**	**5,995**

Notes to the consolidated financial statements

Eramet is a French public limited company with a Board of Directors, governed by the provisions of Articles L. 225-17 and R. 225-1 *et seq.* of the French Commercial Code and the provisions of its Articles of Association. As required by law, the Company is audited by two Statutory Auditors.

The Eramet Group's consolidated financial statements at 31 December 2019 were approved by the Eramet Board of Directors on 19 February 2020.

The accompanying notes are an integral part of the consolidated financial statements.

Note 1 Description of the Eramet Group's business

Eramet is one of the world's leading producers of manganese and nickel, used to improve the properties of steels, mineral sands (titanium dioxide and zircon), parts and semi-finished products made of high-performance alloys and special steels used by industries such as aeronautics, power generation and toolings.

The Eramet Group is divided into Business Units grouped into two Divisions corresponding to the Group's activities.

The Mining and Metals Division encompasses the following:

- **The Manganese Business Unit extracts and processes manganese ore:**
  - Comilog operates the Moanda mine and industrial and metallurgical facilities in Gabon.
  - The manganese ore extracted is either marketed to downstream industries or processed in the Group's metallurgical plants in Gabon, France, Norway and the United States. The Group produces the widest range of alloys on the market.
- **The Nickel Business Unit extracts and processes nickel ore:**
  - The company **Société Le Nickel-SLN** operates five mines and one ferronickel producing metallurgical plant in New Caledonia.
  - **Eramet Sandouville** is a refinery which produces pure nickel, nickel chloride, nickel carbonate and cobalt chloride.
  - In addition, the Eramet Group owns 43% of **Pt Weda Bay Nickel,** a company that operates a major nickel deposit in Indonesia, with the construction of a nickel smelting plant.
- **The Mineral Sands Business Unit, through the company TiZir, extracts and develops mineral sands, mainly zircon and titanium dioxide slag:**
  - TiZir owns a mine in Senegal through Grande Côte Operations (GCO) and the TiZir Titanium & Iron (TTI) metallurgical conversion plant in Norway.
  - Grande Côte Operations (GCO) mines a deposit of mineral sands: titaniferous ore (ilmenite, rutile, leucoxene) and zircon.
  - The ilmenite is then transformed into titanium dioxide slag and high-purity pig iron at the TTI plant.
- **The Lithium Business Unit** was set up to mine and process the lithium deposit in Argentina through the company Eramine Sudamerica. In the financial statements for the year ended 31 December 2019, the figures relating to this Business Unit, mainly consisting of pre-operating expenses and early capex.

The High Performance Alloys Division develops, designs and transforms alloys.

Aubert & Duval and **Erasteel** make special steels and superalloys, in particular for the aeronautics and power generation sectors. These markets require high added-value metallurgical expertise.

This Division encompasses the following:

- The **Die-Forged Parts** and **Rolled and Forged Products** Business Units include Aubert & Duval's activities.
- The **High-Speed Steels and Recycling** Business Unit encompasses Erasteel's activities.

A global group with a presence in 20 countries, Eramet relies on high-quality mining reserves, particularly in Gabon and New Caledonia, world-class research and development, high-performance industrial facilities and high-level expertise.

Eramet has embarked on a strategic and managerial transformation aimed at ensuring competitiveness in a changing environment and sustainable value creation for all stakeholders.

The Group is also developing strategic metal production projects and virtuous recycling solutions in order to establish a presence on the energy transition market.

The Group employs around 13,097 people in 20 countries.

Note 2 Key events in the reporting period

2.1 Lithium project in Argentina

Eramet continued to develop the Lithium project in Argentina in 2019 with a target annual production capacity of 24,000 tonnes of LCE (Lithium carbonate equivalent). At 31 December 2019, the total capitalised expenditure recognised in non-current assets stood at €103 million. We estimate the total investment at €525 million, spread over the period 2019-2022. Pending achievement of the next milestones, in particular those related to foreign exchange control and project financing, the project is on hold and expenditure stalled. Failure to satisfactorily achieve these milestones in the near future could put a question mark over the project.

2.2 Trend of quality process review within the High Performance Alloys Division

Steps to ensure the compliance of quality processes continued with all customers concerned, yet still weighed on deliveries and had a significant impact on both sales and performance. The corrective action plans introduced at the end of 2018 returned billing to a normal pace as of September throughout all sites, except Les Ancizes. The die-forged parts business continued to absorb delivery delays and expects to normalise inventory levels in 2020. There are still significant delays on long rolled and forged products, especially at Les Ancizes. A specific action plan is up and running to increase capacity in the final stages of production control. Joint expert appraisals and comprehensive work in close collaboration with customers were carried out throughout the year and continue apace. An additional €15 million provision was recognised in 2019 to take account of the current anticipated treatment cost of the in-depth review of quality processes (especially expert fees), estimated at €80 million in total. The balance of the provision was €58 million at 31 December 2019 (€65 million at 31 December 2018). There were no legal developments at Aubert & Duval in connection with the compliance of its quality processes.

2.3 Continuation of the restructuring plan and new economic model of Société Le Nickel-SLN (la SLN)

After a tough first half in New Caledonia, hit by strikes in one of the main mining centres, the second half of the year saw the continued implementation of the SLN rescue plan, which has partially borne fruit. Nickel ore production increased 6% in 2019, lifted by the new organization of working hours as of mid-May in all our mines. Exports of low-grade ore exceeded the target to hit 1.6 Mwmt (+32%). We expect to consolidate the target with exports reaching a pace of close to 4 Mt of ore at the end of 2020, boosted by new working hours at the mine and our approach to community relations. SLN generated cash in second semester, especially in the fourth quarter. The third stage in the rescue plan kicked off in November with the signing of an agreement with Enercal, SLN's electricity provider, delivering one-third of the price reduction target for energy. We are also discussing other avenues with local stakeholders to identify additional actions essential to the SLN rescue plan. The target intrinsic cash cost improvement of USD 1.30/lb by 2021 remains dependent on smooth operation with no disruptions.

Against this backdrop and in light of current nickel prices, the €525 million financing provided by Eramet and the French government (€414 million used at 31 December 2019) will allow SLN to meet its commitments up to end-2020.

2.4 Financing

In February 2018, the revolving credit facility (RCF) was extended for €981 million with a five-year maturity (new maturity in 2023). In February 2019, maturity was extended to 2024. No amount of this RCF has been drawn down to date.

On 25 June 2019, the Group signed the agreement renewing the "borrowing base facility" credit line in the amount of €65 million with a three-year maturity.

In November 2019, Eramet rescheduled its maturity schedule and redeemed a portion of its 2020 bond issue (€227 million out of €460 million) through a new €300 million bond issue maturing in 2025.

December 2019 saw the Group arrange a term loan (TL) to finance its general requirements. It matures in two years and Eramet has the option to extend it to January 2024. This term loan amounts to €350 million. No amount of this TL has been drawn down to date.

2.5 Application of new IFRS 16 and IFRIC 23 standards applicable for annual periods beginning on or after 1 January 2019

IFRS 16, Leases, and IFRIC 23 interpretation, Uncertainty over Income Tax Treatments came into effect on 1 January 2019 and are applied to the Group's financial statements.

The accounting impacts of the first-time application of IFRS 16, Leases, resulted in posting a liability for lease commitments and rights of use totalling €94 million at the start of the period.

Application of IFRIC 23 did not lead to recognition of a provision for uncertainty around income tax treatments.

Note 3 details the impacts and the relevant change to the Group's accounting principles and methods.

Note 3 Basis of preparation of the consolidated financial statements

3.1 General principles and declaration of compliance

Pursuant to European Regulation 1606/2002 of 19 July 2002 on the application of international accounting standards, the consolidated financial statements of the Eramet Group for the financial year ended 31 December 2019 have been prepared in euros rounded to the nearest million, unless instructed otherwise, in accordance with IFRS (International Financial Reporting Standards) as adopted by the European Union at 31 December 2019.

The accounting principles applied for the preparation of the annual consolidated financial statements are in line with IFRS and the related interpretations, as adopted by the European Union at 31 December 2019 and available on the website: http://ec.europa.eu/finance/accounting/ias/index_fr.htm.

The accounting principles and methods applied for the consolidated financial statements at 31 December 2019 are identical to those used for the consolidated financial statements at 31 December 2018, with the exception of IFRS standards, amendments and interpretations as adopted by the European Union and issued by IASB whose application is mandatory only for reporting periods beginning on or after 1 January 2019 (and which had not been applied early by the Eramet Group).

The Group has therefore applied **IFRS 16 "Leases"** for the first time, which led to recognition of a financial liability of €94 million at the start of the period, in exchange for a right of use of the same amount from the Group's consolidated financial statements.

Application of **IFRIC 23 "Uncertainty Over Income Tax Treatment"** at 1 January 2019 has no material impact on the Group's financial statement and no impact has been recognised in its consolidated financial statements.

3.2 Impacts of application of IFRS 16, Leases, applicable at 1 January 2019

Mandatory as at 1 January 2019, the Group applies IFRS 16 "Leases", to its financial statements at 31 December 2019. It opted to use what is known as the modified retrospective approach. The impact on the balance sheet of the first-time application amounts to recognising a right-of-use asset and a lease commitment liability for €94 million.

Eligible leases are posted to the balance sheet at lease commencement for the present value of the future fixed payments. Leases where the underlying assets have a low value and/or are for a short term (12 months or less) are accounted for as an expense according to the exemptions permitted by the standard.

Lease-purchases ('crédit-bail') or financial leases are treated like purchases, compared to operating leases. Therefore, on the balance sheet,

lease-purchases ('crédit-bail') and financial leases are recognised:

- as noncurrent assets (assets - property, plant and equipment) and borrowings (liabilities – borrowings);
- other leases under IFRS16 (operating leases) are recognised as lease rights of use (assets) and lease commitments (liabilities).

The lease term is the non-cancellable period for which a lessee has the right to use an underlying asset, excluding periods covered by an extension option exercisable by the Group, unless it firmly intends to renew, or is required to do so through operational necessity. Assets are impaired over the duration of use of the identified right. In the income statement, lease impairments are posted to current operating income on the "Amortisation and depreciation of non-current assets" line. Interest expense is posted to financial income.

Rights of use for 3-6-9 commercial leases are amortised over nine years.

The discount rates used by the Group are the incremental borrowing rates per currency per portfolio of asset leases, grouped according to the lease term, the underlying financed asset (asset category) and the economic environment.

The weighted average discount rate (average borrowing rate) comes out at 10.5%.

The impacts of first-time application of IFRS 16 on the opening balance sheet relate to the recognition of lease rights of use and the lease liability for the present value of residual cash flows at the transition date. The Group does not report deferred taxes on first-time recognition of the right of use and the lease liability, as it does when accounting for finance leases under IAS 17.

The main "lease rights of use" with an impact on the Group's accounts concern:

- lease of ore transport equipment, particularly in New Caledonia;
- lease of premises, notably Eramet S.A.'s head office;
- current superficiary rail concession agreements conveying proven control over the assets.

3.2.1 Impact of IFRS 16 at the start of the period (1 January 2019)

IFRS 16 impact – Opening balance sheet at 1 January 2019

(€ million)	Information 31/12/2018 reported	First application IFRS 16	Information 01/01/2019 with IFRS 16
Lease rights of use		94	94
Non-current assets	**3,023**	**94**	**3,117**
Current assets	**2,972**	**-**	**2,972**
TOTAL ASSETS	**5,995**	**94**	**6,089**
Attributable to equity holders of the parent	**1,606**	**-**	**1,606**
Attributable to non-controlling interests	303		303
Shareholders' equity	**1,909**	**-**	**1,909**
Lease commitment – more than one year		86	86
Non-current liabilities	**2,676**	**86**	**2,762**
Lease commitment – less than one year		8	8
Current liabilities	**1,410**	**8**	**1,418**
TOTAL LIABILITIES	**5,995**	**94**	**6,089**

3.2.2 Impact at the closing date (31 December 2019)

IFRS 16 impact – Closing balance sheet at 31 December 2019

(€ million)	Information 31/12/2019 reported	Impact IFRS 16	Information 31/12/2019 with IAS 17
Lease rights of use	92	(92)	-
Deferred tax assets	8	(1)	7
Non-current assets	**3,307**	**(93)**	**3,214**
Current assets	**2,674**	**-**	**2,674**
TOTAL ASSETS	**5,981**	**(93)**	**5,888**
Other reserves	1,127	4	1,131
Attributable to equity holders of the parent	**1,398**	**4**	**1,402**
Attributable to non-controlling interests	241		241
Shareholders' equity	**1,639**	**4**	**1,643**
Lease commitment – more than one year	84	(84)	-
Non-current liabilities	**2,720**	**(84)**	**2,636**
Lease commitment – less than one year	13	(13)	-
Current liabilities	**1,622**	**(13)**	**1,609**
TOTAL LIABILITIES	**5,981**	**(93)**	**5,888**

IFRS 16 impact – Income statement at 31 December 2019

(€ million)	Financial Year 2019 reported	Impact IFRS 16	Financial Year 2019 with IAS 17
Sales	**3,671**		**3,671**
Other income and expenses	12		12
Cost of sales	(2,832)	(18)	(2,850)
Administrative and selling expenses	(196)	(1)	(197)
Research and Development expenditure	(25)	-	(25)
EBITDA	**630**	**(19)**	**611**
Amortisation and depreciation of non-current assets and provision for liabilities and charges	(289)	14	(275)
Current operating income	**341**	**(5)**	**336**
Other operating income and expenses	(118)	-	(118)
Operating income	**223**	**(5)**	**218**
Financial income	(134)	10	(124)
Share of income from joint ventures and associates	(7)	-	(7)
Income taxes	(227)	(1)	(228)
NET INCOME FOR THE PERIOD	**(145)**	**4**	**(141)**
• attributable to non-controlling interests	39	-	39
• **attributable to equity holders of the parent company**	**(184)**	**4**	**(180)**
Basic earnings per share *(€)*	(6.93)		(6.77)
Diluted earnings per share *(€)*	(6.93)		(6.77)

IFRS 16 impact – Statement of cash flows at 31 December 2019

(€ million)	Financial Year 2019 reported	Impact IFRS 16	Financial Year 2019 with IAS 17
OPERATING ACTIVITIES			
Net income for the period	(145)	(4)	(141)
Non-cash income and expenses	355	(5)	359
Cash flow from operations	**210**	**(9)**	**219**
Net change in working capital requirement (WCR)	(124)		(124)
Net cash flow from operating activities[1]	**86**	**(9)**	**97**
INVESTING ACTIVITIES			-
Acquisition of non-current assets[2]	(423)		(423)
Net change in non-current financial assets	(22)		(22)
Disposal of non-current assets	(1)		(1)
Net change in current financial assets	153		153
Joint ventures capital increase	-		-
Share capital increase – controlled companies	-		-
Impact of changes in consolidation scope	(1)		(1)
Net cash used in investing activities	**(294)**	**-**	**(294)**
FINANCING ACTIVITIES			
Issue of equity instruments (ODIRNAN)	-		-
Dividends paid to non-controlling interests	(86)		(86)
Payment of dividends and ODIRNAN	(20)		(20)
Buyback of equity shares	(10)		(10)
Issue of new debt	457		457
Loan repayments	(412)		(412)
Change in lease commitments[2]	(9)	9	-
Change in bank overdrafts	6		6
Other changes	2		2
Net cash used in financing activities	**(72)**	**9**	**(81)**
Impact of changes in exchange rate	(12)	-	(12)
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	**(292)**	**-**	**(292)**
Opening cash and cash equivalents	**848**		**848**
Closing cash and cash equivalents	**556**	**-**	**556**
(1) Including under operating activities	-		-
Interest income	12	*-*	*12*
Interest paid (including IFRS 16 charge)	(124)	*(10)*	*(114)*
Tax paid	(262)	*-*	*(262)*

(2) Lease-purchases or financial leases are treated as purchases and recognised as acquisition of non current assets in contrast to other leases.

Reconciliation of lease commitments at the transition date with lease liabilities at 31 December 2018:

(€ million)	
Off-balance sheet commitments reported on 31/12/2018	**281**
Lease < 12 months and low value	(10)
Discount effect	(45)
Other ineligible leases and lease costs	(132)
IFRS 13 LIABILITY/LEASE COMMITMENT	**94**

Ineligible leases and other lease costs relate essentially to the operating costs embedded in the leases of some operating assets, such as ore carriers, leases that do not convey control of the underlying assets, and leases with cancellation options.

Accordingly, the Group's accounting principles and methods for leases have been amended in Notes 7 and 10 to take into account the changes related to the application of IFRS 16.

3.3 Application of IAS 29 since 1 January 2018

Argentina is considered a hyperinflationary economy according to IAS 29 as at 1 July 2018. The situation affects the Eramet Group as it has operations in Argentina through its Eramine subsidiary. Given the onset of the start-up phase of the Lithium activity in Argentina, the Group's exposure reflected in the financial statements is not material.

As a result, since the criteria of IAS 29 "Financial Reporting in Hyperinflationary Economies", are met and, according to the consensus view of the French financial markets authority, AMF and the European Securities and Markets Authority (ESMA), Argentina is considered a hyperinflationary economy within the meaning of IFRS as at 1 July 2018.

Therefore, the provisions of IAS 29 apply as at 1 January 2018 and must be applied as if the economy had always been hyperinflationary.

Non-monetary assets and liabilities on the balance sheet must be restated according to a general price index; no restatement is required for monetary items. Income statement and other comprehensive income items denominated in the local currency must be restated by applying the change in the general price index from the date of initial recognition of income and expenditure items in the financial statements. The balance sheet, income statement and statement of comprehensive income are converted to euros at the exchange rate on the closing date of the period under consideration.

Note 4 Operational performance of Divisions/BUs and the Group – segment reporting

The Eramet Group is composed of Divisions divided into Business Units (BUs) to manage the Group's activities. The Mining and Metals Division includes the Nickel, Manganese, Mineral Sands and Lithium (as at 1 January 2019) BUs. The High Performance Alloys Division includes the activities of Aubert & Duval and Erasteel. Each BU offers different products and services and relies on distinct technologies and sales strategies. Their operational and financial performance is therefore monitored separately. Their contribution to the main financial indicators of the Group is given below.

Accounting method

Financial information on the Divisions and *Business Units* is prepared in accordance with the accounting principles adopted for the Group's reporting. In this context, the operational performance of joint ventures – the sub-group TiZir up to 30 June 2018 (Mineral Sands BU) and UKAD (High Performance Alloys Division) up to 31 December 2018 – are recognised using the proportional consolidation method. The reconciliation with the published data is given in the Joint venture contribution column.

Transactions between Divisions and Business Units *are carried* out under market conditions.

Estimates, assumptions and judgements

The Executive Committee, the chief operating decision-maker, regularly assesses the performance of each Division and Business *Unit* against the following indicators:

- **Sales;**
- **EBITDA,** including the gross profit (difference between sales and the cost of sales), administrative and selling expenses and research & development expenditure before depreciation, amortisation and provisions, which are presented separately;
- **Current operating income,** including EBITDA, depreciation and amortisation and provisions for liabilities and charges. Current operating income excludes material transactions that are considered to be unusual in nature, in particular events relating to restructuring, impairment losses and disposals of assets;
- **Cash flows generated by operating activities** including EBITDA, other operational cash flows not impacting EBITDA and the change in working capital requirement (WCR);
- **Industrial investments,** including acquisitions of intangible assets and property, plant and equipment.

The Executive Committee also monitors consolidated indicators such as:

- **Net income,** Group share, defined as the net profit after tax attributable to Eramet shareholders, after accounting for the percentage of non-controlling interest in each Group subsidiary;
- **Net financial debt,** representing the gross financial debt (long and short-term borrowings) less current financial assets, and cash and cash equivalents. These items include the valuation of debt-hedging derivatives;
- ***Gearing,*** defined as the ratio of net financial debt to shareholders' equity (Group and non-controlling interest).

The holding companies that provide the Group's central services (cash management, currency risk management, Group reinsurance management) do not constitute a *Business Unit*. Their aggregates are shown in a column with the eliminations of inter-*Business Unit transactions* (holding and eliminations).

4.1 Reconciliation of published financial statements and Group reporting

(€ million)	Financial Year 2019 Reported	Contribution joint ventures	Financial Year 2019 Adjusted	Financial Year 2018 Reported(1)	Contribution joint ventures	Financial Year 2018 Adjusted(2)
Sales	3,671	-	3,671	3,725	100	3,825
EBITDA	630	-	630	828	15	843
Current operating income	341	-	341	574	7	581
Operating income	223	-	223	398	67	465
Net income – Group share	(184)	-	(184)	53	(0)	53
Net cash generated by operating activities	86	-	86	437	12	449
Industrial investments	455	-	455	278	3	281
(Net financial debt)	(1,304)	-	(1,304)	(717)	-	(717)
Shareholders' equity	1,639	-	1,639	1,909	(1)	1,908
Shareholders' equity – Group share	1,398	-	1,398	1,606	(1)	1,605

(1) Published data with joint ventures consolidated using the equity method, as per current regulations.

(2) Data from Group Reporting, where joint ventures are consolidated proportionally.

4.2 Performance indicators by Division

(€ million)	Mining and Metals						
	Manganese	Nickel	Mineral Sands	Lithium[1]	High Performance Alloys	Holding and eliminations	Total
FINANCIAL YEAR 2019							
Sales	1,765	778	286	-	847	(5)	3,671
EBITDA	560	38	106	-	(26)	(48)	(630)
Current operating income	459	(58)	64	-	(68)	(56)	341
Net cash generated by operating activities	206	(17)	55	(13)	(84)	(61)	86
Industrial investments (intangible assets and property plant & equipment)	234	35	12	101	53	20	455
FINANCIAL YEAR 2018							
Sales	1,857	738	212		1,020	(2)	3,825
EBITDA	784	(18)	62		46	(31)	843
Current operating income	699	(111)	35		(8)	(34)	581
Net cash generated by operating activities	499	(21)	41		(1)	(69)	449
Industrial investments (intangible assets and property plant & equipment)	140	57	12		63	12	281

(1) BU included with Holdings activities up to 31 December 2018.

4.3 Sales, industrial investments and non-current assets by geographical area

(€ million)	France	Europe	North America	Asia	Oceania	Africa	South America	Total
SALES (SALES DESTINATION)								
Financial Year 2019	320	1,274	599	1,309	37	86	46	3,671
Financial Year 2018	362	1,315	629	1,346	30	87	56	3,825
INDUSTRIAL INVESTMENTS (INTANGIBLE ASSETS AND PROPERTY PLANT & EQUIPMENT)								
Financial Year 2019	76	42	8	-	30	198	101	455
Financial Year 2018	78	38	5	-	49	110	1	281
NON-CURRENT ASSETS (EXCLUDING DEFERRED TAX)								
31/12/2019	650	506	47	37	575	1,380	103	3,298
31/12/2018	644	349	38	42	545	1,417	4	3,039

4.4 Consolidated performance indicators

Segment reporting information is supplemented with the main consolidated performance indicators monitored by the Executive Committee. These indicators are taken from Group reporting and are used for the financial disclosure of the Group's results and performance.

4.4.1 Income Statement

(€ million)	Financial Year 2019	Financial Year 2018
Sales	**3,671**	**3,825**
EBITDA	**630**	**843**
Amortisation and depreciation of non-current assets	(284)	(260)
Provisions for risks and expenses	(5)	(2)
Current operating income	**341**	**581**
Impairment of assets	(25)	(104)
Other operating income and expenses	(93)	(12)
Operating income	**223**	**465**
Financial income	(134)	(95)
Share of income from associates	(7)	(3)
Income taxes	(227)	(241)
NET INCOME FOR THE PERIOD	**(145)**	**126**
• attributable to non-controlling interests	39	73
• **attributable to the Group**	**(184)**	**53**
Basic earnings per share *(€)*	(6.93)	2.00

4.4.2 Statement of changes in net debt

(€ million)	Financial Year 2019	Financial Year 2018
OPERATING ACTIVITIES		
EBITDA	630	843
Cash impact of items in EBITDA	(420)	(345)
Cash flow from operations	**210**	**498**
Change in WCR	(124)	(49)
Net cash generated by operating activities (1)	**86**	**449**
INVESTING ACTIVITIES		
Industrial investments	(455)	(281)
Other investment flows	11	(379)
Net cash used in investing activities (2)	**(444)**	**(660)**
Net cash used in financing activities	**(117)**	**(123)**
Impact of fluctuations in exchange rates and other	(6)	(7)
Acquisition of lease rights of use	(12)	
(INCREASE)/DECREASE IN NET FINANCIAL DEBT	**(493)**	**(341)**
Opening (net financial debt)	**(717)**	**(376)**
Impact of the first application of IFRS 16	(94)	
Restated opening (net financial debt)[1]	**(811)**	**(376)**
Closing (net financial debt)	**(1,304)**	**(717)**
***Free Cash Flow* (1) + (2)**	**(358)**	**(211)**

(1) Restated on first-time application of IFRS 16 at 1 January 2019.

2018 Free Cash Flow has been impacted in an amount of €373 million by the acquisition of Mineral Deposit Limited, i.e. €219 million due to shares acquisition and €154 million due to consolidation at 100% of TiZir debt.

The reconciliation of cash and cash equivalents in the statement of cash flows to the net financial debt in the Eramet Group reporting is as follows:

(€ million)	31/12/2019	31/12/2018
Cash and cash equivalents	**556**	**848**
Current financial assets	365	517
Loans	(2,128)	(2,082)
Contribution of joint ventures	-	-
Lease liability – IFRS 16	(97)	-
NET FINANCIAL DEBT – REPORTING	**(1,304)**	**(717)**

4.4.3 Economic balance sheet

(€ million)	31/12/2019	31/12/2018
Non-current assets	**3,294**	**3,030**
Inventories	1,098	958
Customers	362	390
Suppliers	(458)	(413)
Simplified WCR	**1,002**	**935**
Other items of WCR	(242)	(319)
Total WCR	**760**	**616**
Derivatives	**-**	**-**
TOTAL	**4,054**	**3,646**

(€ million)	31/12/2019	31/12/2018
Shareholders' equity – Group share	1,398	1,605
Non-controlling interests	241	303
Shareholders' equity	**1,639**	**1,908**
Cash and cash equivalents and current financial assets	(920)	(1,366)
Loans	2,224	2,083
Net financial debt	**1,304**	**717**
Ratio of net financial debt to shareholders' equity *(gearing)*	*80%*	*38%*
Employee-related liabilities and provisions	**877**	**794**
Net deferred tax	**214**	**201**
Derivatives	**20**	**26**
TOTAL	**4,054**	**3,646**

Note 5 Current operating income

Current operating income reflects the performance of the Eramet Group's ordinary business activities as presented and defined in Note 4. This section presents its components: sales, cost of sales, administrative and selling expenses, research & development expenditure, and depreciation, amortisation and provisions.

5.1 Sales

Accounting method

Sales revenue mainly consists of sales of ores (nickel and manganese) and manufactured products (special steels, alloys, superalloys, etc.) to third parties, as well as related performance obligations such as transport or insurance services depending on contractual Incoterms.

Revenue from the sale of these products and services is recorded when control over the product sold and the service rendered has been transferred to the customer.

Consolidated sales for 2019 were €3,671 million compared to €3,725 million in 2018, a decline of 1.4% (-€54 million).

A comparison with the Group's reported sales and distribution by BU is provided in Note 4.

5.2 Cost of sales and other income

Accounting method

The cost of sales mainly comprises costs borne in industrial, mining and metallurgical facilities, in particular the consumption of raw materials, energy costs, personnel costs, and logistics and transport costs. It also accounts for the impacts of the change in and measurement of raw material inventories, work-in-progress and finished products.

Other income includes items related to current operating income, such as translation adjustments on sales and insurance proceeds.
Currency transactions are recognised at the monthly exchange rate for the month of the transaction effective date. Gains and losses arising from the conversion of operating receivables and payables are recognised in Current operating income.

In the case of hedged transactions, the translation adjustments arising from the difference between the monthly exchange rate used to recognise sales and receipts or purchases and payments and the hedging rate for the settlement of transactions are also recognised in Current operating income.

Estimates, assumptions and judgements

The transaction date is the date on which it is executed. For practical reasons, the currency transaction date used is the month in which the transaction is booked.

The rate applied to recognise currency transactions in a given month corresponds to the average daily rate applicable in the previous month.

5.3 Administrative and selling expenses

Accounting method

Administrative and selling expenses mainly comprise personnel costs for non-industrial sites and other administrative and sales support services.

5.4 Research & development expenditure

Accounting method

Research and development expenditure relates to expenses for scientific and technical activities necessary for the research, development and implementation of new manufacturing processes or the improvement of existing processes.

Research and development expenses do not include expenses incurred for development projects whose technical feasibility and profitability have not yet been demonstrated. These expenses are recognised in Other operating income and expenses (see Note 6).

Once the technical feasibility and profitability of a project have been established, the development expenses incurred are capitalised. These expenses also include the geology expenses incurred in mining sites that are already in operation.

Expenses for the period

(€ million)	Financial Year 2019	Financial Year 2018
Non-capitalised research and development expenditure	25	28
Of which geological expenditure Eramet Nickel	*2*	*3*

5.5 Amortisation and depreciation of non-current assets and provision for liabilities and charges

Accounting method

Amortisation and depreciation of non-current assets
Non-current assets can be depreciated when their expected use is limited in time or based on production units.

Where the duration or the pace of utilisation of an asset cannot be determined reliably, the straight-line method is applied.

The selected depreciation method is applied across all similar assets with the same conditions of use.

Depreciation begins at the date on which the asset is put into service.

Any significant change in the planned use of the asset, in terms of duration or pace, for example, will result in the depreciation being revised for the current and subsequent years. Likewise, in the case where impairment loss provisions are set aside or reversed following the comparison between the value in use of a non-current asset and its carrying amount (Note 10), the depreciation basis is modified prospectively, i.e. the depreciation is adjusted based on the new duration or the new pace of use for the current and future reporting periods.

The depreciation for the reporting period is recognised under a separate heading, Amortisation and depreciation of non-current assets, between EBITDA and Current operating income.

Assets for lease rights of use on the balance sheet (IFRS 16) are amortised over the identified period of the right of use. In the income statement, lease impairments are posted to current operating income on the "Amortisation and depreciation of non-current assets" line.

Rights of use for 3-6-9 commercial leases are amortised over nine years.

PROVISIONS FOR RISKS AND EXPENSES
See Note 13.

Estimates, assumptions and judgements

The Eramet Group uses two depreciation methods: the straight-line method and the units of production method.

Straight-line depreciation method

The depreciation of property, plant and equipment is calculated on a straight-line basis over the estimated useful life at 31 December 2019:
- Buildings between 10 and 15 years
- Industrial and mining facilities
- between 5 and 50 years
- Other property, plant and equipment
- between 2 and 10 years

Assets invested in the Group's concessions (Setrag, Comilog and Grande Côte Operations) are depreciated over the shorter of their useful life or the remaining period of the concession.

Computer software is amortised over a variable period not exceeding five years.

Units of production method

The economic benefits generated by the use of certain industrial assets are determined in relation to the level of production, in particular in the start-up phase of new production units. These assets are depreciated using the units of production method.

The depreciation calculation accounts for the quantities produced during the reporting period, expressed as a percentage of the total quantities of product to be extracted or produced in the current and future reporting periods.

If the production is not deemed to fluctuate significantly from one year to the next, as with the assets whose material lifespan is shorter than the life of the plant or the mine to which they relate, the assets are depreciated using the straight-line method mentioned above over the life of the plant or the mine.

Revision of depreciation periods

The residual values and useful life of non-current assets are revised and adjusted at the end of each reporting period, as appropriate. Change is seen as a change in estimates and impacts only the current and subsequent reporting periods.

The Eramet Group measures its existing assets and the depreciation period when reviewing mining plans (Nickel BU, Manganese BU and Mineral Sands BU) and plant operation plans at the end of each reporting period. When it is established that the life of the allocated assets no longer matches the remaining period of expected returns, their depreciation period is modified prospectively. Uncertainties are inherent in the estimation of reserve and resource quantities, especially as regards assumptions about future prices, the geology of the mines, the mining methods used, and associated costs incurred to develop and mine the reserves and resources. Changes in these assumptions could lead to major adjustments in the estimation of reserves and resources, which may be the basis for impairment or modification in depreciation expense in future periods.

(€ million)	31/12/2019	31/12/2018
Intangible assets	(15)	(17)
Property, plant and equipment	(269)	(234)
Total	**(284)**	**(251)**
of which amortisation and depreciation of acquisition price allocation	*(5)*	*(4)*
Provisions	(5)	(2)
TOTAL	**(289)**	**(253)**

Note 6 Net income, Group share and non-controlling interest

Net income, Group share is the net income for the period after tax, attributable to Eramet shareholders, after accounting for the non-controlling interest in each of the Group companies.

Apart from the Current operating income, the Net income for the period includes the following items:

- Other operating income and expenses (see below);
- Net financial income (Note 7);
- Share of income from joint ventures and associates (Note 10);
- Income tax (Note 11).

6.1 Other operating income and expenses

Accounting method

Other operating income and expenses includes only very limited, unusual, abnormal and infrequent income and expenses for significant amounts that the Eramet Group presents separately in its income statement in order to facilitate the understanding of current operating performance. In particular, it includes the following items:

- restructuring costs;
- costs incurred for development projects whose technical feasibility and profitability have not yet been demonstrated;
- defined benefits plan settlements and amendments;
- disputes and unusual risks;
- capital gains and losses on disposals of assets;
- impairment losses on goodwill and non-current assets.

6.1.1 Breakdown by category

(€ million)	Financial Year 2019	Financial Year 2018
Other operating income and expenses excluding impairment	(93)	(2)
Impairment of assets and impairment losses	(25)	(175)
OTHER OPERATING INCOME AND EXPENSES	**(118)**	**(177)**

(€ million)	Financial Year 2019	Financial Year 2018
Niobium project	(2)	(2)
Lithium project	(25)	(24)
Weda Bay project	(1)	(2)
Other projects	(2)	(0)
Development projects	**(30)**	**(28)**
Restructuring and redundancy plans	(5)	(6)
Employee benefits – plan amendment	7	1
Provisions for site restoration – SLN	(7)	(19)
Aubert & Duval quality risk	(29)	(65)
Provision for ADTAF closure	(11)	
Environmental provisions – ENO	(6)	
Gains and losses on disposals	-	147
Other items	(12)	(33)
Other income and expenses	**(63)**	**25**
TOTAL	**(93)**	**(2)**

Project expenses mainly concern the Lithium project in Argentina until 31 March 2019. Practically all these expenses were capitalised as at 1 April 2019.

Other income and expenses comprise the provision for the closure of ADTAF. The amount is the estimated cost of closing this subsidiary.

It also includes the internal expenses for quality risk at Aubert & Duval (see Note 2.2).

6.1.2 Impairment of assets and impairment losses

(€ million)	Financial Year 2019	Financial Year 2018
Losses on impairment tests – Goodwill	-	(3)
Losses on impairment tests – Intangible assets	-	(1)
Losses on impairment tests – Property, plant & equipment	(25)	(171)
Losses on impairment tests – Intangible assets and PPE	**(25)**	**(175)**
Other impairment of assets	-	
Other provisions	-	-
TOTAL IMPAIRMENT OF ASSETS AND IMPAIRMENT LOSSES - NOTE 10	**(25)**	**(175)**

(€ million)	Financial Year 2019	Financial Year 2018
Nickel BU	-	-
High Performance Alloys Division	(25)	(201)
Manganese BU	-	26
Mineral Sands BU	-	-
TOTAL IMPAIRMENT OF ASSETS AND IMPAIRMENT LOSSES	**(25)**	**(175)**

See Note 10 “Investments, Impairment of assets”.

6.2 Net earnings per share – Group share

Accounting method

Net earnings per share can be obtained by dividing the Group share of net income by the average number of shares outstanding during the reporting period. This average number of shares outstanding excludes treasury shares.

Diluted earnings per share are calculated by taking into account the net income, Group share for the period and the number of shares adjusted for potentially dilutive effects, mainly represented by employee share subscription and purchase plans and the potential conversion of ODIRNANs.

	Financial Year 2019			Financial Year 2018		
	Net income attributable to the Group	Average number of shares	profit (loss) per share	Net income attributable to the Group	Average number of shares	profit (loss) per share
Basic earnings per share	(184)	26,529,619	(6.93)	53	26,541,593	2.00
DILUTED EARNINGS PER SHARE(1)	**(184)**	**26,529,619**	**(6.93)**	**53**	**28,945,113**	**1.83**

(1) Where basic earnings per share are negative, the diluted earnings per share are deemed equal to it, in which case the instruments are considered to be antidilutive.

6.3 Non-controlling interest share in earnings – minority interest

		Financial Year 2019	31/12/2019	Financial Year 2018	31/12/2018
At beginning of period			**303**		**295**
Profit (loss) for the period			39		67
Change in revaluation reserve for financial instruments			-		(1)
Change in revaluation reserve for net defined benefit plan liabilities			1		3
Translation adjustments			1		1
Sub-total Other comprehensive income			**2**		**2**
Other movements			(103)		(60)
AT PERIOD CLOSE		**39**	**241**	**67**	**303**
Société Le Nickel-SLN	44.00%	(42)	(103)	(48)	(62)
Comilog S.A.	36.29%	79	352	123	364
Grande Côte Operations	10.00%	3	(9)		
Pt Weda Nickel Ltd[1]	10.00%	-	-	(8)	-
Interforge	4.30%	(1)	1	-	2

(1) Before disposal.

See Statement of changes in equity.

Note 7 Net financial debt and shareholder's equity

7.1 Net financial debt

Net financial debt is gross financial debt (long and short-term borrowings) less current financial assets and cash and cash equivalents. These items include the valuation of hedging derivatives related to borrowings.

Accounting method

Borrowings are initially recognised on the basis of the amount received, less financing costs incurred. Borrowings are subsequently measured at amortised cost. Any variance between the amounts received and the redemption value of the borrowing is recognised in the income statement under Net financial income (Borrowing costs) over the term of the borrowing, using the effective interest rate (EIR) method.

When the renegotiation of a loan does not substantially modify the debt in accordance with IFRS 9 criteria, it is maintained on the balance sheet and revalued at the overall effective interest rate on the basis of the new contractual flows. The impact of this revaluation is recognised in the income statement.

Lease-purchases ('crédit-bail') and financial leases are treated like purchases and are recognised as borrowings. Other lease contracts under IFRS16 are recognised as lease commitments. They are posted to the balance sheet upon lease commencement for the present value of the future fixed payments.

The discount rates used by the Group are the incremental borrowing rates per currency per portfolio of asset leases, grouped according to the lease term, the underlying financed asset (asset category) and the economic environment.

Rates are determined by country and by duration. The average rate is 10.5% at 31/12/2019.

(€ million)	31/12/2019		31/12/2018	
Loans		**(2,128)**		**(2,082)**
Borrowings on capital markets	(1,429)		(1,373)	
Borrowings from credit institutions	(397)		(387)	
Bank overdrafts and creditor banks	(72)		(65)	
Borrowings regarding Lease-purchases and financial leases	(33)		(42)	
Other borrowings and financial liabilities	(197)		(214)	
Lease commitments		**(97)**		**-**
Other current financial assets		**365**		**517**
Cash and cash equivalents		**556**		**848**
Cash equivalents	239		735	
Cash	317		113	
NET FINANCIAL DEBT		**(1,304)**		**(717)**
Net financial debt – due in more than one year		(1,642)		(1,701)
Net financial debt – due in less than one year		338		984

7.2 Borrowings

7.2.1 Borrowings and lease commitments by type

(€ million)	31/12/2019	31/12/2018
Loans		
Borrowings on capital markets	1,429	1,373
Borrowings from credit institutions	397	387
Bank overdrafts and creditor banks	72	65
Borrowings regarding lease-purchases and financial leases	33	42
Other borrowings and financial liabilities	197	214
Lease commitments	**97**	**0**
TOTAL	**2,225**	**2,082**
• Long-term portion	(1,642)	(1,701)
• Short-term portion	(583)	(381)

7.2.2 Borrowings on capital markets and bank loans

(€ million)	Nominal amount *(currency unit million)*	Interest rate	Maturity	31/12/2019	31/12/2018
Bond issue – Eramet S.A.[1]	€525 M	4.50%	2020	235	463
Bond issue – Eramet S.A.	€500 M	4.196%	2024	515	515
Bond issue – TiZir Ltd	$300 M	9.500%	2022	278	292
Bond issue – Eramet S.A.[2]	€300 M	5.875%	2025	298	-
Euro private placement – Eramet S.A.[3]	€50 M	5.29%	2026	52	52
Euro private placement – Eramet S.A.[3]	€50 M	5.10%	2026	51	51
Deutsche Bank *(Schuldschein) loan* – Eramet S.A.	€60 M	6-month Euribor +2%	2020	-	-
BORROWINGS ON CAPITAL MARKETS				**1,429**	**1,373**
ICBC / BNP Paribas / BGFI loans – Comilog S.A.	$217 M	6-month Libor +4.3% / +2.1%	2018 / 2022	35	49
Issued commercial paper – Eramet S.A.	€60 M	Between -0.10% and +0.22%	1 year max.	31	60
Borrowing Base – Eramet S.A.[4]	€65 M	1-month Euribor +2.1%	2022	53	43
European Investment Bank – Eramet S.A.	€80 M	1.736%	2025	54	63
European Investment Bank – Eramet S.A.	€30 M	2.72%	2029	30	30
European Investment Bank – Eramet S.A.[5]	€120 M	Euribor +1.1%	2030	(0)	(0)
IFC / Proparco – Setrag	€85 M	Euribor +4% / 5%	2031	84	61
Revolving credit facility[6]	€981 M	6-month Euribor +0.75% / 1.50%	2024	(2)	(6)
Term Loan (Multi-currency Term Loan Facility Agreement)[7]	€350 M	Euribor + 2.00%/4.25%	2024	(3)	-
Repurchase agreements[8]	€72 M	EONIA	2020	72	-
Other borrowings from credit institutions				43	88
BORROWINGS FROM CREDIT INSTITUTIONS				**397**	**387**

(1) Partial redemption of the 2020 bond issue for €227 million on 14 November 2019.

(2) 14 November 2019 bond issue.

(3) With investor put *options that may be exercised after the seventh year, i.e. in 2021.*

(4) Renewed in June 2019. Three-year maturity.

(5) Not yet drawn down at 31 December 2019, the €120 million nominal amount can be drawn down in full.

(6) The balance of the revolving credit facility at 31 December 2018 corresponds to the issue costs of loans not yet amortised. The €981 million nominal amount can be drawn down in full.

(7) Subscribed in December 2019. The balance of the term loan at 31 December 2019 corresponds to the issue costs of loans not yet amortised. The €350 million nominal amount can be drawn down in full.

(8) Repo transaction carried out in September 2019.

Certain borrowings need to comply with financial ratios or covenants (Note 8.4.4).

7.2.3 Change during the period (IFRS 16 borrowings and lease liability)

(€ million)	Financial Year 2019	Financial Year 2018
At beginning of period	**2,082**	**2,284**
LOANS		
New borrowings[1]	457	121
Loan repayments[1]	(412)	(617)
Change in bank overdrafts	6	(20)
Changes to consolidation scope	-	312
Other changes	(15)	(7)
Translation adjustments	10	10
LEASE LIABILITIES		
First application of IFRS 16	94	-
Change in lease liabilities	3	-
Translation adjustments	-	-
AT PERIOD CLOSE	**2,225**	**2,082**
(1) Including lease liabilities (IFRS 16)		
New borrowings	*1*	*2*
Loan repayments	*(16)*	*(14)*

New borrowings mainly concern:

- subscribing a new bond issue in November 2019 for €300 million;
- renewal of the Borrowing Base in June 2019 (€53 million);
- the MSEC repo transaction in October 2019 (€72 million).

Loan repayments mainly concern:

- the partial redemption of the Eramet S.A. 2020 bond issue in November 2019 for €227 million;
- renewal of the Borrowing Base in June 2019 (€43 million);
- repayment of commercial paper in the period (€29 million).

Metal Securities signed on 24th september 2019 a repo transaction regarding its bonds held (Current financial assets).

The transaction is a sales transaction and a forward repurchase at a date and for a price already fixed. Eramet is remunerated for its bonds and pay interest to the bank. A collateralisation mechanism is stated in the contract regarding fair value variation of securities in the repo transaction. Eramet securities can't be sale, pledge or lend at a third party by the bank. Interest payment regarding the repo transaction will be done at the end of the operation. Regarding these points, the operation is a not a deconsolidating operation.

The bonds repo is booked as Current financial assets (€78m) and as a borrowing (€72m) for a 6 months maturity ending on April 2020.

7.2.4 Borrowings and lease liabilities by currency

(€ million)	31/12/2019	31/12/2018
Euro	1,516	1,313
US dollar	392	439
CFA franc	31	21
Pound sterling	1	2
Norwegian krone	267	279
Other currencies	18	28
TOTAL	**2,225**	**2,082**

7.2.5 Confirmed credit facilities

(€ million)	31/12/2019	31/12/2018
Unused confirmed credit facilities[1]	**1,451**	**1,101**
Revolving Credit Facility (RCF)	981	981
Term Loan	350	
European Investment Bank €120 million	120	120

(1) Bank covenants relating to these credit facilities are fully respected. These covenants relate to the ratio of the Group's net financial debt to shareholders' equity.

7.2.6 Borrowings and lease liabilities by interest rate

(€ million)	31/12/2019		31/12/2018	
Interest-free		54		79
Fixed interest rates		1,912		1,701
• below 5%	1,094		1,260	
• between 5% and 10%	818		441	
• above 10%	-		-	
Variable interest rates		259		302
• below 5%	157		212	
• between 5% and 10%	102		90	
• above 10%	-		-	
TOTAL		**2,225**		**2,082**

3

7.2.7 Borrowings and lease commitments by maturity

Borrowing maturity (excluding lease commitments) *(€ million)*	31/12/2019	31/12/2018
Less than one year	570	381
One year to five years	1 152	948
More than five years	406	753
TOTAL	**2,128**	**2,082**

IFRS16 liabilities maturity: Lease-purchases and lease commitments

(€ million)	31/12/2019		31/12/2018	
	Nominal value	Present value	Nominal value	Present value
LEASE-PURCHASES BORROWINGS				
Less than one year	14	13	12	11
One year to five years	19	17	30	28
More than five years	3	3	4	3
Total before interest expense	**36**	**33**	**46**	**42**
Future Interest expense		3		4
LEASE COMMITMENTS				
Less than one year	22	13		
One year to five years	67	38		
More than five years	70	46		
Total before interest expense	**159**	**97**	**-**	**-**
Future Interest expense		62		
TOTAL	**195**	**195**	**46**	**46**

7.3 Cash and cash equivalents

ACCOUNTING METHOD

Cash includes cash in hand and demand deposits, excluding bank overdrafts which appear under borrowings. Cash equivalents correspond to marketable securities and consist of investments held to meet short-term cash commitments.

Marketable securities are recognised at their fair value in the balance sheet. To be considered a cash equivalent, they must be readily convertible to cash and subject to negligible risk of fluctuations in value. Changes in fair value are recognised in net income for the period.

7.3.1 Breakdown by category

(€ million)	31/12/2019	31/12/2018
Cash	317	113
Cash equivalents	239	735
TOTAL	**556**	**848**

7.3.2 Breakdown by currency

(€ million)	31/12/2019	31/12/2018
Euro	331	667
US dollar	184	149
Yuan Ren-Min-Bi (China)	0	1
Norwegian krone	17	18
Other currencies	24	14
TOTAL	**556**	**848**

7.3.3 Breakdown by interest rate type

(€ million)	31/12/2019	31/12/2018
Interest-free	322	120
Fixed interest rates	1	4
Variable interest rates	233	725
TOTAL	**556**	**848**

Interest-free items mainly consist of non-interest-bearing sight deposits.

Cash includes cash and cash equivalents.

Cash equivalents mostly comprise investments managed by Metal Securities.

(€ million)	31/12/2019	31/12/2018
Money market fund shares/units	89	416
Negotiable debt securities	97	229
Interest-bearing bank accounts	35	67
Other investments	18	22
Cash equivalents	**239**	**735**
Cash	317	113
CASH AND CASH EQUIVALENTS	**556**	**848**

The change from one period to the next is analysed through the statement of cash flows prepared using the indirect method.

7.4 Statement of cash flows

7.4.1 Non-cash income and expenses

(€ million)	Financial Year 2019	Financial Year 2018
Depreciation, amortisation, impairment and provisions	313	446
Accretion expenses	9	5
Financial instruments	1	2
Deferred tax	13	29
Proceeds from asset disposals	3	(18)
Deconsolidation effect on the income statement	1	(41)
Effect on hyperinflation adjustments on the income statement	8	-
Share of income from joint ventures and associates	7	(48)
NON-CASH INCOME AND EXPENSES	**355**	**375**

7.4.2 Impact of changes in consolidation scope

(€ million)	Financial Year 2019	Financial Year 2018
Share purchase price		(219)
Cash and cash equivalents of acquired entities		52
TiZir – net cash impact	-	(167)
Disposal of Weda Bay		(7)
Other	(1)	3
IMPACT OF CHANGES IN CONSOLIDATION SCOPE	**(1)**	**(171)**

7.5 Current financial assets

Accounting method

These assets mainly consist of bonds of listed European companies whose objective is to receive contractual flows.

These bonds are measured at their fair value on initial recognition. The fair value used for listed bonds is the stock-market value, and for unlisted bonds it is based on estimates using specific financial criteria that reflect the specific situation of each bond (similar transactions or discounted value of future cash flows).

The credit risk component, corresponding to the estimate of expected losses measured per bond, is measured according to their categorisation into *buckets*, defined on the basis of a credit risk rating measured on the basis of the *spread*, and is recognised in the income statement.

Other speculative assets classified as trading instruments are measured at fair value through profit or loss.

Changes in the fair value of these investments are recognised in transferable equity under the item Change in fair value of current financial assets or in profit or loss.

The net decrease of -€153 million in current financial assets between 2018 and 2019 (+€123 million between 2017 and 2018) is shown in the net cash flows relating to investment operations.

7.6 Financial income

(€ million)	Financial Year 2019	Financial Year 2018
Net debt cost	(110)	(82)
Other financial income and expenses	(24)	(2)
NON-CASH INCOME AND EXPENSES	**(134)**	**(84)**

7.6.1 Net debt cost

Accounting method

Net debt costs include expenses relating to gross debt, interest expense on "lease liabilities" (IFRS 16) and financial revenue in connection with bonds and investment securities.

Borrowing costs relate to interest payable on the debt and other costs incurred in connection with the borrowing of funds. Borrowing costs directly linked to the acquisition, building or production of an asset that requires more than 12 months to be put into service are deducted from the financing expense to which they relate. All the other borrowing costs are expensed in the period in which they are incurred.

(€ million)	Financial Year 2019	Financial Year 2018
Interest income	12	12
Interest expense	(116)	(84)
Amortised cost on borrowings	(8)	(9)
Net income on marketable securities	1	2
Change in fair value of investment securities	6	-
Net translation differences	(5)	(3)
TOTAL	**(110)**	**(82)**

The increase in interest expense is primarily due to the recognition of an additional IFRS 16 interest expense (formerly the operating lease) in the amount of €10 million, €10 million in expenses for the partial redemption of the 2020 bond, and €10 million in connection with holding 100% of TiZir in 2019 (equity method consolidation until June 2018).

7.6.2 Other financial income and expenses

Accounting method

Other financial income and expenses include all the components of net financial income except for income and expenses relating to the net debt cost.

(€ million)	Financial Year 2019	Financial Year 2018
Investment and dividend income	1	-
Employee benefits – net interest	(5)	(5)
Profit (loss) on disposal of equity investments	(1)	3
Accretion expenses	(9)	(7)
Financial instruments ineligible as hedges – currency	(1)	2
Securitisation financial expense	(6)	(6)
Impairment of securities and current accounts	(6)	(3)
Net translation differences	5	12
Impact of hyperinflationary economies	(6)	-
Other	4	2
TOTAL	**(24)**	**(2)**

Accretion expenses relate to provisions for mining site restoration and the decommissioning of industrial facilities, as detailed in Note 13 “Provisions”.

The financial instruments that do not qualify as hedges correspond to the portion of hedging instruments recognised in profit or loss.

7.7 Shareholders’ equity

7.7.1 Changes to the share capital

The share capital stood at €81,239,800 (31 December 2018: €81,139,446) and is composed of 26,636,000 fully paid-up shares (31 December 2018: 26,635,884 shares) with a par value of €3.05.

	31/12/2019				31/12/2018			
	capital		voting rights		capital		voting rights	
	%	number of shares	%	number of shares	%	number of shares	%	number of shares
Registered shares								
Sorame and Compagnie d’Études Industrielles du Rouvray (CEIR)	36.94	9,840,143	43.88	19,675,977	36.94	9,840,143	43.89	19,675,977
FSI Equation, subsidiary of APE (Agence des participations de l’État)	25.57	6,810,317	30.37	13,620,634	25.57	6,810,317	30.38	13,620,634
S.T.C.P.I.	4.02	1,070,587	4.77	2,141,174	4.02	1,070,587	4.78	2,141,174
Eramet S.A.	0.66	176,562	-	-	0.36	95,164	-	-
Eramet S.A. share fund	0.53	141,297	0.43	193,670	0.51	136,306	0.40	178,671
Other	32.28	8,597,094	20.54	9,210,988	32.60	8,683,367	20.55	9,210,988
TOTAL NUMBER OF SHARES	**100.00**	**26,636,000**	**100.00**	**44,842,443**	**100.00**	**26,635,884**	**100.00**	**44,827,444**
of which registered shares	*70.23*	*18,706,172*	*82.02*	*36,780,500*	*69.55*	*18,525,883*	*82.05*	*36,780,500*
of which bearer shares	*29.77*	*7,929,828*	*17.98*	*8,061,943*	*30.45*	*8,110,001*	*17.95*	*8,046,944*

Pursuant to a Shareholders' Agreement concluded on 16 March 2012, which entered into force on 16 May 2012 and is renewable on the 31 December of each year for a further one-year period, which was the subject of a decision and information from the *Autorité des marchés financiers* (AMF) under No. 212C0647 at the time of its conclusion, and a decision and information from the *Autorité des marchés financiers* under No. 216C1753 relating to the change within the Group acting in concert during the acquisition by the *Agence des participations de l'État* (APE) of the entire share capital of FSI Equation, the Company is majority controlled by a group of shareholders having declared to be acting in concert, including:

- a subgroup between SORAME and CEIR, companies controlled by the Duval family, under a concurrent shareholders' agreement dated 19 July 1999, which came into force on 21 July 1999 and was the subject of an amendment on 13 July 2009;
- the *Agence des participations de l'État* (APE), through its subsidiary FSI Equation.

The provisions of the Shareholders' Agreement mentioned above as well as those of the sub-concert are contained in key extracts of the AMF Decision and Notice texts numbered 216C1753, 212C0486 and 209C1013 (amended on 13 July 2009).

Since 1 January 2002, registered shares that meet the necessary conditions benefit from double voting rights.

7.7.2 ODIRNAN

In 2016, the Eramet Group issued an offering of net share settled undated bonds convertible into new shares (ODIRNAN).

This issue has strengthened the balance sheet structure of the Eramet Group.

ODIRNAN is a perpetual bond with no maturity date. Holders do not have the option to redeem the instrument for cash in hand. The instrument can be redeemed in the event of liquidation of the Company with the payment of accrued and deferred coupons, as applicable. The organization of the coupon payments is left up to Eramet and may be delayed, as Eramet has not decided on a dividend distribution since the penultimate interest payment date (or since the issue date for the first two payment dates). In case of non-payment of coupons, they will remain due and will constitute arrears which will bear interest at the applicable rate for bond coupons.

The coupon is fixed at an annual rate of 4% until October 2022. It will then switch to a variable rate from 5 October 2022, calculated at the 6-month Euribor rate plus a margin of 1,000 basis points ("step-up" clause). In the event of a change of control of Eramet, the annual interest rate will be increased by 500 basis points unless the Company opts for early redemption within 45 days of the change of control.

Bond holders will receive an equity conversion right. The issuer may choose to deliver one of the following to bondholders exercising their right to receive shares:

- cash only;
- new shares only;
- or a combination of new shares and cash.

The characteristics of ODIRNAN shares led the Eramet Group to classify them as an equity instrument because:

- there is no contractual obligation to repay the nominal value except in the event of liquidation of the issuer. The regulatory framework stipulating redemption in case of liquidation does not affect the classification as an equity instrument;
- the payment of coupons to bond holders is:
  - either dependent on the liquidation of the issuer. As noted above, an obligation for the issuer to proceed with payment in case of liquidation does not establish the existence of a debt,
  - or under the control of the issuer (dividends, share buy-back or equivalent, early redemption decided by the issuer, decision to pay the next bond coupon, etc.).

Finally, the default interest clause (capitalised at the same rate as the bonds) and the "step up" clause, which significantly increases the amount of coupons beyond a certain date if the instrument has not been previously redeemed by the issuer, constitute economic constraints, not contractual obligations.

Therefore, given the characteristics of the instruments and elements mentioned above, Eramet has no contractual obligation to pay compensation on perpetual debt instruments.

Finally, the different options mentioned above do not call into question the classification of equity instruments.

At 31 December 2019, 92,780 bonds were subject to equity conversion (116 in 2019). No bonds were repaid in cash in 2019. The number of bonds in circulation is therefore 2,065,645 (31 December 2018: 2,065,761), a decrease of 116 bonds in 2019.

The total value of bonds at 31 December 2019 was €95.7 millions (31 December 2018: €95.7 millions).

7.7.3 Treasury shares

The table below summarises the treasury share transactions:

	Total number of shares	Market making[1]	Grants to employees	Total
Position at 1 January 2018		**23,147**	**124,495**	**147,642**
As a percentage of capital	*26,633,660*	*0.09%*	*0.47%*	*0.55%*
Final allocation of bonus shares			(92,388)	(92,388)
Purchases / sales		39,910		39,910
Position at 31 December 2018		**63,057**	**32,107**	**95,164**
As a percentage of capital	*26,635,884*	*0.24%*	*0.12%*	*0.36%*
Buyback mandate			193,250	193,250
Final allocation of bonus shares			(128,228)	(128,228)
Purchases / sales		16,376		16,376
POSITION AT 31 DECEMBER 2019		**79,433**	**97,129**	**176,562**
As a percentage of capital	*26,636,000*	*0.30%*	*0.36%*	*0.66%*

(1) Liquidity agreement signed with Exane BNP Paribas.

Eramet treasury shares are classified under “Other reserves” and recognised at purchase cost for an amount of €16 million at 31 December 2019 (31 December 2018: €14 million). These transaction amounts were allocated to shareholders’ equity.

Note 8 Financial instruments and risk management

This note gives an overview of the financial instruments of the Eramet Group, the associated risks, its risk management objectives, sensitivity and monitoring of the financial risk management strategy.

Accounting method

Financial instruments
Derivative assets and liabilities, current financial assets, and cash and cash equivalents are initially recognised in the balance sheet at their fair value (transaction price) adjusted for transaction costs. At each period closing, the change in fair value is recognised in income (Other financial income and expenses) unless a designated and documented cash flow hedge exists. In that case, the change is recognised in Other comprehensive income and shown in equity (change in the revaluation reserve of hedging instruments). Variations of time value are accounted in other comprehensive income.

Derivatives
The Eramet Group uses derivatives to hedge certain risks. To manage its currency risk, the Eramet Group uses foreign currency forwards/futures, foreign currency swaps and, to a lesser extent, foreign currency options. Foreign currency forwards/futures are recognised as hedges where the Eramet Group has defined and documented the hedging relationship and demonstrated its effectiveness. Interest rate risk is managed using interest-rate swaps. *Lastly,* the Eramet Group also uses collars and swaps when hedging commodity purchases and sales (nickel, fuel oil, aluminium and electricity).

Derivatives are measured at their fair value upon initial recognition. Subsequently, the fair value of derivatives is remeasured at each reporting date, in equity if a hedging relationship has been designated and documented, or in the income statement where no hedging relationship exists. The fair value of foreign currency forwards/futures is estimated on the basis of market conditions. The fair value of interest rate derivatives is that which the Eramet Group would receive (or pay) to transfer current contracts at the reporting date. The fair value of commodity derivatives is estimated on the basis of market conditions. Derivatives are shown in the balance sheet under current assets or liabilities.

Hedging
Gains or losses on hedging instruments are recognised symmetrically with the gains or losses on the hedged items. However, changes in the fair value of hedges, independently of the hedged transactions, are recognised as profit or loss for the period under Current operating income or Other financial income and expenses, depending on the nature of the hedge.

The Eramet Group identifies the hedging item and hedged item when the hedge is set up and formally documents the hedging relationship by identifying the hedging strategy, the hedged risk and the hedge effectiveness measurement method:

- fair value hedge: the hedged item is remeasured in respect of the hedged risk and the hedging instrument is measured and recognised at fair value. The changes in both items are recognised simultaneously in Current operating income;
- cash flow hedge: the hedged item is not remeasured. Only the hedging instrument is remeasured at fair value. To offset the remeasurement, the effective portion of the change in fair value that can be ascribed to the hedged risk is recognised net of tax in shareholders' equity. The cumulative amounts in shareholders' equity are recognised in income for the period when income is affected by the hedged item. The ineffective portion is retained in income for the period under Other financial income and expenses;
- hedging of net investment in foreign subsidiaries: derivatives intended to hedge net foreign currency investment in foreign subsidiaries are treated as net foreign currency investment hedges. The gains or losses from such hedges, and the changes in fair value (apart from the time value) are recognised in equity as currency translation differences and transferred to income when the subsidiary is sold;
- recognition of derivatives that do not fulfil hedge accounting conditions: the Eramet Group uses these derivatives only to hedge future cash flows, and changes in fair value are immediately recognised in Other financial income and expenses.

Fair value measurement
The Eramet Group measures its financial instruments at fair value at each reporting date.
Fair value is the amount for which an asset could be exchanged, or a liability settled, between knowledgeable, willing parties in an arm's length transaction. When measuring fair value, it is assumed that the transaction to sell the asset or transfer the liability is carried out:

- on the main market for that asset or liability; or
- if there is no main market, on the best market for that asset or liability.

The fair value measurement of a non-financial asset considers the capacity of a market participant to generate economic benefits by making full use of the asset or by selling it to another market participant who will make full use of the asset.
The fair values of financial instruments are ranked according to a three-level hierarchy:

- Level 1: Listed prices (unadjusted) of the same assets and liabilities on an active market;
- Level 2: Listed price of a similar instrument on an active market, or another measurement technique based on observable parameters;
- Level 3: Measurement technique incorporating non-observable parameters.

The criteria for classifying and recognising financial assets and liabilities and any transfer from one level to another in the fair value hierarchy where applicable are given below.

Estimates, assumptions and judgements

The uncertainties and estimates as well as the judgements used are considered for the valuation of forward/futures contracts, the application of hedge accounting and the valuation of derivatives measured at fair value.

To continue to apply hedge accounting to raw material purchases and sales (nickel, fuel oil, aluminium and electricity), the Eramet Group determines that the hedging instrument is efficient so as to offset the currency risk on its raw material purchases and sales and ensures that the documentation complies with the requirements. The process for testing the efficiency of the hedge calls for the use of judgements and estimates.

Fair value measurement
Fair value represents an estimate at a given date and can change from one period to another due to market conditions and other factors.

The Eramet Group gives priority to the assumptions that the market participants would use to determine the price of the asset or the liability, considering that the market participants act in their own best economic interests. The Eramet Group uses measurement techniques that are appropriate in the circumstances and for which sufficient data is available to determine the fair value, maximising the use of pertinent observable inputs while minimising the use of non-observable inputs.

8.1 Financial instruments shown in the balance sheet

(€ million)	31/12/2019 Statement of financial position	Breakdown by type of instrument Fair value through profit or loss	Fair value through shareholders equity	Loans and receivables	Liabilities at cost amortised	Instruments derivative
Non-consolidated equity investments	19	19				
Other non-current financial assets	222			222		
Other non-current assets	4			4		
Trade receivables	362			362		
Other current assets	246			246		
Derivatives	25					25
Other current financial assets	365	191	174			
Cash and cash equivalents	556	459	97			
ASSETS	**1,799**	**727**	**213**	**834**	**-**	**25**
Non-current borrowings – due after more than one year	1,558				1,558	
Other non-current liabilities	1			1		
Current borrowings – due in less than one year	570				570	
Trade payables	458			458		
Other current liabilities	457			457		
Derivatives	52					52
LIABILITIES	**3,096**	**-**		**916**	**2,128**	**52**

(€ million)	31/12/2018 Statement of financial position	Breakdown by type of instrument Fair value through profit or loss	Fair value through shareholders equity	Loans and receivables	Liabilities at cost amortised	Instruments derivative
Non-consolidated equity investments	21	21				
Other non-current financial assets	214			214		
Other non-current assets	11			11		
Trade receivables	395			395		
Other current assets	209			209		
Derivatives	25					25
Other current financial assets	517	201	316			
Cash and cash equivalents	848	848				
ASSETS	**2,240**	**1,070**	**316**	**829**	**-**	**25**
Non-current borrowings – due after more than one year	1,701				1,701	
Other non-current liabilities	2			2		
Current borrowings – due in less than one year	381				381	
Trade payables	391			391		
Other current liabilities	407			407		
Derivatives	60					60
LIABILITIES	**2,942**	**-**		**800**	**2,082**	**60**

The classification of financial assets and liabilities has been revised to comply with IFRS 9 classifications, as described in Note 3 “Basis of preparation of the consolidated financial statements”. Equity investments and other current financial assets are recognised in the balance sheet at fair value. Other non-current financial assets are measured at amortised cost calculated using the effective interest rate (EIR).

Borrowings are recognised at amortised cost measured at the effective interest rate (EIR).

The fair value of trade receivables and trade payables is equal to the value shown in the balance sheet, since for the most part they fall due in less than one year.

(€ million)	Nature of hedging instrument	Notional amount of hedging instruments	Carrying amount of hedging instrument	
			Assets	Liabilities
***Fair Value Hedge* (FVH)**				
Interest rate risk				
Currency risk				
Balance sheet hedges (customers/suppliers/ banks 2018)	*Forward* and currency option	271	3	-1
Hedging of CAT borrowing	*Forward* purchase	2	0	0
Hedging of CMM borrowing	*Forward* purchase	44	5	0
Commodity risk				
***Cash Flow Hedge* (CFH)**				
Interest rate risk				
CMM/CAT $ borrowing	interest rate swap	44	0	0
Setrag EUR borrowing	interest rate swap	73	0	(4)
Currency risk				
Hedging of future sales in foreign currencies	*Forward* sale	46	0	(5)
Group future revenue foreign exchange hedge	*Forward* and currency option	458	3	(9)
Erasteel / Erasteel Inc. borrowing	Foreign exchange swap	24	0	0
$ Sales	Foreign exchange swap	40	1	0
TiZir bond + Eramine swap	*Forward* sale	81	1	0
MSEC placement hedge	Foreign exchange swap	55	0	(2)
Commodity risk				
Fuel supply	purchase of options	0	0	0
Electricity supply	*Future* on electricity	2	0	0
Electricity supply	*Future* on electricity	1	0	0
Eramet commercial nickel contract	Nickel swap	2	0	0
Nickel AD supply	Nickel swap	10	3	0

The fair value of financial instruments broken down by fair value hierarchy is as follows:

	31/12/2019	Breakdown by fair value category		31/12/2018	Breakdown by fair value category	
(€ million)	Value on balance sheet	Level 1	Level 2	Value on balance sheet	Level 1	Level 2
Current financial assets	365	365		516	516	
Cash and cash equivalents	556	556		848	848	
Derivatives	25		25	25		25
ASSETS	**946**	**921**	**25**	**1,390**	**1,365**	**25**
Derivatives	52		52	60		60
LIABILITIES	**52**	**-**	**52**	**60**	**-**	**60**

8.2 Effects of financial instruments on the income statement

(€ million)	Financial Year 2019 Effects in profit (loss)	Income and (expense) financial	Cost amortised	Fair value	Conversion monetary	Profit (loss) on disposal	Impairment net
Equity investments	(1)	1				(2)	0
Other financial assets	(0)	(4)			7		(3)
Derivatives	(2)			(2)			
(Net debt)/Net cash	(110)	(97)	(8)		(4)		
TOTAL	**(113)**	**(101)**	**(8)**	**(2)**	**3**	**(2)**	**(3)**

(€ million)	Financial Year 2018 Effects in profit (loss)	Income and (expense) financial	Cost amortised	Fair value	Conversion monetary	Profit (loss) on disposal	Impairment net
Equity investments	(1)					3	(4)
Other financial assets	(3)	(14)			12		(1)
Derivatives	18			18			
(Net debt)/Net cash	(80)	(71)	(8)		(3)	2	
TOTAL	**(66)**	**(85)**	**(8)**	**18**	**9**	**5**	**(5)**

The financial revenue from equity investments consists of dividends of non-consolidated companies. The gains or losses on currency and commodity hedges are for the most part recognised in Current operating income. The portion that does not qualify as hedges is recognised in “Other financial income and expenses”.

8.3 Effects of financial instruments on the income statement

	31/12/2019		31/12/2018	
(€ million)	Assets	Liabilities	Assets	Liabilities
At beginning of period	**25**	**60**	**47**	**55**
Change in hedging instruments for the period – shareholders’ equity(1)	(2)	(8)	(3)	10
Change in hedging instruments for the period – financial income(2)	1	(0)	(11)	(10)
Net change in hedging derivatives(3)	1	0	(8)	4
Other movements			(1)	1
AT PERIOD CLOSE	**25**	**52**	**25**	**60**
Net position in hedging derivatives(3)	7	17	6	17
Financial instruments – currency hedges	15	28	17	38
Financial instruments – interest-rate hedges	-	4	0	3
Financial instruments – commodity hedges	3	3	1	2

(1) The impact corresponds to the effective portion of the change in fair value of derivative instruments used to hedge currency, interest rate and commodity risks.

(2) The impact corresponds to the non-effective portion of the change in fair value of derivative instruments used to hedge currency, interest rate and commodity risks.

(3) Foreign-currency receivables and debts are translated at the closing rate, and the difference between the closing rate and the hedging rate is recognised under "Financial instrument assets and liabilities".

8.4 Risk management

The Eramet Group uses derivatives to control its exposure to currency, interest rate and commodity risks. The Executive Committee has delegated the management of the main risks to the Eramet Group Finance Department. This management is carried out directly by Eramet or via Metal Currencies, which was set up specifically to manage the Eramet Group's currency risk.

The Eramet Group's policy is to reduce its exposure to interest rate and foreign exchange fluctuations. Positions are traded either on organised markets, or over the counter with leading banking counterparties.

Gains or losses on hedging instruments are recognised symmetrically with the gains or losses on the hedged items. However, unrealised gains and losses on financing hedging transactions that are ineligible under hedging standards are recognised in Net income for the period.

All transactions outstanding at the reporting date are recognised in the Statement of financial position, without an offsetting entry.

8.4.1 Currency risk

When the exposure stemming from borrowings taken out by Eramet Group companies in currencies other than their functional currencies is not offset by income in those foreign currencies, the Eramet Group may have recourse to hedging instruments. In addition, the Eramet Group uses financial instruments to limit its exposure to currency risk on its sales and on certain dollar-denominated costs.

The Eramet Group is exposed to two types of currency risk, namely:

- **transactional risk** where a Group company has revenue in a currency other than its functional currency that is not offset by purchases in that currency;
- **balance sheet risk** related to changes in the net assets of subsidiaries valued in currencies other than the euro.

The Eramet Group centralises the subsidiaries' currency risk. Each Eramet Group company reports its exposure in currencies other than its functional currency to Group Treasury. This management is part of a multiyear policy with procedures approved by the Executive Committee along with monthly reporting to its members. The Eramet Group manages the currency risk to the balance sheet for each case individually.

8.4.1.1 Transactional risks

As part of transactional risk management, currency hedging primarily involves the US dollar but also the Norwegian krone, the pound sterling, the Swedish krona and the Japanese yen. These hedges are designed to protect the Eramet Group's present and future positions on trade transactions, more than 50% of which are invoiced in foreign currencies, whereas production costs are for the most part denominated in euros. The transactions are carried out via the company Metal Currencies.

The subsidiaries in question determine the amount of their net exposure based on multiyear budgets and forecasts. The associated risks are then hedged within a maximum horizon of thirty-six months, unless exemptions apply. The Eramet Group uses various instruments to hedge against currency risk: futures/forward contracts and options.

The breakdown of the hedging portfolio by currency is shown below:

At 31 December 2019	2019 sales			2020 sales			2021 sales and beyond		
(foreign currency unit million)	Amount	Currency	Price	Amount	Currency	Price	Amount	Currency	Price
COMMERCIAL HEDGES									
• EUR/USD	252	USD	1.12	346	USD	1.15	75	USD	1.21
• EUR/NOK	327	NOK	10.09	563	NOK	10.50	580	NOK	10.68
OTHER HEDGES – TOTAL AMOUNT NOT DETAILED BY YEAR									
• EUR/USD	217	USD	1.13						
• EUR/NOK	-	NOK	-						

At 31 December 2018	2018 sales			2019 sales			2020 sales and beyond		
(foreign currency unit million)	Amount	Currency	Price	Amount	Currency	Price	Amount	Currency	Price
COMMERCIAL HEDGES									
• EUR/USD	271	USD	1.16	479	USD	1.17	145	USD	1.23
• EUR/NOK	262	NOK	9.68	930	NOK	9.79	463	NOK	10.05
OTHER HEDGES – TOTAL AMOUNT NOT DETAILED BY YEAR									
• EUR/USD	136	USD	1.12						
• EUR/NOK	91	NOK	9.02						

8.4.1.2 Balance sheet risk

The Eramet Group manages currency risks to the balance sheet, primarily related to the US dollar, by issuing financial debt denominated in the same currency as the net assets in question, or via currency swaps.

At 31 December 2019, the fair value of currency hedges covering transactional risks represented a net liability of €5 million (31 December 2018: net liability of €7 million).

For hedges of 2020 USD revenue, an increase or decrease of 10% in the EUR/USD exchange rate would have a pre-tax impact on the hedge instruments recognised in equity at 31 December 2019 of +€51.7 million should exchange rates rise (31 December 2018: +€29.8 million) and approximately -€69 million should those rates fall (31 December 2018: -€44 million)

The notional amount of currency hedging contracts breaks down as follows:

	31/12/2019				31/12/2018			
(foreign currency unit million)	Forward sales	Forward purchase	Call options	Put options	Forward sales	Forward purchase	Call options	Put options
CURRENCY AGAINST EUR								
• USD	638	51	439	304	602	97	695	527
• JPY	-	-			85	60		
• GBP	-	2			7	4		
• NOK		637	833	1,225		1,014	733	1,057
CURRENCY AGAINST SEK								
• JPY	-	-			46			
• USD	7	-			11			
• GBP	1	-						
• EUR	6	-						

The pre-tax impact on shareholders' equity and profits of financial instruments hedging currency risks is shown below:

	Foreign exchange hedges			
	Financial Year 2019		Financial Year 2018	
(€ million)	Transactional risks	Balance sheet risks	Transactional risks	Balance sheet risks
At beginning of period	**(22)**	**(67)**	**-**	**(6)**
Change in unexpired hedging portion(1)	(3)		(7)	
Change in ineffective portion via income(2)	-		(1)	
Change in effective portion via income(3)	5		(15)	
Translation adjustments and other movements		(25)		(61)
AT PERIOD CLOSE	**(20)**	**(92)**	**(22)**	**(67)**
Changes recognised in shareholders' equity:				
• hedging reserve	2		(22)	
• translation reserve		(25)		(61)
Total	**2**	**(25)**	**(22)**	**(61)**
Changes recognised via income:				
• current operating income	(5)		15	
• net financial income	-		(1)	
Total	**(5)**	**-**	**14**	**-**

(1) The impact corresponds to the effective portion of the change in fair value of derivative instruments used to hedge currency risks.

(2) The impact corresponds to the non-effective portion of the change in fair value of derivative instruments used to hedge currency risks.

(3) Foreign-currency receivables and debts are translated at the closing rate, and the difference between the closing rate and the hedging rate is recognised under "Financial instrument assets and liabilities".

8.4.2 Interest rate risk

Depending on market conditions and forecast changes in net financial debt, the Eramet Group's Finance Department monitors the allocation between fixed and floating rate debt and cash investments and decides on whether to set up rate hedges. The financial instruments used are interest rate swaps, caps and floors. The Group's Treasury Department is responsible for setting up hedges.

The cash surpluses managed by Metal Securities are invested in:

- instruments linked to the EONIA (Euro OverNight Index Average) or Euribor (Euro InterBank Offered Rate) rates;
- fixed-rate instruments swapped against the Euribor.

These instruments are included in "Other current financial assets" and are hedged using interest rate futures (fixed rates against floating rates). Other cash surpluses managed by Metal Securities are primarily invested in instruments linked to the EONIA (Euro OverNight Index Average) rate.

8.4.3 Commodity risk

The Eramet Group is exposed to commodity price volatility, affecting both its sales as a nickel and manganese producer and its production costs, as a consumer of energy (fuel oil and electricity) and commodities (nickel and aluminium).

The Eramet Group holds derivative instruments for the purposes of reducing its exposure. To this end, the Eramet Group mainly uses forwards, tunnel options and call options.

The main Group entities involved are:

- Eramet and Société Le Nickel-SLN for nickel sales;
- Aubert & Duval for nickel purchases;
- Société Le Nickel-SLN for fuel oil;
- Aubert & Duval for aluminium;
- Erasteel Kloster AB and Eramet Norway A/S for electricity.

The exposures to manganese and coke price volatility are not hedged since there is no organised market for these commodities.

Hedges are contracted with horizons of one to four years, depending on the commodities, and are based on the budget. Only part of the forecast consumption or production is hedged (e.g. for fuel oil, a maximum of 80% of the budget is hedged). The Eramet Group uses various instruments to hedge and limit its exposure, namely forwards/futures and options.

At 31 December 2019, the fair value of hedges set up for the various commodities stood at +€3.0 million net (31 December 2018: +€0.5 million net).

The main commodities contracts outstanding are set out below:

	31/12/2019			31/12/2018		
(tonnes)	Swaps	Call options	Put options	Swaps	Call options	Put options
Nickel	1,235			3,217		
Aluminium						

A change of plus or minus 10% in commodity prices would have no material pre-tax impact on the hedges recognised through shareholders' equity.

8.4.4 Liquidity risk

The Eramet Group must ensure that it maintains a sufficient level of liquidity to meet its contractual obligations, including servicing its bank and bond debt.

In this context, the Eramet Group anticipates the regular renewal of its existing borrowings (credit facilities, bonds, IFRS 16 leases, etc.) and establishes new modes of financing (ODIRNAN 2016), according to the opportunities available.

Furthermore, operational funds (investments and receivables) are implemented directly in the Eramet Group's subsidiaries.

Eramet also aims to diversify its sources of funding, particularly between the bond and banking markets.

Eramet centralises virtually all the cash requirements and surpluses of its controlled companies. This centralisation is performed by Metal Securities, which is responsible for managing the investment of cash surpluses.

The Eramet Group's financial liquidity position at 31 December 2019 was €2,299 million (31 December 2018: €2,468 million), of which €556 million is classified as cash and cash equivalent (31 December 2018: (€848 million) These cash surpluses are, for the most part, transferred to Metal Securities, the Group company in charge of centralising and investing the Eramet Group's cash surpluses.

Revolving credit facility

The revolving credit facility (RCF) was extended on February 2019 for an amount of €981 million and for a five-year term, with a new maturity in January 2024.

The amount available under this revolving credit facility is maintained at €981 million.

No funds have been drawn down at 31 December 2019.

On 31 December 2019, the €120 million loan from the European Investment Bank to finance investments in research, development and innovation (RDI) in digitalisation and advanced manufacturing had not been drawn down.

Lastly, on 11 December 2019, the Group signed a Multi-currency Term Loan Agreement for €350 million to fund general and investment requirements. The loan matures in two years and includes an option for Eramet to extend the term to January 2024.

The credit line had not been drawn down at 31 December 2019.

The Eramet Group is liable to repay its borrowings, primarily comprising financial market borrowings and bank borrowings, and its other liabilities and derivatives, for which the repayment schedule is given below:

		Future payment schedule			
(€ million)	Statement of financial position	Due in less one year	One to five years	More than five years	Total
Borrowings on capital markets	1,429	296	828	300	1,424
Borrowings from credit institutions	397	173	142	101	416
Bank overdrafts and creditor banks	72	72			72
Finance lease liabilities	33	12	20	2	34
IFRS 16 lease liabilities	97	13	38	46	97
Other borrowings and financial liabilities	197	20	173	2	195
Total borrowings	**2,225**	**586**	**1,201**	**451**	**2,238**
Derivatives	52	52			52
Trade and other payables	915	915			915
Total other financial liabilities	**967**	**967**	**-**	**-**	**967**

The schedule of future receipts on financial assets is set out below:

		future receipts at fair value schedule			
(€ million)	Statement of financial position	Due in less one year	One to five years	More than five years	Total
Other current financial assets	365	365			365
Cash and cash equivalents	556	556			556
Total cash and cash equivalents	**921**	**921**	**-**	**-**	**921**
Derivatives	25	25			25
Trade and other receivables	621	610	11		621
Total other financial assets	**646**	**635**	**11**	**-**	**646**

Where appropriate, financial liabilities are covered by banking covenants at Group level or locally; the main covenants are described below:

Company	Type of facility		Ratio	Nominal amount *(currency unit million)*
Eramet S.A.	Revolving credit facility (RCF)	Net debt, excluding SLN's loan from the French government and IFRS 16 lease liabilities/Shareholders' equity	<1	€981 M
	UMR Bond	Net debt excluding IFRS 16 lease liabilities/Shareholders' equity	<1	€50 M
	Term Loan	Net debt, excluding SLN's loan from the French government and IFRS 16 lease liabilities/Shareholders' equity	<1	€350 M
	Borrowing Base	Net debt, excluding SLN's loan from the French government and IFRS 16 lease liabilities/Shareholders' equity	<1	€65 M
	European Investment Bank	Net debt, excluding SLN's loan from the French government and IFRS 16 lease liabilities/Shareholders' equity	<1	€80 M
	European Investment Bank	Net debt, excluding SLN's loan from the French government and IFRS 16 lease liabilities/Shareholders' equity	<1	€30 M
	European Investment Bank	Net debt, excluding SLN's loan from the French government and IFRS 16 lease liabilities/Shareholders' equity	<1	€120 M
Comilog S.A.	ICBC/BNP Paribas/ BGFI loans	Net debt / Shareholder's equity	<1.15	$217 M
		Net cash flow / Debt servicing	>2	
		sales to Eramet Norway A/S, Marietta, Comilog Dunkerque, ECM / debt servicing	>150%	(1)
	CAT Finance	Net debt / EBITDA on a rolling 12-month basis	<3	$40 M
		Net cash flow / Debt servicing	>1.30	€11 M
		Net debt / Shareholder's equity	<2	
	IFC / Proparco	Net debt / Shareholder's equity	<1.15	€33 M
		Net debt / EBITDA on a rolling 12-month basis	<4	
		Debt servicing	>1.3	
TiZir	Bond issue	Shareholders' equity + subordinated loans / Total assets	>35%	$300 M
		Liquidity	>$15 M	
		Interest coverage ratio (EBITDA / Net Financial Interest)	>1.50	
			>1.75	
			>2.00	(2)
Aubert & Duval	SogeLease – Lease agreements	Consolidated net debt / Shareholder's equity	<1	€9 M
	CACIB – Securitisation	Net Financial Debt / Equity	<1.1	N/A
		EBITDA / Net Financial Interest	>4.5	

(1) Covenant only applicable to one of the two US$ 30 million loans taken out by Comilog.

(2)Applicable covenant:

- *from the 18th month following the loan issue (1.50);*
- *from the 36th month following the loan issue (1.75);*
- *from the 54th month following the loan issue (2.00).*

Eramet's covenants are determined on the basis of the published consolidated accounts.

Comilog's covenants are determined on the basis of Comilog's separate and consolidated financial statements.

TiZir's covenants are determined on the basis of TiZir's separate and consolidated financial statements.

Aubert & Duval's covenants are determined on the basis of Aubert & Duval's separate and consolidated financial statements.

At 31 December 2019, the covenants showed no circumstances of accelerated maturity.

Moreover, at 31 December 2019, no cases of cross-default likely to impact funding at Group level were recorded.

8.4.5 Credit and counterparty risk

The Eramet Group may be exposed to credit risk in the event of counterparty default: in relation to its customers and its financial partners, because of its cash surpluses invested by Metal Securities, the Group company established specifically for this purpose. The Eramet Group has several means to limit this risk: gathering information ahead of entering into transactions (from rating agencies, published financial statements, etc.), credit insurance and the establishment of letters of credit and documentary credits. Specifically for trade receivables, there is a dedicated credit manager for each Division of the Group.

The age of the Group's trade receivables and overdue receivables is shown below:

	31/12/2019			31/12/2018		
(€ million)	Gross amount	Impairment	Net amount	Gross amount	Impairment	Net amount
On time or not due	245	(10)	235	262	(4)	258
Delays:						
• less than one month	90	-		68	-	68
• one to three months	20	-		10	(1)	9
• three to six months	7	(1)		5	(1)	4
• six to nine months	2	(2)		10	-	10
• nine to twelve months	2	-		4	-	4
• over one year	7	(1)		58	(16)	42
TOTAL TRADE RECEIVABLES	**373**	**(14)**	**235**	**417**	**(22)**	**395**

No material unpaid or impaired receivables have been renegotiated.

8.4.6 Equity and bond risk

Eramet and its subsidiaries do not speculate on the stock markets; the investments held relate to unlisted controlled companies entirely in line with the Group's business activities.

In accordance with the Group's investment policy, which defines and limits the counterparty risk, the Eramet Group has purchased bonds subject to bond risk, recognised in "Other current financial assets".

Note 9 Working capital requirement

(€ million)	31/12/2018	Change in WCR Statement of flows	Change in non-current trade payables	Translation adjustments and other	31/12/2019
Inventories	947	149		2	1,098
Customers	395	(44)		11	362
Suppliers	(391)	(60)		(7)	(458)
Simplified WCR	**951**	**45**	**-**	**6**	**1,002**
Other items of WCR	(313)	79	(33)	25	(242)
TOTAL WCR	**638**	**124**	**(33)**	**31**	**760**

9.1 Inventories

Inventories consist mainly of the products of the Nickel, Manganese and High Performance Alloys BUs at different stages of the production process, and are recorded at the lower of cost and net liquidation value.

Accounting method	Judgements and estimates
Inventories are measured using the weighted average unit cost (WAUC) method for the industrial operations of the High Performance Alloys Division and on a First-In-First-Out (FIFO) basis for the industrial and mining operations of the Nickel and Manganese BUs. Inventories are carried at cost price and only include production costs, while not exceeding the realisable value. Costs stemming from sub-normal activity are eliminated from inventory measurement at the end of the reporting period. Impairment losses for raw materials are recognised when the net realisable value falls below the cost of entry into storage. Consumables are fully depreciated where the quantities are in storage over a much longer period than their estimated use. The impairment of spare parts that do not qualify for capitalisation is calculated on the basis of their use during the year. Spare parts inventory in excess of one year's use is fully depreciated. For work-in-process, intermediate and finished products in inventory for over a year, the forward-looking approach is applied on the basis of the order book and market validation of achievements within one year; the quantities beyond one year of consumption are fully depreciated, except in specific cases. Fixed production costs relating to recognised or planned sub-normal activity are not incorporated in inventory measurement and are recognised as ordinary operating expenses for the period in which they are incurred. Sub-normal activity is taken into account when the actual production volume is considerably lower than the normal production volume (or normative capacity).	Judgement is exercised to determine the net realisable value, as well as to allocate the fixed and variable production overheads attributable directly to inventories.

(€ million)	31/12/2019	31/12/2018
At beginning of period	**947**	**849**
Change in gross inventories	158	66
(Impairment)/net reversals for the period	(9)	(18)
Increase/(decrease) in net inventories – cash flows	149	48
Translation adjustments and other movements	2	50
AT PERIOD CLOSE	**1,098**	**947**
Raw materials	263	273
Merchandise and finished products	263	214
Work-in-progress and semi-finished goods	440	356
Consumables and spare parts	132	103
BREAKDOWN OF IMPAIRMENT LOSSES:		
• **At beginning of period**	**(144)**	**(111)**
• (Impairment)/net reversals for the period	(9)	(20)
• translation adjustments and other movements	(1)	(13)
• **At period close**	**(154)**	**(144)**

Impairment provisions mainly relate to raw materials, merchandise and finished products.

9.2 Trade and other receivables

Trade and other receivables are amounts that the Eramet Group expects to collect from third parties.

ACCOUNTING METHOD	ESTIMATES AND JUDGEMENTS
Receivables are booked at transaction value at initial recognition and are subsequently measured at each reporting date at amortised cost. Foreign currency receivables and payables are re-measured at the prevailing foreign exchange rate at period end. The resulting translation adjustments are recognised in current operating income or in net financial income (other financial income and expenses) depending on the type of receivable or debt. The Group's portfolio of trade receivables is measured to take into account the expected loss rate at maturity in this portfolio. This rate is determined by qualifying the customer portfolio according to its risk exposure, with secured receivables limiting the expected level of risk of loss, and by assessing the probability of default and the impact of the expected loss on the portfolio, based on historical losses on receivables, the age of the receivable and an assessment of the risks involved. Individual impairment losses are recognised for receivables where they are more than likely not to be recovered and it is possible to reasonably measure the amount of the impairment based on historical losses on receivables, the age of the receivable and an assessment of the risks involved. This impairment, offset in Current operating income, is deducted from the gross value of the receivable. Receivables disposed of under a securitisation contract are removed from the balance sheet when the Eramet Group has transferred the contractual rights to collect the cash amount and where almost all the risks and rewards attached to these receivables have been transferred to the transferee. Where risks remain but do not prejudice the removal of the receivables from the balance sheet, they are recognised under Other operating receivables together with the related security deposits (Note 9). Disposals with recourse against the Eramet Group in the event of payment default by the client means that these transferred receivables must be retained in the balance sheet.	Determining the expected level of loss on the collection of receivables requires judgement. The impairment loss is calculated consistently based on historical losses on receivables, the age of the receivable and an assessment of the risks involved for each receivable category.

(€ million)	Gross amount	Impairment	Net amount 31/12/2019	Net amount 31/12/2018
At beginning of period	**807**	**(191)**	**616**	**617**
Change in gross amount	(23)		(23)	78
Impairment losses for the period		(2)	(2)	(25)
Changes in working capital requirement – cash flows			(25)	53
Translation adjustments and other movements	19	9	28	(54)
AT PERIOD CLOSE	**803**	**(184)**	**619**	**616**
Trade receivables	**373**	**(10)**	**362**	**395**
Tax and payroll receivables	134	(3)	131	111
Security deposit – securitisation agreement	7	-	7	6
Other operating receivables	286	(171)	115	92
Other current assets	**427**	**(174)**	**254**	**209**
Receivables on the Setrag concession agreement – non-current asset	3	-	3	-
TiZir shareholder current account – non-current asset	-	-	-	-
UKAD shareholder current account – non-current asset	-	-	-	4
Receivable for sale of Erachem – non-current asset	2		2	7
Other non-current assets	**5**	**-**	**5**	**11**
TOTAL	**805**	**(184)**	**621**	**616**

The bulk of trade and other receivables are due in less than one year.

Tax and payroll receivables include a VAT credit amount to the Gabonese government of €53 million at 31 December 2019 for 2017 and 2018 (€45 million at 31 December 2018).

Securitisation of customer receivables

The Eramet Group uses factoring or securitisation as a source of funding for its receivables. Under these agreements, certain subsidiaries in France and the United States have committed to banking institutions to transfer their trade receivables totalling €172 million at 31 December 2019 (€201 million at 31 December 2018).

The analysis of the transfer of risks and rewards resulted in full deconsolidation.

A security deposit may be required to cover the commitments given by the transferor subsidiaries to the financing company and will be returned upon the settlement of the transaction. It consists of reserves to hedge against credit risk, delayed payment risk and dilution risk. This deposit amounted to €7 million at 31 December 2019 (31 December 2018: (€6 million)).

(€ million)	31/12/2019	31/12/2018
Trade receivables – Invoices assigned	(172)	(201)
Trade receivables – Invoices not deconsolidated	-	-
Other operating receivables – Security deposit	7	6

9.3 Trade and other payables

Trade and other payables mainly comprises amounts owed to suppliers and tax authorities that have already been billed or are already due.

(€ million)	31/12/2019	31/12/2018
At beginning of period	**800**	**695**
Changes in working capital requirement	77	54
Change in payables on non-current assets	33	5
Translation adjustments and other movements	5	46
AT PERIOD CLOSE	**915**	**800**
Trade payables	**458**	**391**
Tax and payroll payables	312	292
Other operating payables	45	52
Payables on non-current assets	68	34
Deferred income	32	29
Other current liabilities	**457**	**407**
Setrag debt for the purchase of own property and inventories – non-current	1	2
Other non-current liabilities	**1**	**2**

Most of the trade and other payables are due in less than one year.

The debts recognised under non-current liabilities include Setrag S.A.'s 25-year debt to the Gabonese Republic for the transfer of the concession.

Note 10 Investments

The Eramet Group groups its investments into two categories:

- industrial investments relating to assets in connection with extraction or production equipment: intangible assets and property, plant and equipment;
- financial investments that mainly relate to interest held in joint ventures and non-consolidated companies, as well as other non-current financial assets.

10.1 Acquisition of non-current assets

(€ million)	Financial Year 2019	Financial Year 2018
Capital expenditure on property, plant & equipment for the period	421	252
Capital expenditure on intangible assets for the period	34	26
Total industrial capital expenditure	**455**	**278**
Change in payables for the acquisition of non-current assets	(33)	(5)
Acquisition of equity investments	1	2
TOTAL ACQUISITION OF NON-CURRENT ASSETS – STATEMENT OF CASH FLOWS	**423**	**275**

10.2 Property, plant and equipment and rights of use for leases on assets classified as Property, plant and equipment

ACCOUNTING METHOD

Property, plant and equipment are stated in the balance sheet at their carrying amount, which is the acquisition or manufacturing cost less depreciation and impairment of losses incurred.

Land is not depreciated.

Spare parts deemed to be items of property, plant and equipment are capitalised and depreciated on the basis of their actual use.

Tooling specifically manufactured for certain customers is capitalised and depreciated over its likely useful life.

Major repairs are deemed to be components of items of property, plant and equipment.

Borrowing costs that are directly linked to the acquisition or production of an asset are incorporated into that asset's cost.

At the beginning of the operations, a provision is made to take into account the obligations to restore the mining site, offset by an environmental and decommissioned asset. Decommissioned assets recognised against provisions are written down over the planned operating life of the mining reserves and resources intended for the plant or for export and are measured with respect to the estimated long-term nature of current licences. Revisions to these restoration cost estimates correct the value of this asset and provision by prospectively allocating the result over the period of operation, including the current year.

IFRS 16-eligible leases on assets classified as "property, plant and equipment" are recognised on the balance sheet at lease commencement for the present value of the future fixed payments (on the asset line concerned by IFRS 16 lease-purchase and/or finance contracts and on a "lease rights of use" line for operating leases). Leases where the underlying assets have a low value and/or are for a short term (12 months or less) are accounted for as a lease expense according to the exemptions permitted by the standard.

The Trans-Gabon railway concession was recognised as follows: property owned by the Eramet Group is recognised as a balance sheet asset and depreciated over the shorter of its useful life or the remaining period of the concession. Returnable assets representing the assets contributed to the concession by the Gabonese Republic that must be returned in the same state upon expiry of the agreement are not recognised in the balance sheet. Assets acquired by the Eramet Group following the signing of the concession agreement that must be turned over to the Gabonese Republic at the end of the concession are recognised as property, plant and equipment and depreciated over the term of the concession. A provision is made to cover the net value of the property, plant and equipment at the end of the concession based on investment assumptions.

ESTIMATES, ASSUMPTIONS AND JUDGEMENTS

Judgement is exercised to determine all the expenses (i.e. labour, overheads) directly associated with the acquisition, construction, improvement or development of a non-current asset, including the costs of bringing it to the location and in the state that is required for its use as planned by Management.

Expenses for non-current assets are no longer capitalised once the non-current asset is practically completed and is capable of functioning as intended. To determine whether these conditions are met, a review must be carried out of the considerations applied in the same industries, predetermined by the Management's judgement with reference to the factors affecting the expected production capacity.

Where a non-current asset is composed of individual components which call for different methods or depreciation rates, judgement is exercised to determine how best to split the asset. Distinguishing between inspections and major revisions for repair and maintenance, and determining the appropriate period for amortising these costs, are a matter of judgement.

10.2.1 Property, plant and equipment by category

(€ million)	Gross amount	Depreciation & amortisation	Impairment losses value	Net amount 31/12/2019	Net amount 31/12/2018
Land and buildings[1]	1,098	(636)	(16)	446	450
Industrial and mining facilities[2]	4,143	(2,601)	(196)	1,346	1,384
Other property, plant and equipment[3]	946	(619)	(25)	302	268
Work-in-progress, down-payments	384	-	(16)	368	185
TOTAL	**6,571**	**(3,856)**	**(253)**	**2,462**	**2,287**
(1) Including					
Financia lease assets	*33*	*(17)*	*0*	*16*	*17*
(2)Including					
Financia lease assets	*120*	*(68)*	*(16)*	*36*	*40*
Decommissioned assets – site restoration	*271*	*(124)*	*-*	*147*	*108*
(3)Including					
Financia lease assets	*55*	*(50)*	*-*	*5*	*9*

10.2.2 Lease rights of use (type of property, plant and equipment)

(€ million)	Gross amount	Depreciation & amortisation	Impairment losses value	Net amount 31/12/2019	Net amount 31/12/2018
Rights of use relating to land and buildings	32	(3)	-	29	-
Rights of use relating to industrial and mining facilities	12	(1)	-	11	-
Rights of use relating to land and buildings	62	(10)	-	52	-
TOTAL	**106**	**(14)**	**-**	**92**	**-**

10.2.3 Change over the period

(€ million)	Financial Year 2019	Financial Year 2018
At beginning of period	**2,287**	**1,924**
PROPERTY, PLANT AND EQUIPMENT		
Investments for the period	420	254
Disposals for the period	(5)	(5)
Depreciation & amortisation for the period	(255)	(238)
Impairment losses for the period	(27)	(167)
Change in the gross amount of decommissioned assets	47	4
Change in lease non-current assets	1	1
Change in scope	(0)	500
Effect of hyperinflation	13	-
Translation adjustments and other movements	(19)	15
LEASE RIGHTS OF USE (TYPE OF PROPERTY, PLANT AND EQUIPMENT)		
First application of IFRS 16	94	-
Change in rights of use for IFRS 16 leases	12	-
Amortisation of IFRS 16 rights of use in the period	(14)	-
Depreciation of IFRS 16 rights of use in the period		-
Translation adjustments and other movements on IRFS 16 rights of use	-	-
AT PERIOD CLOSE	**2 554**	**2 287**

10.3 Intangible assets

Accounting method	Estimates and judgements
Intangible assets are stated in the balance sheet at their carrying amount, which is the acquisition cost less amortisation and any impairment of losses incurred. IFRS 16-eligible leases on assets classified as "intangible assets" are recognised on the balance sheet at lease commencement for the present value of the future fixed payments (on the asset line concerned by what are referred to as IFRS 16 lease-purchase contracts and on a "lease rights of use" line for operating leases). Leases where the underlying assets have a low value and/or are for a short term (12 months or less) are accounted for as a lease expense according to the exemptions permitted by the standard. **Goodwill** Goodwill is the difference between the acquisition price of an entity and the Eramet Group's share in the fair value of the identifiable asset or liability (including possible liabilities) of the acquired entity at the acquisition date. It is recognised at cost, less accumulated impairment losses. Goodwill in associates and joint ventures is recognised under investments in joint ventures and associates (Note 9). **Mining reserves** Amounts capitalised with respect to mineral deposits relate to partial asset contributions or permits acquired since 1974. Depending on the specific operating characteristics, mining reserves are amortised on the basis of the ratio of annual production to the estimated reserves or the length of the concession. **Geology, prospecting and research expenses** Geology, prospecting and research expenses incurred prior to operation are recognised as intangible assets, in compliance with IFRS 6 "Exploration for and Evaluation of Mineral Resources". The royalties paid for mining prospecting and exploration are also recognised under intangible assets.	Judgement must be used to determine whether the expenditure on intangibles can be recognised as an intangible asset. If its useful life is limited in time, the intangible asset is amortised on a straight-line basis over the estimated useful life. The goodwill is allocated to the cash-generating unit from where it arose, for the purposes of impairment testing.

At 31 December 2019, the Group had no rights of use to an "intangible" asset under leases or lease-purchase arrangements (IFRS 16).

10.3.1 Intangible assets by category

(€ million)	Gross amount	Depreciation & amortisation	Impairment losses value	Net amount 31/12/2019	Net amount 31/12/2018
Goodwill	221	(0)	(14)	207	235
Indonesia mining reserves	-	-	-	-	-
Gabon mining reserves	61	(41)	-	20	22
Senegal mining reserves	100	(4)	-	96	97
New Caledonia mining reserves	47	(36)	-	11	12
Indonesia geology, prospecting and research expenses	-	-	-	-	-
Other geology, prospecting and research expenses	58	(16)	-	42	42
Software	128	(114)	-	14	14
Other intangible assets	55	(33)	-	22	5
Work-in-progress, down-payments	68	-	(19)	49	29
TOTAL	**738**	**(244)**	**(33)**	**461**	**455**

Net goodwill of €207 million at 31 December 2019 (31 December 2018: €235 million) mainly stems from:

- the acquisition of the Norwegian company Eralloys Holding A/S in 2008 for €148 million (31 December 2018: €148 million), allocated to the Eramet Norway CGU;
- and the acquisition of Mineral Deposit Limited on 1 July 2018, resulting in goodwill of €59 million (31 December 2018: €83 million) allocated to the Mineral Sands CGU.

Following the successful takeover bid for Mineral Deposit Limited, the Eramet Group acquired 100% control of TiZir in July 2018, the Group measured the fair value of the scope acquired as part of the purchase price allocation exercise.

The purchase price allocation period of 12 months finished on 30 June 2019. The translation of this exercice linked to a revised amount for an amount of €24m (as at 30 June 2019).

10.3.2 Change over the period

Changes in scope during 2018 include the impacts of the TiZir acquisition and Weda Bay disposal.

(€ million)	Financial Year 2019	Financial Year 2018
At beginning of period	**455**	**349**
Investments for the period	34	26
Disposals for the period	-	(6)
Depreciation & amortisation for the period	(15)	(17)
Impairment losses for the period	(1)	(4)
Reversals in the period	1	-
Change in scope	-	103
Revised goodwill amount for Mineral Sands	(22)	-
Hyperinflation	2	-
Translation adjustments and other movements	7	4
AT PERIOD CLOSE	**461**	**455**
• Gross amount	738	720
• Depreciation & amortisation	(244)	(229)
• Impairment losses	(33)	(35)

10.4 Impairment of assets and impairment losses

Accounting method

Impairment tests are performed regularly: systematically at least once a year at the annual reporting date for goodwill and intangible assets with indefinite lives, and where there are indications of impairment. For intangible assets and items of property, plant and equipment with finite lives, impairment tests are carried out where there are indications of impairment.
Impairment testing consists in comparing the carrying amount of assets with their recoverable amount, which is defined as the higher of the value in use (or recoverable amount through use) and the fair value (or recoverable amount through sale), less selling costs.
Impairment losses are calculated as the difference between the recoverable and net book value and are recognised in the income for the period under Other operating income and expenses (Note 6).
Impairment losses recognised in goodwill are not reversible. For the other assets, previously recognised impairment losses are measured at each reporting date to identify whether the losses have decreased or no longer exist. An impairment loss is reversed only if the carrying amount of the asset does not exceed its net book value, as it would have been determined had no impairment been recognised.

Estimates, assumptions and judgements

Cash-generating units (CGU) are homogeneous groups of assets whose continuous use generates independent cash flows.

The Eramet Group has defined its CGUs with reference to the various production sites of the Nickel, Manganese and Mineral Sands BUs, and the High Performance Alloys Division.

Impairment tests are performed for each CGU. All intangible assets, including goodwill, and all items of property, plant and equipment are allocated to CGUs.

At 31 December 2019, the Eramet Group is divided into ten CGUs, distributed as follows:

- two CGUs in the *Nickel Business* Unit;
- four CGUs in the *Manganese Business* Unit;
- one CGU in the *Mineral Sands* Business Unit;
- two CGUs in the *High Performance* Alloys Division;
- one CGU in the Lithium business unit.

Eramet Group's General Management determines the existence of events calling for impairment testing based on several criteria. Impairment loss indicators correspond mainly to changes and fluctuations in:

- raw material prices and the selling price of finished goods;
- economic and regulatory environment and market conditions;
- interest rates;
- technological level;
- asset performance and obsolescence.
- An impairment test is carried out on the CGUs concerned when these indicators show a negative development.

To determine the value in use, the Eramet Group uses the method of discounted future cash flows generated from the use of the assets. The data used to calculate the discounted forecast cash flows is taken from the annual budgets and multiyear plans prepared by the Management of the CGUs concerned. These plans are created on the basis of 5-10 year projections, in keeping with mining and industrial cycles, plus a final value corresponding to the capitalisation to infinity of normative cash flows. Plans for certain CGUs are prepared for longer periods corresponding to the operating period of the sites without assigning a terminal value.

The growth rates used are the same as those used in budgets. The growth rates to infinity used for the terminal values are generally between 1% and 2.5%, depending on the CGU.

The discount rate applied to calculate the value in use is the weighted average cost of capital, namely:

- 10% for mining activities (also 10% in 2018);
- 8.9% for Alloys activities (8.7% in 2018);
- 10.5% for the Mineral Sands CGU (compared with 10.3% in 2018), a company accounted for under the equity method up to 30 June 2018 and fully consolidated since 1 July 2018 following the acquisition of Mineral Deposit Limited (see "Investments in joint ventures and associates").

The Eramet Group may measure the recoverable amount using other methods that it deems relevant in the context of the CGUs concerned. These methods may include estimated transaction values.

Whatever the method used, the assumptions used are Management's best estimates. The Eramet Group regularly reviews its estimates and assessments to take account of past experience and other factors that are deemed relevant with regard to economic conditions.

The change in impairment of assets and other impairment losses is broken down as follows:

(€ million)	31/12/2018	Impairment Financial Year 2019	Translation adjustments and other	31/12/2019
Nickel BU	(20)			(20)
High Performance Alloys Division	(261)	(24)	24	(261)
Manganese BU	(10)	-	(2)	(12)
Mineral Sands BU	-			
Lithium BU	-			
Holding and others	(4)		3	(1)
TOTAL	**(295)**	**(24)**	**25**	**(294)**

Impairment losses recorded during the period are primarily due to the impairment reported on the Erasteel CGU during the period.

10.4.1 Sensitivity

Sensitivity is determined with reference to changes in future cash flows and discount rates.

The Eramet Group's cash projections for its mining and metallurgical businesses are highly dependent on the sale price assumptions, especially that of ores (nickel, manganese, zircon, etc.), on euro-dollar parity, and on global demand for products sold by the Group.

SLN CGU – Nickel BU

The value in use is extremely sensitive to the price of nickel – the main hypothesis of the impairment test for this CGU.

This commodity is traded on the London Metal Exchange (LME). Directly observable forward prices do not reflect the long-term price. The values used are determined by reference to the average sector values and are more conservative than this average.

The selected prices are thus integrated into the multi-year business plan, which allows the cash flow projections of the CGU to be determined.

However, there is strong interdependence between the different variables, namely the value of the dollar, the price of Brent crude oil and the price of nickel, which generally do not impact the test in the same way.

A decrease of USD 0.5/lb in the target nickel price, a 0.5% increase in the discount rate, or a decrease of 0.5% in the long-term growth rate under identical operating conditions would not result in recognition of an impairment loss, however, would reduce the margin of comfort on SLN. On the other hand, if the long-term price levels were to be revised downwards substantially, the test could result in an impairment loss.

Sandouville CGU – Nickel BU

The Sandouville site produces nickel metal and nickel salts from a matte and a hydro-metallurgical process to transform the matte. This site is in the ramp-up phase and has not yet reached expected nominal performance and flow rates. The Company implemented corrective actions in 2019 that should allow it to achieve its objectives, and these actions will continue them in 2020.

Largely unaffected by fluctuations in the price of nickel, the business plan provides for a value in use close to that of the capital employed (€62 million).

Gabon and manganese alloys CGUs – Manganese BU

Manganese ore is not a listed commodity. The price is adjusted according to supply and demand, particularly concerning alloy production forecasts and the marginal capacity of the South African producer.

To determine the forecast price of manganese ore, the Eramet Group uses an internal model that takes into account the marginal cost of South African production, available logistical means (trains or trucks) and ZAR/USD parity.

The price forecasts thus determined are integrated into the business plans of the Gabon and manganese alloys CGUs. These price forecasts can be compared with studies issued by the CRU (Commodities Research Unit), an independent body that carries out studies on certain metals, including manganese.

Regarding the Gabon CGU, a 0.5% increase in the discount rate, a 0.5% decrease in long-term growth rate or a fall of 1% in the EBITDA margin of the final year would not result in the recognition of an impairment loss.

Mineral Sands CGU

More than half of the CGU's revenues come from the sale of titanium raw materials, about one third from the marketing of zircon, and more marginally from ferrous materials.

Titanium raw materials, in the form of titanium slag or titanium dioxide, are intended for the pigment market, while zircon is produced for the ceramics market.

None of these products are listed. In both cases, the price forecasts used in the business plan are determined by reference to the analyses of sector specialists (TZMI), using the lower range of their forecast.

Regarding the Mineral Sands CGU, a 0.5% increase in the discount rate, a 0.5% decrease in long-term growth rate or a fall of 1% in the EBITDA margin of the final year would not result in the recognition of an impairment loss.

Aubert & Duval CGU – High Performance Alloys Division

Concerning the Aubert & Duval CGU, the impairment test value in use can be affected by several key factors:

- a change in revenues in certain aeronautics programmes, whose effect on Aubert & Duval's business is particularly strong due to their significant contribution to the CGU's business activity;
- pursuit of the progress action plan to achieve quality objectives, impacting the CGU's EBITDA margin;
- the investment plan aimed at increasing productivity gains and making production tools more reliable.

The business plan provides for a value in use close to that of the capital employed.

Erasteel CGU – High Performance Alloys Division

There are no material changes to the long-term business plan. However, the decline in commodities prices resulted in booking a €25 million impairment to factor in the price scissors effect recorded in the period.

Lithium CGU

See note 2.1.

10.4.2 Residual values by CGU group

The residual values of invested capital are detailed as follows by CGU group:

(€ million)	Financial Year 2019	Financial Year 2018
NICKEL BU		
Net intangible assets and property, plant & equipment[3]	620	588
Working capital requirement	112	106
Total	**732**	**694**
HIGH PERFORMANCE ALLOYS DIVISION		
Net intangible assets and property, plant & equipment[3]	304	322
Working capital requirement	326	318
Total	**630**	**640**
MANGANESE BU[1]		
Net intangible assets and property, plant & equipment[3]	1,230	1,064
Working capital requirement	340	235
Total	**1,569**	**1,299**
MINERAL SANDS BU[1]		
Net intangible assets and property, plant & equipment[3]	703	734
Working capital requirement	20	(6)
Total	**722**	**728**
LITHIUM BU[2]		
Net intangible assets and property, plant & equipment[3]	103	-
Working capital requirement	(32)	-
Total	**71**	**-**
HOLDING AND OTHERS		
Net intangible assets and property, plant & equipment[3]	55	35
Working capital requirement	(5)	(15)
Total	**50**	**20**
ERAMET GROUP		
Net intangible assets and property, plant & equipment[3]	3,015	2,742
Working capital requirement	760	638
TOTAL	**3,775**	**3,380**

(1) The Manganese BU incorporates the Mineral Sands BU until 31 December 2017.
(2) The Lithium Division was part of the Division and others until 31 December 2018.
(3) Including rights of use for leases.

Capital employed is defined as the sum of net tangible assets, property, plant and equipment and working capital requirements. It is used to determine the accounting values of assets tested as part of asset impairment tests.

10.5 Investments in joint ventures and associates

ACCOUNTING METHOD	ESTIMATES, ASSUMPTIONS AND JUDGEMENTS
Joint ventures are companies over which Eramet has joint control, meaning that the decisions concerning the relevant activities require the unanimous consent of all controlling parties. Associates are companies over which the Eramet Group has significant influence. Joint ventures and associates are accounted for using the equity method of accounting and are initially recognised at cost. Their carrying amount includes the goodwill determined at their acquisition less accumulated impairment. The consolidated financial statements include Eramet's share in earnings and the equity movements of the companies accounted for using the equity method, after adjustments to bring the accounting rules of those companies in line with those of the Eramet Group. The dividends received from joint ventures and associates are deducted from their balance sheet value. An impairment test is carried out when there are indicators that the recoverable amount may fall below its carrying amount (Note 10).	Significant influence exists when Eramet has the powers to take part in financial and operating decisions of the Company but does not exercise control or joint control over these policies. Eramet has significant presumed influence if it holds 20% to 50% of the voting rights of a company. Eramet Group's General Management determines the existence of events calling for impairment testing under the same conditions as those given in the Impairment of assets section.

10.5.1 Breakdown by entity

(€ million) Company	Country		Share of profit (loss) Financial Year 2019	Share of shareholders' equity 31/12/2019	Share of profit (loss) Financial Year 2018	Share of shareholders' equity 31/12/2018
TiZir subgroup	United Kingdom	50%	-	-	54	-
UKAD	France	50%	(2)	(8)	(3)	(6)
Total joint ventures			**(2)**	**(8)**	**51**	**(6)**
Strand Minerals – Weda Bay	Indonesia	43%	(2)	29	(1)	31
EcoTitanium	France	22.4%	(2)	1	(2)	3
Total associates			**(4)**	**30**	**(3)**	**34**
TOTAL INVESTMENTS IN JOINT VENTURES AND ASSOCIATES			**(7)**	**22**	**48**	**29**

TiZir subgroup

On 27 July 2011, the Eramet Group and Mineral Deposits Ltd (MDL) entered into an agreement to create a joint venture, the British company TiZir Ltd, bringing together the Norwegian company TiZir Titanium & Iron A/S (TTI) and the Grande Côte Operations S.A. (GCO) mineral sands project in Senegal. The final agreements were completed on 25 October 2011.

Following the successful takeover bid for Mineral Deposit Limited, the Eramet Group acquired 100% control of the TiZir subgroup on 1 July 2018.

10.6 Non-current financial assets

Accounting method	Judgements
Other non-current financial assets include other long-term financial assets and non-consolidated equity investments. Other long-term financial assets relate to loans or current accounts extended to non-consolidated companies or companies under joint control. They are initially recognised at fair value plus acquisition costs and are measured on each reporting date at amortised cost using the effective interest rate (EIR) method, less any offsetting provisions for impairment losses recognised in financial income for the period. Non-consolidated equity investments are recognised in the balance sheet at their acquisition cost or their value on the date of their deconsolidation, less any offsetting provisions for impairment losses recognised in income for the period, to reflect changes in the fair value of this asset category.	The Eramet Group has divided its non-consolidated subsidiaries into two categories: • controlled companies that are not consolidated owing to their low impact on the Eramet Group's financial statements; • non-controlled companies corresponding to holdings in companies over which the Eramet Group has no control or significant influence.

10.6.1 By category

(€ million)	Gross amount	Impairment	Net amount 31/12/2019	Net amount 31/12/2018
Deposits and guarantees	13	-	13	13
Other non-current financial assets	341	(115)	226	201
Total excluding non-consolidated equity investments	**354**	**(115)**	**239**	**214**
Non-consolidated equity investments	158	(140)	18	21
TOTAL	**512**	**(255)**	**257**	**235**

Other non-current financial assets chiefly relate to financial current accounts or loans granted to non-consolidated companies (MKAD) or equity affiliates (UKAD, EcoTitanium).

The main loan under this item corresponds to group financing as part of the Weda Bay project for €176 million.

10.6.2 Change

(€ million)	31/12/2019	31/12/2018
At beginning of period	**235**	**121**
Net change in non-current financial assets	22	3
Acquisition/disposal of equity investments	6	2
Impairment	(3)	1
Other movements	(3)	108
AT PERIOD CLOSE	**257**	**235**

Other movements at 31 December 2018 mainly consist of changes in consolidation scope:

- +€164 million for Weda Bay financing;
- -€53 million for the acquisition of TiZir.

10.6.3 By currency (excluding consolidated equity investments)

(€ million)	31/12/2019	31/12/2018
Euro	60	43
US dollar	142	139
CFP franc	14	10
Other currencies	23	22
TOTAL	**239**	**214**

10.6.4 By interest rate type (excluding consolidated equity investments)

(€ million)	31/12/2019	31/12/2018
Interest-free	7	17
Fixed interest rates	32	25
Variable interest rates	200	172
TOTAL	**239**	**214**

Interest-free items mainly relate to deposits and guarantees as well as certain loans to employees.

10.6.5 Non-consolidated equity investments

(€ million) Company	Country	% holding	Gross amount	Impairment	Net amount 31/12/2019	Net amount 31/12/2018
MAIN CONTROLLED COMPANIES:						
• Aubert & Duval S.A. (Irun) (ex-Metallied)	Spain	100%	2	(2)	-	-
• Erasteel GmbH	Germany	100%	3	-	3	3
• Eramet Alloys UK Ltd	United Kingdom	100%	3	-	3	3
• Aubert & Duval Mold and Die Technology	China	85%	3	-	3	3
• Sodépal	Gabon	100%	7	(7)	(0)	(0)
• GCM Liquidation Co (ex-GCMC)	Gabon	100%	92	(92)	(0)	(1)
• Maboumine	Gabon	76.14%	26	(26)	0	0
MAIN NON-CONTROLLED COMPANIES:						
• SQuAD	India	50%	8	(4)	4	3
Other companies			14	(9)	5	9
TOTAL			**158**	**(140)**	**18**	**21**

Controlled but non-consolidated companies are mainly sales entities, the services of which are fully assigned to the Eramet Group, and industrial companies (shaping, wire-drawing and drawing of metallurgical products).

Equity investments in controlled companies are not consolidated since they have no material impact on the Eramet Group's consolidated financial statements.

Note 11 Taxes

This note explains the income tax expense and related tax amounts shown in the income statement and balance sheet. The section on deferred tax provides information on expected future tax payments.

ACCOUNTING METHOD

Income tax includes both current and deferred tax. The income tax expense is recognised in the income statement, except where it relates to a business acquisition or items recognised directly in equity or in Other comprehensive income.

Current income tax includes taxes that the Eramet Group expects to pay on its taxable income for the reporting period at the prevailing tax rates or rates substantively enacted at the reporting date, as well as any adjustments for tax relating to prior reporting periods.

Deferred tax is recognised as temporary differences between the carrying amount of the assets and liabilities measured for the purposes of financial reporting and the tax basis of those assets and liabilities measured at the income tax rate and tax laws enacted or substantively enacted at the reporting date and effective in the period in which these temporary differences should be used.

Deferred tax assets, including those related to loss carry-forwards, which are determined by fiscal entity, are recognised whenever it can be shown that they are likely to be realised.

The deferred tax assets and liabilities are classified in the balance sheet as non-current items and are offset if the entityhas a legally enforceable right of set-off as is the case with the French tax consolidation group.

Deferred tax liabilities on investments in subsidiaries, associates and joint ventures are recognised unless where the Eramet Group can determine the timetable for the reversal of the related temporary differences, and where it is likely that such differences will not reverse in the foreseeable future. Provisions are made for non-recoverable tax on dividends planned in the foreseeable future.

The Group does not report deferred taxes on first-time recognition of the right of use and the lease liability, as it does when accounting for finance leases under IAS 17.

ESTIMATES, ASSUMPTIONS AND JUDGEMENTS

The Eramet Group operates in several countries. Its income is therefore taxed at various income tax rates. Given the magnitude of the operations and the complexity of tax regulations, the Eramet Group must assess uncertainties and exercise judgement to estimate the tax amount that it will eventually pay. The tax amount finally paid depends on various factors that include negotiations with tax authorities and the outcome of tax audits.

The Eramet Group estimates deferred tax based on the temporary differences between the assets and liabilities shown in its consolidated financial statements and the tax bases of these assets and liabilities determined under the applicable tax laws. The deferred tax asset amount is generally recognised insofar as a probable taxable profit will be available in the future against which deductible temporary differences can be used. Consequently, the deferred tax asset that is recognised and considered as realisable can be reduced if the projected profit cannot be obtained.

To assess the likelihood that these assets will be realised, the Eramet Group reviews the following information in particular:

- projected future profitability;
- extraordinary losses not expected to recur in the future;
- past taxable profits; and
- tax strategies.

11.1 Income tax

(€ million)	Financial Year 2019	Financial Year 2018
Current tax	(169)	(180)
Deferred tax	(58)	(62)
INCOME TAX INCOME (EXPENSE)	**(227)**	**(242)**

11.2 Effective tax rate

(€ million)	Financial Year 2019	Financial Year 2018
Operating income	223	398
Financial income	(134)	(84)
Pre-tax profit (loss) of consolidated companies	**89**	**314**
Standard taxation rate in France (%)	34.43%	34.43%
Theoretical tax income/(expense)	**(31)**	**(108)**
Impact on theoretical tax of:		
• permanent differences between accounting and taxable profit	(21)	33
of which related to changes in consolidation scope	-	*48*
• taxes on dividend distribution (withholding tax)	(4)	(1)
• Impairment of Assets	1	14
• standard rate differences in foreign countries	4	11
• changes in the tax rate	(20)	-
• tax credits	3	5
• unrecognised or limited deferred tax assets	(129)	(161)
• miscellaneous items	(30)	(35)
ACTUAL TAX INCOME/(EXPENSE)	**(227)**	**(242)**
TAX RATE	**254%**	**77%**

Financial Year 2019

Unrecognised or limited deferred tax assets relate mainly to the tax loss carry-forwards of Société Le Nickel-SLN and the French tax consolidation.

The impact of changes in the tax rate boils down to the difference between the current rate (34.43%) and the deferred rate (25.83%) on the tax loss carry-forwards of the French tax consolidation.

The difference in current tax rates of foreign countries comes mainly from Norway with a tax rate of 22%.

Miscellaneous items include those related to the Comilog tax audit.

Financial Year 2018

Unrecognised or limited deferred tax assets mainly relate to the tax loss carry-forwards of Société Le Nickel-SLN (-€38 million) and Sandouville (-€30 million) and the reactivation of deferred taxes on losses of €16 million for the Manganese BU. The impact of the French tax consolidation amounted to €7 million; the limitations or non-recognition of deferred tax assets for certain Alloys Division subsidiaries amounted to -€10 million, and the exemption of certain subsidiaries from income tax amounted to -€2 million

The difference in current tax rates of foreign countries comes mainly from Norway (€10 million) with a tax rate of 23%.

11.3 Main standard tax rates in foreign countries

(%)	Financial Year 2019	Financial Year 2018
China	25.0%	16.5%-25.0%
United States	22.25%	21.75%
Gabon	35.0%	35.0%
Norway	22.0%	23.0%
New Caledonia	35.0%	35.0%
Sweden	21.4%	22.0%

11.4 Change in tax receivables and tax payables

(€ million)	31/12/2019	31/12/2018
At beginning of period	**(113)**	**(146)**
Current tax – income statement	(169)	(180)
Tax paid	248	205
Translation adjustments and other movements	(1)	8
AT PERIOD CLOSE	**(35)**	**(113)**
• current tax receivables	14	31
• current tax payables	(49)	(144)

11.5 Deferred taxes in the balance sheet

11.5.1 Breakdown by category

(€ million)	31/12/2019	31/12/2018
Tax loss carry-forwards(1)	5	47
Intangible assets and property, plant & equipment	21	29
Inventory measurement	40	42
Financial instruments	8	13
Employee-related liabilities	58	59
Other provisions for liabilities and charges	41	41
Other items	21	10
Deferred tax assets before netting	**194**	**242**
Deferred tax netting by tax entity	(186)	(236)
Deferred tax assets	**8**	**6**
Regulated provisions and special amortisation and depreciation	(296)	(274)
Intangible assets and property, plant & equipment	(66)	(75)
Inventory measurement	(16)	(8)
Financial instruments	-	1
Employee-related liabilities	(5)	(6)
Other provisions for liabilities and charges	(14)	(15)
Distribution of dividends	(3)	(14)
Other items	(9)	(52)
Deferred tax liabilities before netting	**(409)**	**(443)**
Deferred tax netting by tax entity	186	236
Deferred tax liabilities	**(223)**	**(207)**
NET DEFERRED TAX LIABILITIES	**(215)**	**(201)**
(1) Limited deferred tax assets for tax loss carry-forwards	*618*	*544*

11.5.2 Change in deferred taxes in the balance sheet

(€ million)	Assets	Liabilities	Net Financial Year 2019	Net Financial Year 2018
At beginning of period	**6**	**(207)**	**(201)**	**(171)**
Deferred tax offset in shareholders' equity	2		2	(6)
Deferred tax on profit (loss)	(50)	(8)	(58)	14
Deferred tax netting by tax entity	50	(50)	-	-
Other movements	-	45	45	-
Translation adjustments and other	-	(3)	(3)	(38)
AT PERIOD CLOSE	**8**	**(223)**	**(215)**	**(201)**

Note 12 Personnel costs and employee benefits

12.1 Workforce and personnel costs

12.1.1 Average workforce and workforce at end of period by Division

The average workforce and workforce at end of period include all fully consolidated companies at 31 December of each year.

	Financial Year 2019	31/12/2019	Financial Year 2018	31/12/2018
	Average workforce	Workforce at period end	Average workforce	Workforce at period end
Workers	1,334	1,401	1,378	1,323
Administrative, Technical and Supervisory staff	644	641	688	653
Management	178	183	205	172
Nickel BU	**2,156**	**2,225**	**2,271**	**2,148**
Workers	1,961	1,980	1,881	1,914
Administrative, Technical and Supervisory staff	1,383	1,381	1,395	1,377
Management	611	630	591	591
Manganese BU	**3,954**	**3,991**	**3,867**	**3,882**
Workers	447	505	434	436
Administrative, Technical and Supervisory staff	304	306	305	304
Management	187	184	178	182
Mineral Sands BU	**937**	**995**	**917**	**922**
Workers	33	29		
Administrative, Technical and Supervisory staff	54	85		
Management	23	26		
Lithium BU(1)	**111**	**140**	**-**	**-**
Workers	2,629	2,606	2,664	2,642
Administrative, Technical and Supervisory staff	1,552	1,591	1,506	1,521
Management	566	594	550	555
High Performance Alloys Division	**4,748**	**4,791**	**4,720**	**4,718**
Workers	0	0	26	27
Administrative, Technical and Supervisory staff	162	172	173	178
Management	268	286	223	245
Holding and others	**429**	**458**	**422**	**450**
Workers	6,404	6,521	6,383	6,342
Administrative, Technical and Supervisory staff	4,099	4,176	4,067	4,033
Management	1,833	1,903	1,747	1,745
TOTAL	**12,336**	**12,600**	**12,197**	**12,120**

(1) Data included in the Holding and others at 31 December 2018.

The total workforce managed in the HR reporting system implemented by the Group, which includes non-consolidated companies and companies accounted for using the equity method, totalled 13,097 employees at 31 December 2019 (12,705 employees at 31 December 2018).

12.1.2 Personnel costs by category

(€ million)	Financial Year 2019	Financial Year 2018
Wages and salaries	(518)	(509)
Social security contributions and other personnel costs	(182)	(173)
Profit sharing	(15)	(12)
Share-based payment	(9)	(8)
Personnel costs subtotal	**(724)**	**(702)**
Personnel costs – temporary staff	(29)	(31)
TOTAL PERSONNEL COSTS INCLUDING TEMPORARY STAFF	**(753)**	**(733)**
Personnel costs (including temporary staff) as % of sales	20%	20%
CICE (tax credit for competitiveness and employment – shown deducted from personnel costs)	-	7

12.2 Employee-related liabilities

The Eramet Group offers its employees many long-term benefits, such as retirement packages, pension plans, healthcare plans and long-service awards. The characteristics of these benefits vary in line with the governing laws and regulations in each country and the agreements in force in each company.

Accounting method

Employee-related liabilities are either defined benefit plans or defined contribution plans. Defined benefit plans specify the amount that an employee will receive at the time of retirement whereas defined contribution plans specify how the contributions are calculated.

Defined contribution plans

For these plans, the Eramet Group makes payments to a fund manager and is released from its obligations for the current period and prior periods. As a result, these plans do not show any deficit or surplus and are not included in the balance sheet. The contributions are expensed when paid.

Defined benefit plans and other long-term benefits

A defined benefit plan is a post-employment benefit plan that is distinct from the defined contribution plan. The cost of the retirement benefits and other benefits accrued to employees is established actuarially for each plan using the projected unit credit cost method. They are assessed annually by independent actuaries. The obligations of the Eramet Group are recognised as balance sheet liabilities and correspond to the difference between the present value of the obligations in respect of defined benefits and the fair value of plan assets at the reporting date. Plan assets consist of assets held in pension funds or insurance policies.

The costs of services rendered are recognised in Current operating income in the period in which they are incurred. The costs of past services resulting from amendments and curtailments to the plan, as well as the gains and losses upon plan settlement are recognised in Other operating income and expenses. The interest expense for net obligations is included in Other financial income and expenses.

The actuarial gains (losses) (including the impact of foreign exchange) on plan assets and the obligation in respect of defined benefits are recognised directly in Other comprehensive income for the period in which they arise. They are recognised immediately in income in the case of long-term benefits.

Estimates, assumptions and judgements

The cost of employee benefits and the value of the obligations are calculated using assumptions such as discount rates, salary increases, retirement age, life expectancy, inflation and cost of healthcare. These assumptions are determined annually by the Eramet Group's Management.
The discount rates used are mostly calculated for each zone or country based on the average rates of private issuers observed in those zones or countries at each reporting date.

The rates vary from country to country:

- in the Eurozone and in the United States, the discount rates were determined on the basis corporate bonds;
- in Norway, the discount rate is determined based on secured bonds such as mortgage-backed bonds;
- in New Caledonia, given that the corporate and government bond markets are illiquid, the rate used is determined with reference to the French sovereign bond rate adjusted for discounting and local inflation;
- in Gabon and Senegal, the discount rates used are based on the local governments bonds rates.

12.2.1 Main actuarial assumptions and related sensitivity

The actuarial assumptions used vary according to the economic and demographic conditions existing in the country in which the plan is in force. The main actuarial assumptions used for measuring these liabilities are as follows:

	31/12/2019 rate		31/12/2018 rate	
	Rate		Rate	
	Discount	Inflation	Discount	Inflation
Eurozone	1.10%	1.80%	1.75%	1.80%
United States	3.00%	2.00%	4.30%	2.00%
Norway	2.40%	1.75%	2.85%	1.75%
New Caledonia	2.10%	1.50%	2.80%	1.50%
Gabon	7.00%	2.50%	7.00%	2.50%
Senegal	8.00%	2.00%	8.00%	1.50%

12.2.2 Sensitivity

An increase or decrease of 0.5 percentage point in the discount rate or inflation rate, with other actuarial assumptions remaining constant, will have the following impact on period-end commitments:

	31/12/2019				31/12/2018			
	Discount rate				Inflation rate			
(€ million)	Increase +0.5%		Decrease -0.5%		Increase +0.5%		Decrease -0.5%	
	in M€	in %	in M€	in %	in M€	in %	in M€	in %
France	(19)	-9%	22	10%	(17)	-9%	19	10%
United States	(2)	-5%	2	5%	(2)	-6%	2	6%
Norway	(0)	-5%	1	6%	-	0%	-	0%
New Caledonia	(2)	-4%	2	4%	(2)	-5%	2	5%
Gabon	(1)	-3%	1	3%	(1)	-3%	1	3%
Senegal	(0)	0%	0	0%	-	0%	-	0%
Other countries	(1)	-8%	1	9%	(1)	-13%	1	13%
TOTAL	**(25)**	**-7%**	**28**	**8%**	**(23)**	**-7%**	**25**	**8%**

12.2.3 Description of the main defined benefit plans and associated risks

The Eramet Group's main defined benefit plans are offered in France, United States, Gabon and New Caledonia. The main plan assets are therefore located in these countries. The main characteristics of the plans described below relate to these four countries.

The Article 39 supplementary plan was closed under the PACTE Act. Entitlements at 31 December 2019 generated a provision reversal of €7 million.

Retirement packages are generally paid as a lump sum or annuities determined on the basis of the employee's length of service, final salary or average final remuneration.

Pre-retirement and supplementary healthcare benefits and life insurance are also provided under the pension plan, along with long-service awards in the form of a lump sum that varies according to the number of years' service completed.

In the United States, most defined benefit plans are no longer accessible to new employees. They participate in defined contribution plans.

In New Caledonia, the obligations also include the payment of a loyalty bonus awarded after 10 years of service and then every five years, calculated as a percentage of the basic salary, as well as the granting of plane tickets whose number, value and frequency depends on the employee's professional category.

12.2.4 Risks associated with the plans

The Eramet Group is exposed to the standard risks inherent to defined benefit plans, such as higher-than-expected salary increases, increased inflation rates or lower-than-expected returns, as well as actuarial risks, especially investment risk, interest rate risk and longevity risk. The plans are also exposed to the risk of internal negotiation to reach a more favourable agreement, and the risk of increase in taxes or annuities for supplementary pension plans.

12.2.5 Governance policy

Under the laws governing defined benefit plans, it is the Eramet Group's duty to manage the plan assets and design investment policies that define, for each prefinanced plan, the investment objectives, the asset allocation target, risk mitigation strategies, and other components required by law for pension plans.

12.2.6 Investment policies and risk management initiatives

The investment policies are designed to obtain long-term return on investment which, combined with contributions, will enable the plans to have sufficient assets to be able to pay the promised benefits while keeping risk at an acceptable level.

The asset allocation target is determined on the basis of the expected market conditions and climate, the maturity profile of plan liabilities, the level of cover of the respective plans, and the risk tolerance of the plans' beneficiaries.

In France, the plans are funded by insurers through group life insurance contracts. The investments are made by the insurers in their respective Euro funds. These funds, of which over 80% is invested in buy and hold rate products, have suffered from a deterioration in bond returns for some years now and are still exposed to default risk on returns in a protracted low interest rate period.

In the United States, the financial management of funds is entrusted to various asset managers who are among the key players in the business. Index-based management is used for the most part and active management for the remainder. Globally, 84% of the asset allocation is in US corporate bonds denominated in USD, with the objective of matching the liability duration. The remaining 16% is invested in funds in American equities, world equities and emerging market equities and bonds. The risks inherent to these financial assets are therefore curve risk, duration risk, credit risk and inflation risk for bonds, and market risk and capital risk for equities. On 12 December 2018, Eramet Marietta Inc. completed a buyout of 594 fully paid up shareholders. The buyback price for this group was $62.9 million.

12.2.7 Overall cost of employee-related liabilities

The cost of employee-related liabilities is recognised in the Income Statement and in the Statement of comprehensive income below:

	Pension plans		End of career benefits		Other benefits		Total employee related liabilities	
	2019	2018	2019	2018	2019	2018	2019	2018
Service cost	2	2	7	7	3	3	12	12
Past service cost[1]	(7)	1	-	(1)	-	-	(7)	-
Net interest expense	1	1	3	3	1	1	5	5
Other adjustments					2	3	2	3
Cost recognised in income	**(4)**	**4**	**10**	**9**	**6**	**7**	**12**	**21**
Impact of revaluation on commitments	23	(4)	8	(8)	2	1	33	(11)
• experience	9	4	-	(2)	1	1	10	4
• demographic assumptions	-	-	-	(1)	-	-	-	-
• financial assumptions	14	(8)	8	(6)	1	(1)	23	(15)
Impact of revaluation on pension plan assets	(5)	5	-	(1)			(5)	4
Cost recognised in other comprehensive income	**18**	**1**	**8**	**(9)**	**2**	**1**	**28**	**(7)**
TOTAL COST RECOGNISED IN COMPREHENSIVE INCOME	**14**	**5**	**18**	**-**	**8**	**8**	**40**	**14**

(1) Pension plan changes and curtailments.

12.2.8 Change in obligations and plan assets

The table below illustrates the change in obligation by plan type, distribution by beneficiary and based on whether or not pre-financing is used, as well as the change in the fair value of the plan assets and its differentiation by category (listed and unlisted assets).

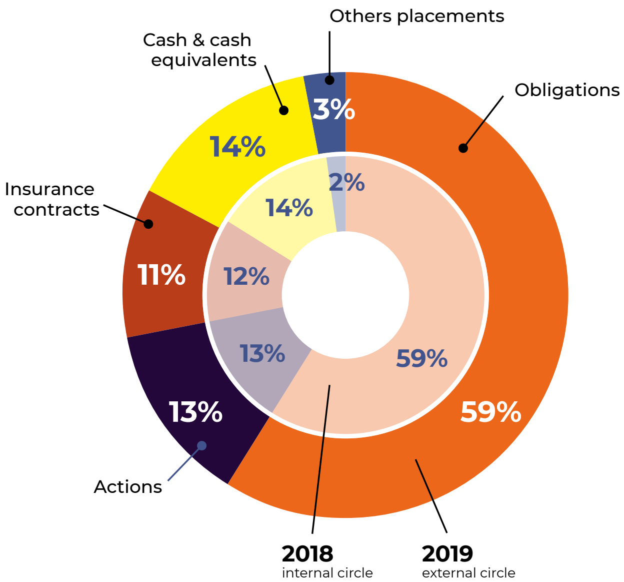
	Pension plans		End of career benefits		Other benefits		Total employee-related liabilities	
(€ million)	**2019**	**2018**	**2019**	**2018**	**2019**	**2018**	**2019**	**2018**
CHANGE IN OBLIGATION								
Obligation at beginning of period	**166**	**225**	**105**	**113**	**46**	**43**	**317**	**381**
Cost recognised in income	(2)	8	10	9	4	7	12	24
Impact of revaluation	23	(4)	8	(8)	4	1	35	(11)
Contributions and benefits paid	(6)	(67)	(7)	(9)	(4)	(4)	(17)	(80)
Change to consolidation scope	-	0	-	0	-		-	1
Translation differences and other movements	2	2	1	-	-	(1)	2	1
Obligation at period close (I)	**183**	**166**	**117**	**105**	**50**	**46**	**349**	**317**
Obligation attributable to								
• *Working beneficiaries*	*68*	*58*	*117*	*105*	*43*	*40*	*228*	*203*
• *beneficiaries entitled to deferred benefits*	*13*	*10*		-		-	*13*	*10*
• *Pensioners*	*102*	*98*		-	*7*	*6*	*108*	*105*
	183	*166*	*117*	*105*	*50*	*46*	*349*	*317*
Commitments								
• *prefinanced*	*142 78%*	*133 80%*	*52 44%*	*46 44%*	-	- -	*194 56%*	*179 57%*
• *not financed*	*41 22%*	*33 20%*	*65 56%*	*59 56%*	*50 100%*	*46 100%*	*155 44%*	*137 43%*
	183	*166*	*117*	*105*	*50*	*46*	*349*	*317*
CHANGE IN PLAN ASSETS								
Fair value of plan assets at beginning of period	**106**	**153**	**24**	**24**		**-**	**130**	**177**
Interest income recognised in income	3	4	1	-		-	4	4
Impact of revaluation	5	(5)		-		-	5	(5)
Contributions paid	-	16		-	1	1	1	17
Benefits paid	(4)	(62)		-	(1)	(1)	(5)	(63)
Change to consolidation scope		-		-		-	-	-
Translation differences and other movements	-	-		-		-	(1)	-
Fair value of plan assets at period close (II)	**110**	**106**	**25**	**24**	**-**	**-**	**134**	**130**
Plan assets								
• *Listed on an active market*	*107 97%*	*102 96%*	*25 100%*	*24 100%*	-	- -	*132 99%*	*126 97%*
• *Unlisted*	*3 3%*	*4 4%*	-	- -	-	- -	*2 1%*	*4 3%*
	110	*106*	*25*	*24*	-	-	*134*	*130*
NET LIABILITIES IN THE BALANCE SHEET (I) - (II)	**73**	**60**	**92**	**81**	**50**	**46**	**215**	**187**

The table below shows the breakdown between the main countries, the obligations in connection with employee-related liabilities, plan assets, net liability and financial cover ratio.

	31 December 2019				31 December 2018			
	Value current bonds (a)	Fair value of assets plan (b)	Net liabilities on the balance sheet (a) + (b)	Rate of hedging financial - (b) / (a)	Value current bonds (a)	Fair value of assets plan (b)	Net liabilities on the balance sheet (a) + (b)	Rate of hedging financial - (b) / (a)
France	217	(85)	132	39.2%	195	(85)	110	43.6%
United States	37	(27)	10	73.0%	32	(23)	9	71.9%
Norway	9	(3)	6	33.3%	8	(3)	5	37.5%
New Caledonia	47	(12)	35	25.5%	42	(12)	30	27.9%
Gabon	30	-	30	-	32	-	32	-
Senegal	-	-	-	-	0	-	0	-
Other countries	9	(7)	2	77.8%	8	(7)	-	87.5%
TOTAL	**349**	**(134)**	**215**	**38.4%**	**317**	**(130)**	**187**	**40.9%**

The chart below illustrates how the funds are invested.

Distribution as a percentage of fund investments by asset class



12.2.9 Projected cash outflows

The global average term was 11.6 years at 31 December 2019 (31 December 2018: 11.8 years).

In 2020, contributions for employee-related liabilities are estimated at €11 million. Future benefits, whether paid by levies on investments or directly by the Eramet Group, are estimated at €16 million.

12.2.10 Bonus share plan and share-based payments

Accounting method

The Eramet Group has established various share award plans that are all equity-settled plans: "democratic" plans open to all employees that are not subject to performance criteria and "selective" plans open to certain employees and corporate officers subject to performance requirements.

The fair value of the services received in consideration for the granting of these options is definitively measured with reference to the fair value of the options on the grant date and the number of options that will have vested by the end of the vesting period.

The total fair value thereby determined is apportioned on a straight-line basis over the full vesting period for the plans, with the number of vested exercisable options assumed at the beginning of the vesting period being reviewed at every reporting date.

This fair value is recognised in Current operating income as administrative and selling expenses, offset by an increase in shareholders' equity.

ESTIMATES, ASSUMPTIONS AND JUDGEMENTS

Judgement must be exercised to determine the fair value of share award plans at the award date.

The fair value of "democratic" plans is estimated using the Black-Scholes-Merton model.

"Selective" plans are subject to two performance conditions: one intrinsic condition based on the Eramet Group's financial performance and one external condition based on the Eramet stock performance. The fair value of these plans is measured using the Monte Carlo model.

The assumptions used to measure the plans are based on:

- expected volatility determined on the basis of an observation of the stock's historical performance;
- a risk-free zero coupon rate over the term of the plan;
- a future distribution rate based on the average for the last five years.

The bonus share awards to employees with tax residence in France fully vest after a two-year vesting period for democratic plans, and after three years for selective plans, on the understanding that the beneficiaries must retain the shares awarded to them for an additional two years.

The bonus share awards to employees with tax residence outside France fully vest and are freely transferable after a four-year period.

Share-based payments relate only to bonus share plans for the benefit of employees and settled in the form of shares. They represented an expense of €9 million for the 2019 reporting period (FY 2018: €8.4 million).

Two new bonus share plans were granted on 20 February 2019:

- one plan for all employees on 20 February 2019 for an initial total of 24,332 shares;
- one plan open to certain employees and corporate officers on 20 February 2019, of which:
  - part of the shares are subject to two performance conditions – an internal condition with two indicators (EBITDA and ROCE) for two thirds and an external condition for one third – for an initial total of 109,085 shares, and
  - part of the shares are not subject to performance conditions, for an initial total of 15,968 shares.

The criteria for share awards and the assessment of the accounting expense are the same as those described above.

The characteristics of the new bonus share award plans for 2019 are as follows:

		Number of shares	Exercise price *(€)*	Maturity (years)(1)	Risk-free rate	Average dividend rate	Fair value of the option (€)(2)
Plan open to all employees	France/ Italy	9,922	free	2 + 2	-0.44%	2.00%	57.13
	Worldwide	14,410	free	4 + 0	-0.22%	2.00%	57.14
Plan open to certain employees and corporate officers	France/ Italy	93,638	free	3 + 2	-0.34%	2.00%	58.29 / 44.28
	Worldwide	31,415	free	4 + 0	-0.22%	2.00%	57.14 / 43.96

(1) Maturity = vesting period + lock-in period.

(2) Bonus share award plans whose share awards are subject to two performance conditions have two fair values: the first being the intrinsic condition and the second being the external condition.

The change in the number of bonus share awards in the 2018 and 2019 reporting periods was as follows:

number of bonus shares	31/12/2019	31/12/2018
At beginning of period	**505,362**	**458,520**
New plans 2019/2018	149,385	164,878
Definitive allocations	(128,228)	(92,388)
Prescribed shares	(17,974)	(4,279)
Lapsed shares	(39,001)	(21,369)
AT PERIOD CLOSE	**469,544**	**505,362**
DISTRIBUTION BY YEAR OF ALLOCATION		
2019	-	144,573
2020	153,842	157,239
2021	138,247	153,866
2022	133,664	49,684
2023	43,791	-

Note 13 Provisions

A provision is a debt recorded in the balance sheet. It is an estimated value owing to uncertainty as to the time of payment and the amount to be paid. The main provisions set aside by the Eramet Group relate to site restoration and environmental and social risks (especially restructuring).

Accounting method

The Eramet Group sets aside a provision, where its amount can be reliably estimated, to cover all liabilities arising from past events that are known at the reporting date and the settlement of which is likely to result in an outflow of resources to settle the liability.

Provisions for site restoration and decommissioning, provisions for environmental risks

The provisions for mining site restoration are recognised when mining sites are opened and as and when they show degradation and are then remeasured and accreted at each reporting date. Where there is a legal or contractual obligation to restore mining or industrial sites, a restoration provision is made, offset by an environmental and decommissioned asset. The provision is based on site-by-site estimates of the cost of this work. The asset is amortised over the life of the operation of the mine or the industrial site. Restoration costs are discounted over the period remaining until the expected end of operation of the mine or site, and the effects attributable to the passage of time (accretion expenses) are recognised in Net income for the period under Other financial income and expenses (see Note 7). Provisions are made for all other environmental contingencies on the basis of estimated future costs without, however, making any allowance for insurance indemnities receivable. For industrial sites where there are no plans to discontinue operations, no provision is made for site restoration.

Depending on the governing laws in each country, an environmental bond issued by a banking or financial institution to the benefit of local authorities may need to be set up for the rehabilitation of mining and industrial sites.

Restructuring and redundancy plans

Provisions are made for restructuring and redundancy costs where such measures have been planned in detail and announced before the reporting date or whose implementation has begun.

Estimates, assumptions and judgements

Provisions for site restoration and decommissioning

The Group's industrial sites comply with the environmental regulations in force in each country where they are located. The Eramet Group must meet regulatory and constructive obligations with regard to the restoration of certain mining sites at the end of operation. Provisions for site restoration and decommissioning of industrial sites are estimated on the basis of forecast cash flows by maturity and discounted using an inflation rate and a discount rate determined in accordance with local economic conditions.

These provisions are recognised in relation to the immediate deterioration of an asset to be restored or decommissioned and changes in assumptions will therefore correct this value with a prospective effect.
The Eramet Group measures its provision for site restoration and decommissioning at each reporting date or as new information becomes available. The final costs of site restoration and decommissioning are therefore uncertain by their very nature. These uncertainties may lead to actual expenditure in the future whose amount may differ from the current provision amount. Therefore, major adjustments may be made to the provisions set aside, which may impact future income.

The provisions made are based on good practice in the sector and are calculated as follows:

- **For mining,** calculation of a cost per hectare for site restoration (replanting, landscaping, soil management, etc.) based on the cleared areas. The costs are based on estimated internal costs or the cost of providers, depending on the nature and complexity of the areas to be restored.
- **For the decommissioning of facilities,** cost estimation based on external estimates or experience from decommissioning/remediation work performed on other Group sites.
- These costs are inflated and accreted based on the estimated useful lives. The estimated rates, including the discount rate, are fixed according to the same terms as those used for the assessment of employee-related liabilities (see Note 12).

The provision for site restoration represents the best estimate of the discounted value of future costs to be incurred.

(€ million)	Financial Year 2019		Financial Year 2018	
At beginning of period		**605**		**525**
Allocations (reversals) for the period		-		81
• allocations for the period	97		121	
• used (reversals) for the period	(87)		(37)	
• unused (reversals) for the period	(10)		(3)	
Accretion expenses		9		7
Decommissioned assets		-		-
Translation adjustments and other movements		48		(9)
AT PERIOD CLOSE		**662**		**605**
• Long-term portion		23		579
• Short-term portion		639		27
Environmental contingencies and site restoration		542		472
Employees		9		11
Other liabilities and charges		111		122

13.1 Site restoration, decommissioning and environmental risks

(€ million)	31/12/2019	31/12/2018
Site restoration[1]	474	413
Environmental contingencies	68	59
TOTAL	**542**	**472**
(1) Of which provisions offsetting a decommissioned asset	*417*	*360*
• Long-term portion	541	472
• Short-term portion	1	0

13.1.1 Site restoration and decommissioning

(€ million)	Financial Year 2019		Financial Year 2018	
At beginning of period		**413**		**390**
Allocations (reversals) for the period		2		15
• allocations for the period	6		17	
• used (reversals) for the period	(4)		(2)	
• unused (reversals) for the period	-		-	
Accretion expenses		9		7
Decommissioned assets		48		(1)
Translation adjustments and other movements		2		1
AT PERIOD CLOSE		**474**		**413**
Société Le Nickel-SLN (New Caledonia) – Nickel BU		388		338
Comilog (Gabon) – Manganese BU		39		36
Eramet Marietta (United States) – Manganese BU		31		25
Comilog France – Manganese BU		13		14
GCMC Marietta (United States) – Manganese BU		-		0
Other companies		3		(0)

13.1.2 Regulatory framework of provisions for site restoration and decommissioning

New Caledonia

For mining, the 2009 mining code establishes the general framework. The provisions are allocated to each of the mine sites in their prefectural operating licence.

For industrial operations governed by ICPE, the regulatory framework is based on Article 3 of the decision of the Southern Province of 25 September 2008, whose implementation involves the application of certain metropolitan circulars relating to site safety.

The provisions for wash facilities (industrial facilities on mine sites) are for their part included in the ICPE prefectural orders for each of the sites concerned.

Gabon

The existing provisions used as a reference for Gabon have not been set out in detail (no implementing circular). However, rehabilitation projects are based on the decree establishing the conditions for application of Law No. 005/2000 of 12 October 2000 (mining code), as amended and supplemented by Order 2002 on the Mining Code in the Gabonese Republic.

The provision under Article 78 was also accounted for, in line with Article 21.5 of the Comilog Mining Convention.

United States

Provision is made for two key components:

- restoration of wastewater basins, a regulatory requirement contained in the local permit ("Permit to Install");
- work performed as part of the "Voluntary Action Plan" negotiated with the US Environmental Protection Agency (EPA) in 2010 in connection with the "Ohio waste laws" as part of the cessation of activities at the North site (asbestos removal and decommissioning of the corresponding facilities).

3

The discount and inflation rates used to determine the site restoration and decommissioning provisions are detailed below:

	31/12/2019		31/12/2018	
	Discount rate	Inflation rate	Discount rate	Inflation rate
United States	3.00%	2.00%	4.30%	2.00%
New Caledonia	2.10%	1.50%	2.80%	1.50%
Gabon	7.00%	2.50%	7.00%	2.50%

An increase or decrease of 0.25% in the discount rate would result in an increase or decrease of around €23 million in provisions at 31 December 2019 (31 December 2018: €24 million), mainly affecting Société Le Nickel-SLN in New Caledonia.

Estimated expenditure is allocated as follows in percentage terms:

(€ million)	31/12/2019	31/12/2018
2020-2024 / 2019-2023	12%	9%
2025-2029 / 2024-2028	3%	9%
2030 and beyond / 2029 and beyond	85%	82%

13.2 Personnel

(€ million)	31/12/2019	31/12/2018
High Performance Alloys Division	4	4
Manganese BU	0	0
Nickel BU	0	0
Mineral Sands BU	-	-
Lithium BU	-	
Holding and others	-	-
Restructuring and redundancy plans	**4**	**4**
Other labour liabilities and charges	5	7
TOTAL	**9**	**11**

13.3 Other liabilities and charges

(€ million)		Financial Year 2019		Financial Year 2018
At beginning of period		**122**		**73**
Allocations (reversals) for the period		(9)		72
• allocations for the period	71		92	
• used (reversals) for the period	(70)		(17)	
• unused (reversals) for the period	(10)		(3)	
Translation adjustments and other movements		(3)		(23)
AT PERIOD CLOSE		**111**		**122**
Provision for free return – Concession		12		7
Provisions for tax contingencies		0		0
Commercial disputes		62		77
Other provisions for liabilities and charges		36		38

The Commercial disputes line includes the provision for quality risk at Aubert & Duval (see Note 2).

Other provisions for liabilities and charges includes the provision for closing ADTAF.

Note 14 Related-party transactions

Accounting method

Transactions with related parties comprise the following:
- ordinary transactions with non-consolidated companies and associates;
- gross compensation and benefits to Directors and members of the Executive Committee.

14.1 Ordinary transactions with non-consolidated companies and associates

14.1.1 Income Statement

(€ million)	Financial Year 2019	Financial Year 2018
SALES		
• Non-consolidated controlled subsidiaries	13	14
• Associates and joint ventures	4	5
COST OF SALES, ADMINISTRATIVE AND SELLING EXPENSES		
• Non-consolidated controlled subsidiaries	(4)	(5)
• Associates and joint ventures	(34)	(33)
NET DEBT COST		
• Non-consolidated controlled subsidiaries	-	(0)
• Associates and joint ventures	-	1

Cost of sales and administrative and selling expenses mainly correspond to Aubert & Duval's purchases from UKAD (equity method company).

14.1.2 Balance sheet

(€ million)	Financial Year 2019	Financial Year 2018
TRADE AND OTHER RECEIVABLES		
Non-consolidated controlled subsidiaries	6	7
Associates and joint ventures	37	31
TRADE AND OTHER PAYABLES		
Non-consolidated controlled subsidiaries	5	5
Associates and joint ventures	4	4
NET FINANCIAL ASSETS (LIABILITIES)		
Non-consolidated controlled subsidiaries	13	13
Associates and joint ventures	200	170

14.2 Gross compensation and benefits to Directors and members of the Executive Committee

(€ thousands)	Financial Year 2019	Financial Year 2018
SHORT-TERM BENEFITS		
Fixed compensation	3,031	2,957
Variable compensation	2,308	1,390
Directors' fees	813	940
OTHER BENEFITS		
Post-employment benefits	1,349	2,252
Retirement package	1,250	-
Compensation paid in shares	2,190	1,646

Note 15 Off-balance sheet commitments, other commitments, contingent liabilities and other disclosures

The Eramet Group reached agreements with third parties to cover the good performance of its obligations. These obligations are dependent upon subsequent events that may result in the Eramet Group's making or receiving a payment. They are not recognised in the balance sheet if they are not likely to increase the obligations already reported in the balance sheet.

15.1 Off-balance sheet commitments

(€ million)	31/12/2019		31/12/2018	
Commitments made		**77**		**106**
• Operating activities	72		93	
• Financing activities	5		13	
Commitments received		**3**		**7**
• operating activities	3		7	
Credit facilities		-		-

These commitments mostly relate to:

- operating activities: client and environmental bank guarantees, other endorsements and bank guarantees (customs, leases), letters of credit;
- financing activities: guarantees, pledges, collateral and mortgages for external financing of equity method and non-consolidated companies.

Repurchase transaction on bonds held by MSEC to CIC

MSEC entered into a repurchase agreement with CIC bank for bonds held by MSEC. The transaction is for the repo of €78 million of bonds in exchange for €72 million in funding.

The transaction was signed in October 2019 for a term of six months (April 2020).

Existing call options on EcoTitanium (equity consolidated) by UKAD (equity consolidated)

A shareholder agreement between UKAD, ADEME and CACF Développement (joint shareholders in the EcoTitanium entity) grants ADEME and CACF Développement puts on their entire share in the profit of UKAD. These puts are based on EcoTitanium and UKAD volumes and EBITDA or on the occurrence of specific events.

In this context, Aubert & Duval signed a joint and several guarantee agreement in the event that these puts are not financed.

These puts have no impact on the consolidated financial statements as at 31 December 2019.

Functional guarantees for the performance of business contracts

Functional guarantees are any commitments relating to business contracts, given by Eramet and its subsidiaries to clients.

These commitments mainly consist of advance payment bonds and product guarantees post-delivery of goods.

To finance the performance of the contract, the Eramet Group collects advance payments from the client. To guarantee their refund in case of a breach of its contractual obligations, the Eramet Group may, at the client's request, establish an advance payment bond. These bank guarantees amounted to €22 million at 31 December 2019 (31 December 2018: €29 million).

Product warranties fall under the Eramet Group's limit of liability defined contractually for each business contract. The Eramet Group does not recognise provisions for guarantees given that there have been no warranty claims from its clients.

The Eramet Group considers its financial risk relative to all the above guarantees to be low, based on historical data and on the existence of civil liability policies that would limit the financial consequences on the Group's consolidated financial statements.

SLN: retention of mining rights

A new measure in New Caledonia requires mining operators to formally commit to conducting a geophysical survey of the mining reserves, before 1 May 2019.

To retain rights to the mining concessions, work and research permit applications must be submitted before the end of 2021 and the research to prove all available resources must be completed before May 2023.

Other commitments received

Société Le Nickel-SLN has available financing of €30 million from the French government out of a total of €200 million maturing on 30 June 2024.

The amount drawn down at the end of 2019 was €170 million (from €150 million at 31 December 2018).

15.2 Other commitments

Trans-Gabonese railway concession – Setrag

Under the terms of the 2005 agreement, signed for an initial period of 30 years, Setrag, the concession holder, is required to meet operating capacity targets (volume of goods and number of passengers). The concession holder is free to set prices. Its main shareholder, Comilog, is committed to ensuring that the necessary funding is made available to cover the capital expenditure required to achieve the operating capacity targets.

On 16 October 2015, Setrag and the Gabonese Republic signed a first amendment to the concession agreement for the management and operation of the Trans-Gabonese railway. The aim of the amendment is to sustainably restore the technical capacity of the railway and the economic viability of the concession holder.

This amendment thus provides for a remedial investment plan estimated at €316 million over eight years, of which €93 million will be provided by the Gabonese state and €223 million by Setrag. The first phase of the financing required to implement this plan was put in place in 2016. The second phase is currently being negotiated for implementation in the second half of 2020.

At 31 December 2019, cumulative investments in the concessionaire part of the remedial investment plan amounted to €147 million. One tranche of the IFC/Proparco loan was drawn down in 2019, amounting to a total of €20 million (cumulative amount of €82 million) out of a total of €85 million.

15.3 Contingent liabilities

Contingent liabilities arise from:

- past events which, by nature, can be solved only if one or more unpredictable future events occur or do not occur;
- a current obligation resulting from past events but not recognised because:
  - it is not likely that an outflow of resources embodying economic benefits will be required to settle the obligation, or
  - the amount of the obligation cannot be measured with sufficient reliability.

To measure their potential impact, the Eramet Group exercises judgement to a great extent and may rely on estimated outcomes of future events.

Contingent liabilities are not recognised in the financial statements unless they result from a business combination. Any material contingent liabilities are described in the notes to the financial statements.

Review of the quality process within the High Performance Alloys Division

As indicated in Note 2 "Significant events", a provision of €58 million was maintain to take into account the estimated cost to date of completing the in-depth residual review of the quality processes (€65 m at December 2018).

During the finalisation of this review and depending on potential requests from certain customers, additional costs may be incurred, the amount of which cannot be estimated at this stage.

15.4 Other information

Operational risks of the High Performance Alloys Division

The High Performance Alloys Division produces special steels and super alloys, particularly for the aeronautics industry, which are used in the construction of aircraft, helicopters and other equipment produced by its customers in the sector. As such, the Group may be indirectly or directly liable in the event of an incident, loss or accident, death of passengers or operating losses incurred on equipment containing parts manufactured by this Division.

As part of its risk management policy, the Division takes action to control these risks. The effectiveness of such action is reflected in the obtainment and renewal of accreditations or certifications related to this type of industry and the processing and validation, as necessary, of the validation process by customers of the manufactured parts. The Group has also taken out insurance policies to cover residual risks.

ICPE (facilities classified for environmental protection) regulation applicable to the Doniambo power plant

By order of the President of the Assembly of South Province, New Caledonia on 12 November 2009, new, more stringent technical directives regarding airborne emissions were declared applicable at the latest by 1 September 2013 in relation to a power plant at Doniambo. By decree of 27 December 2016, the President of the Assembly of New Caledonia's Southern Province postponed the date of application of these new requirements to 30 June 2019, and applied restrictions on the type of fuel used, as well as operational constraints and an intensification of air quality monitoring systems.

15.5 Information on current procedures

To the best of the Company's knowledge, there are no governmental, legal or arbitration proceedings either pending or threatened that could have, or have had in the past twelve months, a material impact on the Company's financial position or profitability.

Note 16 Fees paid to the Statutory Auditors

	Ernst & Young		KPMG		Other		Total	
(€ thousands)	2019	2018	2019	2018	2019	2018	2019	2018
STATUTORY AUDIT, CERTIFICATION, EXAMINATION OF INDIVIDUAL AND CONSOLIDATED FINANCIAL STATEMENTS								
Eramet S.A.	194	212	219	225	-	-	413	437
Fully consolidated companies	965	919	628	693	315	407	1,908	2,019
Sub-total	**1,159**	**1,131**	**847**	**918**	**315**	**407**	**2,321**	**2,456**
	75%	*76%*	*90%*	*90%*	*37%*	*46%*	*69%*	*72%*
OTHER WORK AND SERVICES DIRECTLY RELATING TO THE STATUTORY AUDIT								
Eramet S.A.	143	74	62	42	-	-	205	116
Fully consolidated companies	208	144	-	15	20	14	228	173
Sub-total	**351**	**218**	**62**	**57**	**20**	**14**	**433**	**289**
	23%	*15%*	*7%*	*6%*	*2%*	*2%*	*13%*	*9%*
OTHER SERVICES PROVIDED BY THE STATUTORY AUDITOR FIRMS TO THE FULLY CONSOLIDATED COMPANIES								
Legal, tax and employee-related	37	138	-	44	261	224	298	406
Other	-	-	37	3	265	244	302	248
Sub-total	**37**	**138**	**37**	**47**	**526**	**468**	**600**	**653**
	2%	*9%*	*4%*	*5%*	*61%*	*53%*	*18%*	*19%*
TOTAL	**1,547**	**1,487**	**946**	**1,022**	**861**	**889**	**3,354**	**3,398**

Note 17 Events after the reporting date

To the best of the Company's knowledge, there are no other events occurring after the reporting date.

Note 18 Consolidation principles and scope

18.1 Consolidation principles

The consolidated financial statements of Eramet Group comprise the financial statements of Eramet and those of its fully-consolidated and equity-method subsidiaries.

The subsidiaries are fully consolidated if Eramet holds exclusive direct or indirect control. Eramet has exclusive control over a subsidiary when it is exposed to variable returns from its involvement with that subsidiary and has the ability to affect those returns through its power over the subsidiary. Eramet reassesses its control over a subsidiary if facts and circumstances indicate a change in any of the elements of control.

The subsidiaries are accounted for using the equity method if Eramet exercises joint control or has significant influence (Note 9). The equity method of accounting consists of replacing the carrying amount of the holding in a joint venture or an associate by the acquisition cost of these shares adjusted for Eramet's share in the equity at the reporting date.

18.2 Translation of foreign currency-denominated transactions and financial statements

Foreign currency transactions are translated at the applicable exchange rate at the time of the transaction. Foreign currency debts and receivables are measured at the closing rate. Translation adjustments resulting from this conversion are recognised in income for the period, except those involving loans and borrowings between the Eramet Group companies, considered an integral part of the net investment in a foreign subsidiary. These are recognised directly in shareholders' equity under Translation adjustments, linked to the foreign subsidiary.

The financial statements of foreign entities with functional currencies other than the euro were translated using the official exchange rates at 31 December 2019 for balance sheet items, except for shareholders' equity, for which historical rates were applied. Items from the Income statement and Statement of cash flows are translated at the average rate over the period. Translation adjustments stemming from currency fluctuations used to translate shareholders' equity and profit (loss) for the period are allocated to reserves. Translation adjustments are carried as a change to shareholders' equity and broken down between Group and non-controlling interests. Where a foreign subsidiary ceases to be consolidated, the cumulative amount of translation differences is recognised in profit or loss for the period.

The main currencies used preparing the consolidated financial statements for the 2018 and 2019 reporting periods are as follows (conversion into euro):

	Financial Year 2019		Financial Year 2018	
Currency/conversion rate for €1	closing	average	closing	average
US dollar	1.1234	1.11987	1.145	1.18197
Norwegian krone	9.8638	9.84907	9.9483	9.60225
Yuan Renminbi	7.8205	7.73305	7.8751	7.80502
CFA franc (pegged)	655.957	655.957	655.957	655.957
CFP franc (pegged)	119.33174	119.33174	119.33174	119.33174

18.3 Scope of consolidation

(number of companies)	31/12/2019	31/12/2018
Fully consolidated companies	46	47
Equity method companies	4	4
NUMBER OF CONSOLIDATED COMPANIES	**50**	**51**

Financial Year 2019

There were no changes to the scope of consolidation at 31 December 2019 compared to 31 December 2018, with the exception of:

- the merger of DNN Industrier with TiZir Titanium & Iron;
- the sale of Eramet Comilog Shanghai Trading to Eramet International, leaving the scope of consolidation;
- the creation of Eramet Mineral Sands SAS, a subsidiary of Eramet S.A., fully consolidated.

Financial Year 2018

The success of the Eramet's takeover bid on Mineral Deposit Limited shares lead to the full takeover of TiZir on 1 July 2018, TiZir being accounted under the equity method until 30 June 2018 (see Note 2). Accordingly, the Group deconsolidated its TiZir investment, resulting in a loss of deconsolidation amounting €10 million, net of currency translation adjustments recycled through profit and loss.

As part of Mineral Deposit Limited acquisition, balance sheets of acquired entities have been accounted after a preliminary fair value estimation review. Through this process, the Group revaluated fixed assets and inventories of operational companies Grande Côte Operations and TiZir Titanium & Iron, the bond issued by the holding TiZir. The acquired balance sheet at fair value is as follow:

(€ million)	**31/12/2018**
Non-current assets	649
WCR	54
TOTAL	**703**

(€ million)	**31/12/2018**
Shareholders' equity	271
Net financial debt	424
Provisions and other balance sheet items	8
TOTAL	**703**

A preliminary goodwill, which will be finalized at the end of the 12 months period after the acquisition date, has been calculated and accounted in the Group financial statement for €83 million[1], with a total acquisition price of €356 million, of which €219 million have been paid to Mineral Deposit Limited.

Furthermore, the following changes have been made to the consolidation scope at 31 December 2018 compared to 31 December 2017:

- disposal of Guilin concerning Comilog Asia Ferro Alloys Ltd and its subsidiary Guilin, and liquidation of Eramet Comilog Shanghai Consultancy Services Co Ltd as part of the reorganization of the Group's activities in China;
- sale of the Group's interest in Strand Minerals Pte Ltd (Weda Bay project) generating a change of control over Strand Minerals Pte Ltd and Pt Weda Bay Nickel. Fully consolidated as from 31 December 2017 up to 31 May 2018, Strand Minerals Pte Ltd owned 90% of Pt Weda Bay Nickel before its disposal. The shareholdings are now 43% in Strand Minerals Pte Ltd and 38.70% in Pt Weda Bay Nickel, consolidated using the equity method in the financial statements at 31 December 2018 since the completion of the transaction;
- increase in the percentage shareholding in EcoTitanium via UKAD from 21.75% to 22.40%;
- increase in the percentage shareholding in Interforge from 94% to 95.7%;
- liquidation of Erasteel Trading Inc.;
- merger of Eramet Ingénierie into Eramet Research, renamed Eramet Ideas;
- acquisition of Mineral Deposit Limited and its subsidiaries following the successful takeover bid, and full consolidation of the TiZir companies following the resulting takeover transaction.

All companies within the scope of consolidation share the same reporting date of 31 December.

1) The operation was finalized in 30th June 2019 (see note 10.3.1.)

18.4 List of companies within the scope of consolidation as at 31 December 2019

Company	Country	Head office	Consolidation method	Percentage (%) control	Percentage (%) interest
Eramet	**France**	**Paris**	**Consolidating entity**	**-**	**-**
NICKEL					
Société Le Nickel-SLN	New Caledonia	Noumea	Fully consolidated	56	56
Weda Bay Minerals Inc.	Canada	Halifax	Fully consolidated	100	100
Strand Minerals Pte Ltd	Singapore	Singapore	Equity method	43	43
Pt Weda Nickel Ltd	Indonesia	Jakarta	Equity method	38.7	38.7
Eramet Holding Nickel	France	Paris	Fully consolidated	100	100
Eramet Sandouville	France	Sandouville	Fully consolidated	100	100
Eramet Nickel SAS	France	Paris	Fully consolidated	100	100
MANGANESE					
Eramet Holding Manganèse	France	Paris	Fully consolidated	100	100
Eramet Comilog Manganèse	France	Paris	Fully consolidated	100	81.86
Eramet Marietta Inc.	United States	Marietta	Fully consolidated	100	100
Eramet Norway A/S	Norway	Porsgrunn	Fully consolidated	100	100
Comilog S.A.	Gabon	Moanda	Fully consolidated	63.71	63.71
Setrag S.A.	Gabon	Libreville	Fully consolidated	100	63.71
Comilog Holding	France	Paris	Fully consolidated	100	63.71
Comilog International	France	Paris	Fully consolidated	100	63.71
Port Minéralier d'Owendo S.A.	Gabon	Libreville	Fully consolidated	97.24	61.95
Comilog France	France	Paris	Fully consolidated	100	63.71
Comilog Dunkerque	France	Paris	Fully consolidated	100	63.71
Comilog Asia Ltd	Hong Kong	Hong Kong	Fully consolidated	100	92.74
Comilog Far East Development Ltd	Hong Kong	Hong Kong	Fully consolidated	100	92.74
Eramet Comilog Shanghai Trading Co. Ltd	China	Shanghai	Fully consolidated	100	92.74
MINERAL SANDS					
Eramet Mineral Sands	France	Paris	Fully consolidated	100	100
Eralloys Holding A/S	Norway	Baerum	Fully consolidated	100	100
Mineral Deposit Ltd	Australia	Melbourne	Fully consolidated	100	100
Mineral Deposit Ltd Mining	Australia	Melbourne	Fully consolidated	100	100

Company	Country	Head office	Consolidation method	Percentage (%) control	Percentage (%) interest
TiZir Ltd	United Kingdom	London	Fully consolidated	100	100
TiZir Titanium & Iron A/S	Norway	Tyssedal	Fully consolidated	100	100
TiZir Mauritius Ltd	Mauritius	Mauritius	Fully consolidated	100	100
Grande Côte Operations S.A.	Senegal	Dakar	Fully consolidated	90	90
LITHIUM					
Eramine	France	Paris	Fully consolidated	100	100
Bolera Minera S.A.	Argentina	Buenos Aires	Fully consolidated	82.43	82.43
Eramine Sudamerica S.A.	Argentina	Buenos Aires	Fully consolidated	100	100
ALLOYS					
Erasteel SAS	France	Paris	Fully consolidated	100	100
Erasteel Champagnole	France	Champagnole	Fully consolidated	100	100
Valdi	France	Paris	Fully consolidated	100	100
Erasteel Kloster AB	Sweden	Söderfors	Fully consolidated	100	100
Erasteel Stubs Ltd	United Kingdom	Warrington	Fully consolidated	100	100
Erasteel Inc.	United States	New Jersey	Fully consolidated	100	100
Erasteel Innovative Materials Co Ltd	China	Tianjin	Fully consolidated	100	100
Eramet Holding Alliages	France	Paris	Fully consolidated	100	100
Aubert & Duval	France	Paris	Fully consolidated	100	100
Interforge	France	Clermont-Ferrand	Fully consolidated	95.7	95.7
Brown Europe	France	Laval-de-Cère	Fully consolidated	100	100
EcoTitanium	France	Paris	Equity method	22.40	22.40
UKAD	France	Paris	Equity method	50	50
HOLDING AND OTHERS					
Eras S.A.	Luxembourg	Luxembourg	Fully consolidated	100	100
Metal Securities	France	Paris	Fully consolidated	100	100
Metal Currencies	France	Paris	Fully consolidated	100	100
Eramet Services	France	Paris	Fully consolidated	100	100
Eramet Ideas (ex-Eramet Research)	France	Trappes	Fully consolidated	100	100

Glossary

EBITDA

Earnings before financial income and expenses and other operating income and expenses, income tax, provisions for liabilities and charges, and depreciation of property, plant and equipment and amortisation of intangible assets.

Current operating income

Includes EBITDA, depreciation of property, plant and equipment, amortisation of intangible assets and provisions for liabilities and charges. Current operating income excludes material transactions that are considered unusual in nature, in particular events related to restructuring and impairment losses, shown in operating income and expenses.

Net income, Group share

Net income for the period after tax, attributable to Eramet shareholders, after accounting for the non-controlling interest in each of the Eramet Group companies

OCI (Other Comprehensive Income)

Transactions for which the change in value of an asset or liability is recognised directly in equity without passing through the income statement. This is the case, for example, for unrealised gains or losses on hedging instruments, actuarial gains and losses relating to employee benefits, and certain translation differences.

Industrial investments

Includes the acquisition of property, plant and equipment and intangible assets.

Group reporting

Financial information prepared for the Executive Committee, the chief operating decision-maker (CODM), in which the operating performance of joint ventures, the subgroup TiZir Ltd and the company UKAD are accounted for using the proportionate consolidation method. This information is reconciled with published data and is used to measure the performance of the Eramet Group and its Divisions (segment information – see Note 3). It is also used for the Eramet Group's financial reporting.

Net financial debt

Represents the gross financial debt (long and short-term borrowings) less cash and cash equivalents and current financial assets. These items include the valuation of debt-hedging derivatives.

Gearing

Ratio of net financial debt to total equity (Group non-controlling interest).

Financial liquidity

Includes cash and cash equivalents, current financial assets and the available amount in the credit facilities made available to Eramet Group companies.

Statutory Auditors' report on the consolidated financial statements

Financial year ended 31 December 2019

To the Shareholders' Meeting of Eramet S.A.,

Opinion

In order to execute the assignment entrusted to us by your Shareholders' Meeting, we performed an audit of the consolidated financial statements of Eramet S.A. for the year ended 31 December 2019, as attached to this report.

We hereby certify that the consolidated financial statements are, with regard to the IFRS framework adopted in the European Union, in order and provide a true and fair view of the results of operations for the past financial year as well as the financial situation and assets at the end of the financial year of the group made up of the persons and entities within the scope of consolidation.

The above opinion is consistent with the content of our report to the audit, risks and ethics committee.

Basis for opinion

Audit reference framework

We conducted our audit in accordance with the professional standards applicable in France. We believe that the information we collected constitutes a sufficient and appropriate basis for our opinion.

Our duties under these standards are set out in the section entitled "Duties of the statutory auditors relating to the audit of the consolidated financial statements" in this report.

Independence

We performed our audit assignment in compliance with the rules of independence that apply to us, over the period from 1 January 2019 to the date of issue of our report. In particular, we did not provide services prohibited by article 5, paragraph 1 of Regulation (EU) No 537/2014 or by the French code of ethics for statutory auditors.

Observations

Notwithstanding the opinion expressed above, we call your attention to the following notes to the consolidated financial statements:

- 2.1. "Lithium project in Argentina", indicates that the project, expenditure for which as recognised in fixed assets at 31 December 2019 was €103 million, has been suspended and expenditure slowed pending the upcoming milestones related mainly to foreign exchange control and project financing, and that failure to satisfactorily achieve these milestones in the near future could put the project at risk;
- 2.2. "Evolution of the review of the quality process in the High Performance Alloys Division", which describes the ongoing action to bring the quality processes at Aubert et Duval into compliance, and the €58 million provision recognised for this purpose at 31 December 2019, and 15.3 "Contingent Liabilities", which indicates that when this report is finalised, and on the basis of possible demands by certain customers, additional costs may be incurred, the amount of which cannot be evaluated at this stage;
- 2.3. "Ongoing rescue plan and new economic model of Société Le Nickel-SLN (SLN)", which describes the ongoing rescue plan and new economic model of Le Nickel-SLN and the framework in which the company is assessed as a going concern;
- 2.5. "Application of the new IFRS 16 standard and IFRIC 23 standard, effective 1 January 2019", which describes the effects on the consolidated financial statements of first-time interpretation of IFRS 16 – Leases.

Justification of assessments - Key points of the audit

Pursuant to the provisions of articles L. 823-9 and R. 823-7 of the French Commercial Code (Code de commerce) relating to support for our assessments, we would like to call your attention to the key points of the audit relating to the risks of material misstatement that, in our professional judgement, were the most significant for the audit of the consolidated financial statements for the year, and the responses that we provide in view of these risks.

These assessments were made in the context of the audit of the consolidated financial statements taken as a whole and the issuance of our opinion expressed above. We do not express an opinion on the elements of these consolidated financial statements taken in isolation.

Impairment testing of goodwill, intangible assets and property, plant & equipment

Risks identified

At 31 December 2019, fixed assets amounted to €2,923 million.

As indicated in Note 10.4 of the notes to the consolidated financial statements, the Group regularly performs impairment tests, systematically at least once a year when it issues its annual report on goodwill and intangible assets with indefinite useful lives, or where there are indications of impairment. For intangible assets and items of property, plant and equipment with finite lives, impairment tests are carried out where there are indications of impairment.

Cash-generating units (CGU) are homogeneous groups of assets whose continuous use generates independent cash flows. Impairment tests are performed for each CGU. All intangible assets, including goodwill, and all items of property, plant and equipment are allocated to CGUs.

Eramet Group's General Management determines the existence of events calling for impairment testing based on several criteria. An impairment test is carried out on the CGUs concerned when these indicators show a negative trend.

Impairment testing consists in comparing the carrying amount of assets with their recoverable amount, which is defined as the higher of the value in use (or recoverable amount through use) and the fair value (or recoverable amount through sale), less selling costs.

To determine the value in use, the Eramet Group mainly uses the method of discounted future cash flows generated from the use of the assets or other methods if circumstances allow another approach to market value. The data used to calculate the discounted forecast cash flows is taken from the annual budgets and multi-year plans prepared by the management of the CGUs concerned.

Impairment losses are calculated as the difference between the recoverable value and the net book value, when the net book value exceeds the recoverable value.

Impairment testing is a key point of the audit due to the material importance of the value of the non-current assets in the Group's financial statements and because the calculation of their recoverable value, most often based on projected discounted future cash flows, requires the use of assumptions, estimates or assessments.

Audit procedures implemented in view of the identified risks

We examined the process of identifying the impairment indicators and the procedures for implementing the impairment tests, including on the cash generating units (CGUs) of the Mining and Metals Division: the Lithium CGU, the SLN CGU, the Sandouville CGU, the Gabon and Manganese Alloys CGU, the Mineral Sands CGU and the Aubert & Duval and Erasteel CGUs of the High Performance Alloys Division.

In the context of our audit of the consolidated financial statements, our work on this subject mainly consisted of:

- Assessing the completeness of the elements making up the book value of the CGUs relating to the tested activities and how consistent the calculation of this value was with the way in which cash flow projections were determined for value in use;
- Studying the consistency of:
  - past and future cash flows with the latest management estimates as presented to the board of directors as part of the budget process;
  - the information taken into account in these models with regard to our knowledge of the sector and the activity within the scope of our assignment, in particular the examination of the strategic plan and interviews with management control;
  - the price parameters used by the Group, with industry consensuses for nickel, the internal company analyses and the external sources used by the company for manganese;
- Assessing the appropriateness of the discount rates applied to the estimated cash flows by specifically ascertaining that the different parameters making up the weighted average cost of capital of each CGU make it possible to approximate the rate of remuneration expected by market participants for similar activities;
- Studying the sensitivity analyses of the value in use conducted by management, taking into account a reasonably possible variation in the main assumptions used;
- Verifying the arithmetic accuracy of the calculations.

Lastly, we checked that the notes to the consolidated financial statements provided appropriate information on this subject.

Provisions for site decommissioning and restoration

Risks identified

As mentioned in Note 13 to the consolidated financial statements, the Group recognises provisions for site decommissioning and restoration to cover its environmental obligations, mainly in New Caledonia. At 31 December 2019, these provisions stood at €474 million for the entire Group.

These provisions are estimated on the basis of forecasted cash flows by maturity and discounted using an inflation rate and a discount rate determined in accordance with local economic conditions.

These provisions are recognised in relation to the immediate degradation of an asset to be restored or decommissioned. The various other assumptions will correct this value with prospective effect.

These provisions are evaluated at each reporting date or as new information becomes available. The final costs of site restoration and decommissioning are therefore uncertain by their very nature. These uncertainties may lead to actual expenditure in the future whose amount may differ from the current estimates used as the basis for the provision evaluation.

We considered this subject to be a key point of our audit, given the significance of the amounts in question, the sometimes distant time horizons for the estimates, the sensitivity of the assumptions and the level of management judgement required to determine these provisions.

Audit procedures implemented in view of the risks

In the context of our audit of the consolidated financial statements, our work on this subject mainly consists of:

- interviewing the persons responsible for environmental matters at Le Nickel-SLN (New Caledonia) and the Group about the framework of their obligations and communication with the authorities;
- examining the procedures implemented by the Group in order to identify and list all of its obligations;
- assessing the accounting framework and permanence of the methods applied;
- obtaining an understanding of the Group's analysis of the corresponding documentation, including consultations with external advisors;
- analysing the various parameters and assumptions used by management to estimate the amount of these provisions, including:
  - the inventory of goods and workshops to be decommissioned and areas to be restored;
  - the restoration cost, including in view of external estimates and feedback obtained;
  - the residual useful life of facilities and exploitation of deposits in line with the technical analyses and the mining plan.
  - the inflation and discounting assumptions used.

Lastly, we examined the information provided in the notes to the consolidated financial statements in this regard.

Specific verification

As required by French laws and regulations, we have also verified in accordance with professional standards applicable in France the information pertaining to the Group presented in the management report of the Board of Directors.

We have no matters to report as to its fair presentation and its consistency with the consolidated financial statements.

We attest that the consolidated declaration of extra-financial performance, required under article L 225-102-1 of the French Commercial Code is included in the management report, being specified that, in accordance with the provisions of article L. 823-10 of this Code, we have not verified the fair presentation and the consistency with the consolidated financial statements of the information provided in this declaration and this information must be reported by an independent third party.

Information resulting from other statutory and regulatory obligations

Appointment of the statutory auditors

We were appointed as statutory auditors of Eramet S.A. by the combined shareholders' meeting of 29 May 2015 (KPMG Audit and Ernst & Young Audit).

At 31 December 2019, KPMG Audit and Ernst & Young Audit were in the fifth consecutive year of their assignment.

Previously, Ernst & Young et Autres had been statutory auditors from 2009 to 2014 and Ernst & Young Audit had been statutory auditors from 1991 to 2008.

Duties of management and persons comprising corporate governance in relation to the consolidated financial statements

Management is responsible for drafting the consolidated financial statements to present a true and fair view in accordance with the IFRS as adopted in the European Union and establishing the internal control that it considers necessary for compiling the consolidated financial statements without material misstatement, whether due to fraud or error.

When drawing up the consolidated financial statements, management is responsible for assessing the company as a going concern, presenting in these financial statements, where appropriate, the necessary going concern information and applying the going concern accounting policy, unless the company is to be liquidated or will cease operating.

The Audit, Risks and Ethics Committee is responsible for monitoring the process of preparing financial information and the effectiveness of the internal control and risk management systems, as well as internal audit where applicable, with regard to the procedures relating to the preparation and processing of accounting and financial information.

The consolidated financial statements have been approved by your Board of Directors.

Duties of the statutory auditors relating to the audit of the consolidated financial statements

Audit objective and approach

We are required to produce a report on the consolidated financial statements. Our objective is to obtain reasonable assurance that the consolidated financial statements, taken as a whole, do not contain any material misstatements. Reasonable assurance corresponds to a high level of assurance but does not guarantee that an audit carried out in accordance with professional standards can systematically detect any material misstatement. Misstatements may be caused by fraud or error and are regarded as material when it can reasonably be expected that they may, taken individually or in combination, influence the economic decisions that the users of the financial statements make on the basis thereof.

As specified in article L. 823-10-1 of the French Commercial Code, our assignment of certifying the financial statements does not consist in ensuring the viability or the quality of the management of your company.

In the context of an audit carried out in accordance with the professional standards applicable in France, the statutory auditor exercises its professional judgement throughout this audit. Furthermore:

- it identifies and assesses the risks that the consolidated financial statements contain material misstatements, whether due to fraud or error, defines and implements audit procedures in view of these risks, and collects information that it considers sufficient and appropriate on which to base its opinion. The risk of non-detection of a material misstatement due to fraud is greater than that of a material misstatement due to error, since fraud may involve collusion, falsification, deliberate omissions, false statements or bypassing internal control;
- it becomes aware of the internal control relevant to the audit in order to define audit procedures appropriate under the circumstances, and not for the purpose of expressing an opinion regarding the effectiveness of internal control;
- it assesses the appropriateness of the accounting methods used and the reasonableness of the accounting estimates of management, as well as the information concerning them provided in the consolidated financial statements;
- it assesses the appropriateness of management's application of the going concern accounting policy and, depending on the information collected, whether there is significant uncertainty linked to events or circumstances likely to jeopardise the company's ability to continue operating. This assessment is based on the information collected up to the date of its report, although it should be noted that subsequent circumstances or events could jeopardise business continuity. If it concludes that significant uncertainty exists, it draws the attention of the readers of its report to the information provided in the consolidated financial statements concerning this uncertainty or, if this information is not provided or is not relevant, it issues a certification with reservations or a refusal to certify;
- it assesses the presentation of all of the consolidated financial statements and evaluates whether the consolidated financial statements provide a true and fair view of the underlying operations and events;

concerning the financial information of the persons or entities included in the scope of consolidation, it collects information which it considers sufficient and appropriate to express an opinion on the consolidated financial statements. It is responsible for managing, overseeing and conducting the audit of the consolidated financial statements and the opinion expressed on these financial statements.

Report to the Audit, Risks and Ethics Committee

We submit a report to the Audit, Risks and Ethics Committee which specifically presents the scope of the audit and the work programme implemented, as well as the conclusions resulting from our work. We also bring to its attention, where applicable, any material weaknesses in internal control that we have identified in the procedures relating to the preparation and processing of accounting and financial information.

The information communicated in the report to the Audit, Risks and Ethics Committee includes the risks of material misstatement which we consider to have been most significant for the audit of the consolidated financial statements for the year and which therefore constitute the key points of the audit, which we are required to describe in this report.

We also provide the Audit, Risks and Ethics Committee with the declaration provided for in article 6 of Regulation (EU) No 537-2014 confirming our independence, within the meaning of the rules applicable in France as they are set forth, in particular, by articles L.822-10 to L.822-14 of the French Commercial Code and in the French code of ethics of the statutory auditors. If applicable, we discuss with the Audit, Risks and Ethics Committee the risks to our independence and the protective measures applied.

Paris-La Défense, 13 March 2020

The Statutory Auditors

KPMG Audit Department of KPMG SA		Ernst & Young Audit
Denis Marangé	Pierre-Antoine Duffaud	Nicolas Macé
Partner	Partner	Partner

3.2 INDIVIDUAL FINANCIAL STATEMENTS AS OF 31 DECEMBER 2019

Income statement

(€ thousand)	Notes	FY 2019	FY 2018
Sales of goods and merchandise		658,081	668,692
Income from ancillary activities		73,873	46,772
Sales	**5.1**	**731,954**	**715,464**
Change in inventories of finished products and work in progress		0	(801)
Capitalised production		2,147	0
Operating subsidies		478	362
Reversals of provisions and amortisation, transfer of charges		8,574	27,002
Other income		8	118
Other income		**11,207**	**26,681**
Total operating income		**743,162**	**742,145**
Purchase of goods		447,384	524,730
Changes in inventories (goods)		97,213	70,195
Purchase of raw materials and other supplies		87,494	45,550
Changes in inventories (raw materials and supplies)		(80)	(36)
External purchases and expenses		98,068	78,368
Taxes, duties, and other levies		487	2,924
Wages and salaries		24,950	23,090
Social security contributions		10,882	11,665
Depreciation and amortisation		7,306	6,724
Provisions for current assets		0	424
Provisions for liabilities and charges		10,591	9,706
Other expenses		2,809	2,284
Total operating expenses		**787,105**	**775,624**
Operating result		**(43,943)**	**(33,479)**
Financial income	**5.2**	**59,460**	**147,829**
Current income before taxes		**15,517**	**114,350**
Extraordinary income	**5.3**	**(13,162)**	**(63,896)**
Employee shareholding and profit-sharing		0	0
Income tax		2,343	3,917
NET INCOME		**4,697**	**54,371**

Balance sheet – Assets

(€ thousand)	Notes	Gross values	Depreciation, amortisation and provisions	31/12/2019 Net values	31/12/2018 Net values
Patents, licenses, rights and similar assets		18,962	18,422	541	246
Goodwill		64		64	64
Non-current assets under construction		18,531	18,531	0	202
Intangible assets		**37,557**	**36,953**	**604**	**512**
Technical installations, industrial machinery and equipment		337	277	60	136
Other		7,975	1,487	6,488	4,969
Non-current assets under construction		18,351		18,351	2,008
Property, plant and equipment		**26,663**	**1,764**	**24,899**	**7,113**
Equity investments		2,630,228	1,239,600	1,390,629	1,441,737
Receivables from equity investments	4.2	1,239,251	169,123	1,070,128	1,028,634
Other long-term investments		16,257	12,883	3,374	3,748
Other	4.2	15,398		15,398	19,795
Non-current financial assets		**3,901,135**	**1,421,605**	**2,479,530**	**2,493,914**
Non-current assets	**4.1**	**3,965,355**	**1,460,322**	**2,505,034**	**2,501,539**
Goods		27,736		27,736	18,723
Inventories and work in progress	**4.7**	**27,736**		**27,736**	**18,723**
Advances and down payments on orders		**225**		**225**	**216**
Trade receivables		87,812		87,812	72,888
Other receivables		105,291	58,613	46,678	43,733
Operating receivables	**4.2 & 4.7**	**193,103**	**58,613**	**134,490**	**116,621**
Cash and cash equivalents	**4.3**	**78,933**		**78,933**	**69,999**
Prepaid expenses		1,882		1,882	2,989
Loan issue costs to be deferred		12,225		12,225	10,394
Bond redemption premiums		1,556		1,556	0
Adjustment accounts	**4.4**	**15,662**		**15,662**	**13,383**
Current assets		**315,660**	**58,613**	**257,047**	**218,942**
TOTAL ASSETS		**4,281,015**	**1,518,935**	**2,762,080**	**2,720,481**

Balance sheet – Liabilities

(€ thousand)	Notes	31/12/2019	31/12/2018
Capital		81,240	81,239
Issue, merger and contribution premiums		377,352	377,347
Legal reserve		8,124	8,096
Other reserves		253,839	253,839
Retained earnings		287,894	249,487
Result for the financial year		4,697	54,371
Net position	**4.5**	**1,013,146**	**1,024,379**
Regulated provisions	4.8	7,608	7,608
Shareholders' equity		**1,020,754**	**1,031,987**
Proceeds from equity issues		95,701	95,707
Other equity	**4.9**	**95,701**	**95,707**
Provisions for liabilities		23,836	59,100
Provisions for charges		2,078	1,781
Provisions for liabilities and charges	**4.8**	**25,914**	**60,881**
Bond issues		1,157,682	1,084,500
Borrowings and debt with credit institutions		165,896	194,052
Intercompany current account liabilities		142,261	137,765
Financial debts	**4.10**	**1,465,839**	**1,416,317**
Trade payables and related accounts		106,520	69,965
Tax and payroll payables		22,446	18,035
Operating debts	**4.10 & 4.11**	**128,966**	**88,000**
Liabilities on non-current assets and related accounts		639	282
Other liabilities		23,891	26,797
Miscellaneous liabilities	**4.10 & 4.11**	**24,530**	**27,079**
Adjustment accounts	**4.11**	**376**	**510**
Liabilities		**1,619,711**	**1,531,906**
TOTAL LIABILITIES		**2,762,081**	**2,720,481**

Net debt table

(€ thousand)	FY 2019	FY 2018
OPERATING ACTIVITIES		
Net income	4,697	54,371
Elimination of income and expenses with no impact on cash flow or not related to operating activities	122,544	205,270
Cash flow from operations	**127,241**	**259,641**
Change in operating working capital requirement	(9,104)	11,797
Net cash generated by operating activities	**118,137**	**271,438**
INVESTMENT ACTIVITIES		
Net payments for non-current financial assets	(65)	(623,698)
Payments for intangible assets and PP&E	(19,800)	(7,480)
Disposal of non-current assets	2,600	0
Change in other receivables and payables	11,410	6,254
Net cash used in investment activities	**(5,855)**	**(624,924)**
EQUITY TRANSACTIONS		
Dividends paid to Eramet S.A. shareholders	(15,936)	(61,118)
Share capital increases	5	103
Net cash used in financing activities	**(15,931)**	**(61,015)**
INCREASE (DECREASE) IN NET CASH	**96,351**	**(414,501)**
Net cash (borrowings) at beginning of period	**(329,541)**	**84,960**
Net cash (borrowings) at period end	**(243,356)**	**(329,541)**

Notes to the individual financial statements

Note 1 Description of activities

The Group is one of the world's leading producers of:

- alloy metals, especially manganese and nickel, which are used to improve the properties of steel;
- alloys and high-performance special steels used by industries such as aeronautics, power generation and tooling.

Eramet S.A., the parent company, has two main functions:

- a pure holding function called Eramet Holding, bringing together the various support services including the Administrative and Financial Department, the Human Resources Department, the Communication and Sustainable Development Department, the Legal Department, the Purchasing Department, the Information Systems Department and the Strategy, Development and Innovation Department;
- the operational activity of the Nickel Business Unit (excluding personnel costs).

The costs of these various services are billed to the Group's various subsidiaries through intermediary management fee contracts. Other operating costs relating to nickel are directly allocated to the Nickel BU.

Eramet also has directly held subsidiaries, acting on behalf of the various entities or for the parent company. These include:

- Eramet Nickel: a company which brings together the personnel of the support functions of the Mining and Metals Division (General Management, Sales Department and Industrial Department);
- Eramet Services: a company which includes accounting functions, payroll and IT support for the Group's French companies;
- Eramet Ideas: Eramet's Research Centre, which brings together Research and Development and project and technology engineering activities;
- Eramet International: a company that brings together Eramet's sales network for certain activities of the Group's two Divisions. Eramet International has subsidiaries and branches throughout the world. The activity of Eramet International is generally remunerated by agency commission contracts;
- Metal Securities: the Group's cash management company, which centralises cash surpluses and short-term requirements for the Group as a whole;
- Metal Currencies: the Group's foreign exchange management company, which carries out all foreign exchange hedging operations for the Group as a whole;
- ERAS: reinsurance company;
- Eramine: company in charge of developments in lithium.

Note 2 Key events in the reporting period

Lithium project in Argentina

Eramet continued to develop the Lithium project in Argentina in 2019 with a target annual production capacity of 24,000 tonnes of LCE (lithium carbonate equivalent). At 31 December 2019, total net securities and loans recognised in non-current financial assets stood at €87 million. The total investment is estimated at €525 million, spread over the period 2019-2022. Pending achievement of the next milestones, in particular those related to foreign exchange control and project financing, the project is suspended, and expenditure stalled. Failure to satisfactorily achieve these milestones in the near future could put a question mark over the project.

Evolution of the quality process within the High Performance Alloys Division

Steps to ensure the compliance of quality processes continued with all customers concerned, which weighed on deliveries and had a significant impact on both sales and performance. The corrective action plans introduced at the end of 2018 re-established a normal pace for billing as at September throughout all sites, except Les Ancizes. The die-forged parts business continued to absorb delivery delays and expects to normalise inventory levels in 2020. There are still significant delays on long rolled and forged products, especially at Les Ancizes. A specific action plan is up and running to increase capacity in the final stages of production control. Joint expert appraisals and root-and-branch work in close collaboration with customers were carried out throughout the year and continue apace. An additional €15 million provision was recognised in 2019 to take account of the current estimated treatment cost of the in-depth review of quality processes (especially expert fees), estimated at €80 million in total. The balance of the provision was €58 million at 31 December 2019 (€65 million at 31 December 2018). There were no legal developments at Aubert & Duval in connection with the compliance of its quality processes.

Continuation of the recovery plan and new economic model of Société Le Nickel-SLN (SLN)

After a tough first half in New Caledonia, hit by strikes in one of the main mining centres, the second half of the year saw the continued implementation of the SLN rescue plan, which has partially borne fruit. Nickel ore production increased 15% in 2019, lifted by the new organization of working hours as of mid-May in all our mines. Exports of low-grade ore exceeded the target to hit 1.6 Mt (+32%). We expect to consolidate the target at exports of close to 4 Mt of more at the end of 2020, boosted by new working hours at the mine and the overhaul of our approach to community relations. SLN generated cash in H2, especially in the fourth quarter. SLN generated cash in H2, especially in the fourth quarter. The third stage in the rescue plan kicked off in November with the signature of an agreement with Enercal, SLN's electricity provider, delivering one-third of price reduction target for energy. We are also discussing other avenues with local stakeholders to identify additional actions essential to the SLN rescue plan. The target intrinsic cash improvement of USD 1.30/lb by 2021 remains dependent on smooth operation with no disruptions.

Against this backdrop and in light of current nickel prices, the €525 million financing provided by Eramet and the French government (€414 million used at 31 December 2019) will allow SLN meet its commitments up to end-2020.

Financing

The revolving credit facility (RCF) was extended on 4 February 2019 for an amount of €981 million and for a five-year term, with a new maturity of January 2024. The amount available under this revolving credit facility was maintained at €981 million. No amount of this RCF has been drawn down to date.

On 25 June 2019, the Group signed the agreement renewing the "borrowing base facility" credit line in the amount of €65 million with a three-year maturity.

In November 2019, Eramet rescheduled its maturity schedule and redeemed a portion of its 2020 bond issue early (€227 million out of €460 million) through a new €300 million bond issue maturing in 2025.

December 2019 also saw the Group arrange a term loan (TL) to finance its general requirements. It matures in two years and Eramet has the option to extend it to January 2024. The amount of this loan is €350 million. No amount of the TL has been drawn down to date.

Dividend paid and dividend received

At the end of May 2019, Eramet paid a dividend of €15.9 million to its shareholders and in 2019 received dividends of €49.5 million and €150 million respectively from subsidiaries Comilog S.A. and Eramet Holding Manganese.

Note 3 Accounting principles, rules and methods

The financial statements of Eramet S.A. as at 31 December 2019 were approved by the Board of Directors on 19 February 2020.

Review of principles

The annual financial statements for the year ended 31 December 2019 have been prepared in accordance with French Accounting Standards Authority (ANC) Regulation No. 2015-06 of 23 November 2015 and Regulation No. 2016-7, amending Regulation No. 2014-03 of 5 June 2014 relating to the general chart of accounts. The Company also applies ANC Regulation No. 2015-05 relating to forward financial instruments and hedging transactions.

The general accounting conventions have been applied in accordance with the principle of prudence and in compliance with the basic assumptions of a going concern, consistency of accounting methods and independence of financial years and according to the rules for drawing up and presenting the annual financial statements.

The basic method used to value recorded items is the historical cost method.

Change of method

There was no other change in method compared with 31 December 2018.

Rules and methods applied to the various balance sheet and income statement items

3.1 Intangible assets and property, plant & equipment

The gross value of non-current assets is the value at which the items were recorded when first acquired by the Company and includes any expenses required to bring them into working order. Non-current assets not used or whose market value is lower than the carrying value are generally written down through extraordinary depreciation or provisions.

The economically justified depreciation is the straight-line depreciation. This depreciation is calculated over the expected life of the assets.

The useful lives of property, plant and equipment for depreciation purposes are, except in exceptional cases, as follows:

- Buildings: between 20 and 30 years;
- Technical installations: between 12 and 20 years;
- Equipment and tooling: between 3 and 10 years;
- Installations, fixtures and fittings: between 5 and 10 years;
- Transport equipment: between 5 and 8 years;
- Office equipment, computers and furniture: between 3 and 8 years.

The impact of the difference between straight-line depreciation and diminishing value depreciation is recognised through a special depreciation allowance.

3.2 Non-current financial assets

Since 1 January 2006, the gross value of non-current financial assets has been increased by the purchase price excluding incidental expenses. Loans are stated at their nominal value. At the end of the financial year, securities are estimated at their value in use, which takes into account both the net asset value and expected future profitability. When the value in use is less than the gross value, an impairment provision is created for the difference between the two values.

3.3 Ongoing development projects

Costs incurred on these projects are initially recognised either as assets or as expenses. If these development projects do not meet sufficient economic criteria or do not succeed, these costs are recognised as expenses, or written down or recognised as exceptional losses. The costs associated with acquiring an equity investment in a subsidiary are also included in the value of the securities.

3.4 Inventories

Inventories of nickel-bearing products are valued at cost price calculated on a "first-in, first-out" basis. When the value thus obtained is greater than the net realisable value (selling price less selling costs), a provision corresponding to this difference is made.

3.5 Receivables and payables

Currency receivables and payables are re-measured at the prevailing rate at period end.

The effects of currency hedging transactions applied to currency receivables and payables are recognised as foreign exchange gains or losses in the income statement. The contra entry is made in the "Difference in hedging valuation" accounts.

Provisions for impairment of trade receivables are valued on a customer-by-customer basis according to the estimated risk.

3.6 Marketable securities

These are valued at acquisition cost and are subject to impairment provisions if their net asset value (closing price) is lower. Unrealised gains are not recognised.

3.7 Provisions for liabilities and charges

Provisions are made when the risk is estimated to be probable and the amount can be reliably estimated, to cover all liabilities arising from past events that are known at the reporting date and the settlement of which is likely to result in an outflow of resources representing the economic benefits necessary to settle the liability.

Personnel salaries and allowances

Eramet offers its employees various long-term benefits such as retirement packages and other post-employment benefits, such as long-service awards.

Certain commitments are covered completely or partially by contracts with insurance companies.

In this case, commitments and hedging assets are valued independently. A provision is therefore made for the level of commitments and financial assets.

Eramet's commitments are valued by independent actuaries. The actuarial assumptions used (Eramet's probability of maintaining active staff, probability of mortality, retirement age, wage trends, etc.) vary according to the demographic and economic conditions prevailing in the country. The discount rates are based on the rate of government bonds or qualified companies of "Premium Quality" with a duration equivalent to the commitments at the valuation date.

The expected returns on assets over the long term have been determined taking into account the investment portfolio structure.

Bonus share plan for employees

The corresponding provision has been valued based on the value of the treasury shares and the share price at 31 December 2019.

The provision is spread over the vesting period (from two to four years depending on the plan) for Eramet S.A. employees. For other beneficiaries (excluding Eramet S.A.), the provision is created as of the allocation date of the plans.

3.8 Sales

Sales comprise:

- sales of ferronickel (sales and purchases of SLN products);
- nickel salts (purchase/sale of products from the Eramet Sandouville plant);
- provision of services and billing back of shared costs.

Revenue is recognised as sales when the business has transferred the risks and rewards of property ownership to the buyer.

3.9 Net debt table

The net debt table presents the changes in the following balance sheet items:

- Receivables from equity investments (gross value). *See Note 4.2;*
- Cash and cash equivalents. *See Note 4.3;*
- Other equity. *See Note 4.9;*
- Financial debts. *See Note 4.10.*

Note 4 Explanatory notes to the balance sheet

4.1 Non-current assets & depreciation and amortisation

Intangible assets

(€ thousand)	Acquisition values 31/12/2018	Acquisitions	Outflows[1]	Acquisition values 31/12/2019
Concessions, patents, licenses, trademarks, processes, rights and similar assets	18,229	924	(191)	18,962
Goodwill	64			64
Non-current assets under construction	18,692		(161)	18,531
TOTAL	**36,985**	**924**	**(352)**	**37,557**

(1) Disposals, retirements and adjustments.

(€ thousand)	Depreciation, amortisation and provisions at 31/12/2018	Allocations	Reversals	Outflows[1]	Depreciation, amortisation and provisions at 31/12/2019
Concessions, patents, licenses, trademarks, processes, rights and similar assets	17,919	629		(127)	18,422
Non-current assets under construction	18,555			(24)	18,531
TOTAL	**36,474**	**629**	**0**	**(151)**	**36,952**

(1) Disposals, retirements and adjustments.

Amortisation mainly relates to Hestia 3 cybersecurity software, internal mobility management software and the Eramet overhaul.

As a reminder, the non-current assets under construction related to the development of hydro-metallurgical technology were written off in 2015 for €18.5 million following the decision to suspend the hydro-metallurgical process.

Property, plant and equipment

(€ thousand)	Acquisition values 31/12/2018	Acquisitions	Outflows[1]	Acquisition values 31/12/2019
Technical installations, industrial machinery and equipment	192	145		337
Others	5,422	2,615	(62)	7,975
Non-current assets under construction	2,008	17,441	(1,097)	18,352
TOTAL	**7,623**	**20,200**	**(1,159)**	**26,663**

(1) Disposals, decommissioned and adjustments.

Acquisitions during the year mainly include investments to improve the Group's IT infrastructure and the purchase of new applications to be rolled out to all subsidiaries, totalling €6.9 million, and the costs of developing and configuring a new ERP, for €11.1 million.

(€ thousand)	Depreciation, amortisation and provisions at 31/12/2018	Allocations	Reversals	Outflows[1]	Depreciation, amortisation and provisions at 31/12/2019
Technical installations, industrial machinery and equipment	57	220			277
Other	453	1,035		(1)	1,487
TOTAL	**510**	**1,255**	**0**	**(1)**	**1,764**

(1) Disposals, retirements and adjustments.

Non-current financial assets

(€ thousand)	Acquisition values 31/12/2018	Acquisitions	Outflows[1]	Acquisition values 31/12/2019
Equity investments	2,630,163	65		2,630,228
Receivables from equity investments	1,112,485	389,907	(263,141)	1,239,251
Other long-term investments	12,979	10,260	(6,982)	16,257
Other	19,795	71	(4,468)	15,398
TOTAL	**3,775,422**	**400,303**	**(274,591)**	**3,901,135**

(1) Disposals, retirements and adjustments.

Changes in the “Equity investments” item relate to the creation of two subsidiaries: Eramet Mineral Sands and Eramet Cameroun.

The increases in “Receivables from equity investments” mainly reflect the €120 million increase in the Aubert & Duval loan, the €97 million increase in the Eramine loan, the €75 million increase in the SLN loan, the €38 million increase in the Eramet Sandouville loan, the €15 million increase in the Erasteel loan, the €16 million increase in the Weda Bay Mineral Inc. loan and the €13 million increase in the Strand loan.

The decreases in “Receivables from equity investments” mainly reflect the €259 million decrease in investments with Metal Securities relating to the loans granted to certain Group subsidiaries, and a €2.5 million partial repayment of the Comilog Far East Development loan.

The line “Other long-term investments” concerns treasury shares. Movements in this item are attributable to share repurchases, mainly due to the allocation to employees of French and foreign companies of selective bonus share plans for 2015 and 2016, and democratic bonus share plans for 2015 and 2017, amounting to €7 million, as well as the net balance of the liquidity agreement.

The shares from the buyback mandates (balance of 97,129 shares as of 31 December 2019) are to be distributed as part of the bonus share plans.

(€ thousand)	Depreciation, amortisation and provisions at 31/12/2018	Allocations	Reversals	Outflows[1]	Depreciation, amortisation and provisions at 31/12/2019
Equity investments	1,188,426	51,174			1,239,600
Receivables from equity investments	83,850	87,806	(2,533)		169,123
Other long-term investments	9,232	937		2,714	12,883
TOTAL	**1,281,508**	**139,917**	**(2,533)**	**2,714**	**1,421,605**

(1) Disposals, retirements and adjustments.

A provision for impairment of €51.2 million was created for shares of Erasteel.

Provisions for impairment of receivables from equity investments were made on the Eramet Sandouville loan for €48 million, on the Weda Bay Mineral Inc. loan for €16 million, on the Erasteel loan for €14 million and on the Eramine loan for €9.8 million. An impairment provision of €2.5 million on the CFED loan was reversed due to the partial repayment received during the year.

4.2 Schedule of receivables

(€ thousand)	Gross amount 31/12/2019	1 year or less	Over 1 year	Reminder 31/12/2018
Receivables from equity investments[1]	1,239,251	253,439	985,812	1,112,484
Other non-current financial assets[2]	15,398	15,398		19,795
Trade receivables and related accounts	87,812	87,245	567	72,888
Other receivables[3]	105,291	105,291		90,102
TOTAL	**1,447,753**	**461,374**	**986,379**	**1,295,269**

(1) Receivables from equity investments: loans to Group companies.

(2) Of which excess €6 million contribution to the supplementary defined benefit pension plan.

(3) Other receivables include, among other things, a €10.3 million net corporate tax receivable as part of the tax consolidation and fully provisioned costs of €59 million related to the Lithium project (see Note 4.7).

Breakdown of receivables from equity investments

(€ thousand)	31/12/2019			31/12/2018		
	Gross amount	Impairment	Net amount	Gross amount	Impairment	Net amount
Strand Minerals Ltd/Weda Bay Minerals Singapore	176,172		176,172	163,563		163,563
Aubert & Duval	120,000		120,000	0		0
Erasteel SAS	134,000	(14,000)	120,000	119,000		119,000
CFED	35,299	(35,299)	0	37,832	(37,832)	0
Eramine SAS	104,403	(17,488)	86,915	7,710	(7,710)	0
Metal Securities	77,687		77,687	336,942		336,942
TiZir	124,478		124,478	113,449		113,449
SLN	246,460		246,460	171,625		171,625
Sandouville	148,360	(86,360)	62,000	110,179	(38,308)	71,871
Eralloys Holding	55,935		55,935	52,184		52,184
Mineral Deposit Ltd	222		222	0		0
Eramet Cameroun	260		260	0		0
Weda Bay Minerals Inc.	15,975	(15,975)	0	0		0
TOTAL	**1,239,251**	**(169,123)**	**1,070,128**	**1,112,484**	**(83,850)**	**1,028,633**

4.3 Cash and cash equivalents

Cash and cash equivalents consist of marketable securities for €6.6 million and bank accounts for €72.3 million.

4.4 Prepaid expenses and accrued income

(€ thousand)	31/12/2019	31/12/2018
Prepaid expenses[1]	1,882	2,989
Loan issue costs to be deferred[2]	12,225	10,394
Bond redemption premiums[3]	1,556	0
TOTAL	**15,662**	**13,383**

(1) Prepaid insurance premiums amounted to €0.8 million (€2.1 million at 31 December 2018), rents and charges for the first quarter of 2020 to €0.1 million, software maintenance to €0.5 million, and interest on the mobilisation of the CIR and CICE tax credits with banks to €0.3 million.

(2) Loan issue costs (revolving credit facility, bonds, Borrowing Base*, BEI) spread over the term of repayment of the loan.*

(3) Premium related to the issue of a new bond loan of €300 million in November 2019.

4.5 Net position

The share capital is broken down as follows:

	31/12/2019				31/12/2018			
	capital		voting rights		capital		voting rights	
	%	number of shares	%	number of shares	%	number of shares	%	number of shares
REGISTERED SHARES								
Sorame and Compagnie d'Études Industrielles du Rouvray (CEIR)	36.94	9,840,143	43.93	19,675,977	36.94	9,840,143	43.89	19,675,977
FSI Equation (subsidiary of Bpifrance)	25.57	6,810,317	30.41	13,620,634	25.57	6,810,317	30.38	13,620,634
S.T.C.P.I.	4.02	1,070,587	4.78	2,141,174	4.02	1,070,587	4.78	2,141,174
Eramet S.A.	0.66	176,562	-	-	0.36	95,164	-	-
Eramet S.A. share fund	0.53	141,297	0.43	193,670	0.51	136,306	0.40	178,671
Other	32.28	8,597,094	20.45	9,161,129	32.60	8,683,367	20.55	9,210,988
TOTAL NUMBER OF SHARES	**100.00**	**26,636,000**	**100.00**	**44,792,584**	**100.00**	**26,635,884**	**100.00**	**44,827,444**
• of which registered shares	70.23	18,706,172.00	82.47	36,942,189	69.55	18,525,883	82.05	36,780,500
• of which bearer shares	29.77	7,929,828.00	17.53	7,850,395	30.45	8,110,001	17.95	8,046,944

Pursuant to a shareholders' agreement concluded on 16 March 2012, which entered into force on 16 May 2012, was amended most recently on 25 April 2019 and renewed on 31 December of each year for another year, which was the subject of a decision and notice from the *Autorité des marchés financiers* (AMF) under No. 212C0647 at the time of its conclusion, and a decision and notice from the AMF under No. 216C1753 relating to the change within the Group acting in concert during the acquisition by the *Agence des participations de l'État* (APE) of the entire share capital of FSI Equation, the Company is majority controlled by a group of shareholders having declared to be acting in concert, including:

- a subgroup between Sorame and CEIR, companies controlled by the Duval Family, under a concurrent shareholders' agreement dated 19 July 1999, which came into force on 21 July 1999 and was amended on 31 July 2009;
- the *Agence des participations de l'État* (APE), through its subsidiary FSI Equation.

The provisions of the shareholders' agreement mentioned above, and those of the subgroup agreement, are contained in key extracts from the AMF decision and notice texts numbered 216C1753, 212C0486 and 209C1013 (amended on 13 July 2009).

Since 1 January 2002, registered shares that meet the necessary conditions benefit from double voting rights.

Eramet's distributable reserves amounted to €919 million as of 31 December 2019 (€881 million as of 31 December 2018).

The net position is broken down as follows:

(€ thousand)	Number of shares	Capital	Premiums, reserves and retained earnings	Result for the financial year	Total
Net position as of 31 December 2017	**26,633,660**	**81,233**	**967,526**	**(17,730)**	**1,031,029**
Appropriation of 2017 result			(17,730)	17,730	0
Result for 2018 financial year				54,371	54,371
Dividend			(61,123)		(61,123)
Premium for conversion of bonds into shares as at 31 December 2018	2,224	6	96		102
Net position as at 31 December 2018	**26,635,884**	**81,239**	**888,769**	**54,371**	**1,024,379**
Appropriation of 2018 result			54,371	(54,371)	0
Result as of 31 December 2019				4,697	4,697
Dividend			(15,936)		(15,936)
Premium for conversion of bonds into shares as of 31 December 2019	116	1	5		6
NET POSITION AS AT 31 DECEMBER 2019	**26,636,000**	**81,240**	**927,209**	**4,697**	**1,013,146**

The share capital of €81,239,800 (31 December 2018: €81,239,446.20) is composed of 26,636,000 fully paid-up shares (31 December 2018: 26,635,884 shares) with a par value of €3.05 each.

4.6 Treasury shares

The table below summarises the treasury share transactions:

		Market making[1]	Grants to employees	Total
Position at 1 January 2018		**23,147**	**124,495**	**147,642**
As a percentage of capital	*26,585,360*	*0.09%*	*0.47%*	*0.56%*
Final allocation of bonus shares			(92,388)	(92,388)
Share buyback mandate[2]				-
Purchases/sales		39,910		39,910
Position at 31 December 2018		**63,057**	**32,107**	**95,164**
As a percentage of capital	*26,635,884*	*0.24%*	*0.12%*	*0.36%*
Final allocation of bonus shares			(128,228)	(128,228)
Share buyback mandate[2]			193,250	193,250
Purchases/sales		16,376		16,376
POSITION AT 31 DECEMBER 2019		**79,433**	**97,129**	**176,562**
As a percentage of capital	*26,636,000*	*0.30%*	*0.36%*	*0.66%*

(1) Liquidity agreement signed with Exane BNP Paribas.
(2)Share buyback mandate for 193,250 shares in 2019.

The balance of 176,562 shares corresponds to:

- the shares bought under a market maker contract signed with Exane BNP Paribas and not yet registered on the date of preparation of the table;
- the shares to be allocated under the bonus share plans.

4.7 Provisions for impairment of current assets

(€ thousand)	31/12/2018	Allocations	Reversals	31/12/2019
Raw materials and other supplies	1,163		(1,163)	0
Other receivables[1]	46,368	12,244		58,613
TOTAL	**34,292**	**12,244**	**(1,163)**	**58,613**

(1) Allocations to provisions are mainly recorded in expenses under "Other receivables" for the Lithium research and exploitation project.

4.8 Provisions in liabilities

(€ thousand)	31/12/2018	Allocations	Reversals: Used during the financial year	Reversals: Not used during the financial year	Reclassification	31/12/2019
Special depreciation allowances	7,608					7,608
Total regulated provisions	**7,608**	**0**	**0**	**0**	**0**	**7,608**
Personnel[1]	1,781	300	(3)			2,078
Other provisions for liabilities[2]	34,778		(26,078)			8,700
Other provisions for charges[3]	24,322	649	(7,122)		(2,714)	15,136
Total provisions for liabilities and charges	**60,882**	**949**	**(33,203)**	**0**	**(2,714)**	**25,914**
PROVISIONS FOR LIABILITIES	**68,490**	**949**	**(33,203)**	**0**	**(2,714)**	**33,522**

(1) Eramet makes provisions for pension and similar commitments according to the actuarial valuation carried out by an independent firm. Detailed calculations were made as of 31 December 2019. The corridor method is used to calculate pension commitments.

As at 31 December 2019, the balance relating to pension and similar commitments was €2.1 million.

(2) The provision for financial risk corresponds to the potential loss on the bond portfolio of Metal Securities guaranteed by Eramet for €8.7 million. Reversals during the year correspond to the reversal of the provision booked as at 31 December 2018 to cover the potential loss on the bond portfolio of Metal Securities guaranteed by Eramet for €10.4 million, and the reversal of a provision for financial risk on Weda Bay Mineral Inc. for €15.7 million. This provision had been booked as of 31 December 2018 prior to a capital call by this subsidiary that took place during the year. The current account value arising from this capital call was fully written down during the year for an amount of €16 million (see Note 4.1).

(3) Reversals and reclassifications relating to bonus share plans.

Employee-related liabilities

(€ thousand)	Actuarial value of obligations	Fair value of plan assets	Financial position Surplus/(Deficit)
Supplementary pension plan	98,296	(72,178)	26,118
Retirement package	3,421	(1,376)	2,045
Long service awards	2,079	-	2,079
Plans for medical expenses	-	-	-
TOTAL	**103,796**	**(73,554)**	**30,242**

(€ thousand)	Unrecognised actuarial (gains)/losses	Unrecognised services recorded	Provisions in the balance sheet (assets)/liabilities
Supplementary pension plan	(34,440)	3,616	(4,706)
Retirement package	(3,173)	(146)	(1,274)
Long service awards	-	-	2,079
Plans for medical expenses	-	-	-
TOTAL	**(37,613)**	**3,470**	**(3,901)**
Personnel provisions			2,079
Plan assets (other non-current financial assets)			(5,980)

Details of pension fund investments

(€ thousand)	Insurance contract	Other investments	Total
Amount	73,554		73,554
Percentage	100%		100%

Change in pension liabilities

(€)	Financial year 2019
At beginning of period	**(7,440)**
Expenses recognised	3,560
• Service cost	2,602
• Amortisation of actuarial gains (losses)	1,662
• Interest expense	1,642
• Return on plan assets	(2,346)
Contributions and benefits paid	(21)
AT PERIOD CLOSE	**(3,901)**

The actuarial assumptions used for the valuations are as follows:

Actuarial assumptions:	Financial year 2018	Financial year 2019
Discount rate	1.75%	1.10%
Inflation rate	1.80%	1.80%
Salary increase rate	3.00% to 3.75%	3.00% to 3.75%
Rate of return on plan financial assets	1.75%	1.10%

4.9 Proceeds from equity issues

(€ thousand)	31/12/2019	31/12/2018
ODIRNAN	95,701	95,707
TOTAL	**95,701**	**95,707**

On 5 October 2016, Eramet S.A. issued an offering of net share settled undated bonds convertible into new shares (ODIRNAN).

At 31 December 2019, 92,782 bonds were subject to equity conversion (116 in 2019). The number of bonds in issue is therefore 2,065,645 (31 December 2018: 2,065,761), i.e. a decrease of 116 bonds compared with 2019.

The total value of the bonds at 31 December 2019 is €95.7 million (31 December 2018: €95.7 million).

ODIRNAN is a perpetual bond with no maturity date. Holders do not have the option to redeem the instrument for cash in hand. The instrument can be redeemed in the event of liquidation of the Company with the payment of accrued and deferred coupons, as applicable. The payment of coupons is left to the Company and may be deferred, as it has not decided on a dividend distribution since the penultimate interest payment date (or since the issue date for the first two payment dates). In case of non-payment of coupons, they will remain due and will constitute arrears which will bear interest at the applicable rate for bond coupons.

The coupon is fixed at an annual nominal rate of 4% until October 2022. It will then switch to a variable rate from 5 October 2022, calculated at the 6-month Euribor rate plus a margin of 1,000 basis points ("step-up" clause). In the event of a change of control of Eramet S.A., the annual interest rate will be increased by 500 basis points unless the Company opts for early redemption within 45 days of the change of control.

Bond holders will receive an equity conversion right. The issuer may choose to deliver one of the following to bondholders exercising their right to receive shares:

- cash only;
- new shares only;
- or a combination of new shares and cash.

4.10 Breakdown of liabilities and maturity schedule

Net amount (€ thousand)	31/12/2019	1 year or less	More than 1 year and less than 5 years	More than 5 years	31/12/2018
Other bond issues[1]	1,157,682	257,687	100,000	799,995	1,084,500
Borrowings and debt with credit institutions[2]	165,896	94,452	47,556	23,888	194,052
Other borrowings and financial debts[3]	142,261	142,261			137,765
Suppliers and related accounts[4]	106,520	106,520			69,965
Tax and payroll payables	22,446	22,446			18,035
Liabilities on non-current assets and related accounts	639	639			282
Other various liabilities[5]	23,891	23,891			26,797
TOTAL	**1,619,335**	**647,896**	**147,556**	**823,883**	**1,531,396**

(1) This item includes several bond issues:
- *2013 issue for €233.5 million (initial issue of €525 million partly reimbursed for €64.9 million at the end of September - 2017 and for €226.6 million at the end of November 2019);*
- *2014 issue for €100 million;*
- *September 2017 issue for €500 million;*
- *November 2019 issue for €300 million.*

(2) Borrowings from credit institutions include the Borrowing Base for €51 million, two loans from the European Investment Bank for a total of €83.3 million and commercial paper for €31 million (repayable within one year).

(3) The Eramet loan is provided by the Metal Securities company, an 87.92% subsidiary of Eramet. The amount as of 31 December 2019 is €140.2 million, compared with €134.1 million as of 31 December 2018.

(4) The Company has a trade payable more than 60 days from the invoice date of €126 thousand.

(5) This item includes a net amount of tax consolidation liabilities of €9.1 million.

Breakdown of miscellaneous borrowings and financial debts

Net amount (€ thousand)	31/12/2019	31/12/2018	30/06/2019
Current accounts with Metal Securities	140,175	134,150	
Borrowing from Weda Bay Minerals, Inc.	0	1,740	
Deposits received	40	40	
Revolving credit facility utilisation/non-utilisation fee	1,088	877	
Interest from ODIRNAN	957	958	
TOTAL	**142,261**	**137,765**	

4.11 Breakdown of liabilities and accrued expenses

Gross amount (€ thousand)	31/12/2019	31/12/2018
Trade payables and related accounts	106,520	69,965
Tax and payroll payables	22,446	18,035
Liabilities on non-current assets and related accounts	639	282
Other liabilities	23,891	26,797
Deferred income	376	510
TOTAL	**153,872**	**115,589**

4.12 Information on related companies

Balance sheet

(€ thousand)	31/12/2019	31/12/2018
Equity investments	2,630,228	2,630,163
Financial receivables	1,750,437	835,472
Trade receivables and related accounts	87,875	9,456
Other receivables	70,468	13,313
Other borrowings and financial debts(3)	(140,175)	(135,890)
Trade payables and related accounts	(91,177)	(56,515)
Other liabilities	(14,525)	(17,956)

Income statement

(€ thousand)	31/12/2019	31/12/2018
Operating income	737,258	47,609
Operating expenses	(745,084)	(653,933)
Financial income	44,955	46,288
Financial expenses	(73,525)	(6,753)

Note 5 Explanatory notes to the income statement

5.1 Sales

(€ thousand)	Total	France	Foreign
Sales of products and goods[1]	658,081	3,811	654,270
Income from ancillary activities	73,873	39,341	34,532
SALES	**731,954**	**43,152**	**688,802**

(1) Sales include a negative currency difference of €5.3 million, mainly due to hedges in USD.

5.2 Increases and reductions in future tax liabilities

(€ thousand)	31/12/2019	31/12/2018
INCREASES IN TAXABLE BASE		
• Regulated provisions	7,608	7,608
REDUCTIONS IN TAXABLE BASE		
• Provisions not deductible in the accounting period	(6,592)	6,297
• Accrued expenses	(439)	(255)
• Tax loss carryforwards	(887,885)	(700,092)
Net reduction in taxable base	**(887,308)**	**(686,442)**
INCREASE IN FUTURE TAXATION	**(305,500)**	**(236,342)**
	34.43%	**34.43%**

Breakdown of income tax

(€ thousand)	Gross amount	Tax owed	31/12/2019 Net income
Current income	15,517		15,517
Extraordinary income	(13,162)		(13,162)
Impact of tax consolidation and research tax credit		2,343	2,343
TOTAL	**2,355**	**2,343**	**4,697**

Corporate taxes

The tax consolidation agreement signed between Eramet and its subsidiaries respects the principle of neutrality and places the subsidiaries in the situation they would have been in without consolidation. Each subsidiary determines its tax as if it were not part of the consolidated tax group and pays its corporate tax contribution to Eramet as the parent company of the Group. The subsidiaries keep their deficits to determine the amount of the corporate tax contribution they have to pay Eramet.

As a result of the tax consolidation, the corporate income tax account can be broken down as follows:

- +€8.8 million in tax income of the consolidated tax group (including +€6.9 million in 2019 tax credits and +€1.9 million in adjustments of previous Group tax credits);
- +€2.1 million in tax consolidation income (+€2.1 million in 2019 corporate tax of the consolidated subsidiaries);
- -€8.5 million of tax consolidation expenses (including tax credits returned to subsidiaries: -€6.6 million in 2019 tax credit and -€1.9 million in 2018 adjustment).

5.3 Tax consolidation

All French subsidiaries that are at least 95% owned are consolidated for tax purposes, Eramet being the Group's parent company. The scope of tax consolidation in France includes the following companies:

Tax-consolidated companies	31/12/2019	31/12/2018	31/12/2017	31/12/2016	31/12/2015
CONSOLIDATED COMPANIES					
Aubert & Duval (AD)	x	x	x	x	x
Brown Europe	x	x	x		
Eramet	x	x	x	x	x
Eramet Alliages				x	x
Eramet Holding Alliages (previously SIMA)	x	x	x	x	x
Eramet Holding Manganèse (EHM)	x	x	x	x	x
Eramet Holding Nickel (EHN)	x	x	x	x	x
Eramet Ingénierie (formerly TEC)(1)			x	x	
Eramet Nickel[(2)]	x	x			
Eramet Ideas (formerly Eramet Research)(1)	x	x	x	x	
Eramet Sandouville	x	x	x		
Eramet Services	x	x	x	x	
Eramine	x	x	x	x	x
Erasteel	x	x	x	x	x
Erasteel Champagnole	x	x	x	x	x
Eurotungstène Poudres				x	x
Interforge[(3)]	x				
Metal Securities	x	x	x	x	x
Valdi	x	x	x	x	x
NON-CONSOLIDATED COMPANIES					
AD TAF	x	x	x	x	x
Brown Europe				x	x
Campus Eramet	x	x	x	x	x
Eramet Ingénierie (formerly TEC)					x
Eramet International	x	x	x	x	x
Eramet Nickel[(2)]			x		
Eramet Research (formerly CRT)					x
Eramet Sandouville				x	
Eramet Services					x
Forges de Monplaisir	x	x	x	x	x
Supa[(4)]			x	x	x

(1) Eramet Research absorbed Eramet Ingénierie on 31 December 2018 and became Eramet Ideas.

(2)Eramet Nickel has been registered since 25 April 2017.

(3)Interforge entered the tax consolidation scope on [1] January 2019.

(4)Supa was absorbed by Aubert & Duval on [1] January 2018.

5.4 Financial income

(€ thousand)	31/12/2019	31/12/2018
Investments — Dividends[1]	199,617	317,983
Investments — Interest[2]	44,928	51,439
Other dividends and interest	944	1,113
Reversals of provisions[3]	29,423	285,719
Exchange rate differences[4]	5,789	11,619
Net proceeds from sale of marketable securities	567	939
Financial income	**281,268**	**668,812**
Depreciation, amortisation and provisions[5]	(139,779)	(448,228)
Interest and similar expenses[6]	(80,526)	(69,655)
Exchange rate differences[4]	(1,500)	(3,094)
Net expenses on the sale of marketable securities	(2)	(6)
Financial expenses	**(221,808)**	**(520,983)**
FINANCIAL INCOME	**59,460**	**147,829**

(1) Dividends paid by Eramet Holding Manganese (€150 million) and Comilog S.A. (€49.5 million).

(2) Interest income on current account loans of the Group (€44.9 million).

(3) A reversal of the write-down of the loan granted to CFED was recorded for the amount of the repayment made (€2.6 million). A reversal of the provision for financial risk corresponding to the potential loss on the bond portfolio of Metal Securities guaranteed by Eramet for €10.4 million. A reversal of the provision for the Weda Bay Minerals Inc. financial investment for €15.7 million.

(4) Net exchange gain of €4.3 million mainly resulting from the revaluation of Group loans and borrowings in foreign currencies.

(5) Write-down of Erasteel shares of €51.2 million. Write-down of loan to Erasteel of €14 million. Additional write-down of loans to Eramine (€9.8 million) and Eramet Sandouville (€48.1 million).

(6) Interest expense on financial debt (revolving credit facility, Metal Securities, bonds, BEI, Odirnan).

5.5 Extraordinary income

(€ thousand)	31/12/2019	31/12/2018
Income from management transactions	0	226
Gains on capital transactions	0	2,600
Reversals of provisions and expense transfer[1]	6,993	5,938
Extraordinary income	**6,993**	**8,764**
Charges on management transactions	(2)	0
Expenses on capital transactions[2]	(7,044)	(58,696)
Exceptional depreciation, amortisation and provisions[3]	(13,110)	(13,964)
Extraordinary expenses	**(20,155)**	**(72,660)**
EXTRAORDINARY INCOME	**(13,162)**	**(63,896)**

(1) Reversal of provision for the bonus share plan (€7 million).

(2) Income from the sale of bonus shares under the 2019 plan (€7 million).

(3) Provisions on miscellaneous receivables for the Lithium research and exploitation project (€12.2 million), provisions for retirement package and severance pay (€0.9 million).

5.6 Workforce

	FY 2019	FY 2018
Management	159	130
Administrative, technical and supervisory staff	36	26
WORKFORCE AT END OF PERIOD	**195**	**156**
AVERAGE NO. OF EMPLOYEES	**181**	**144**

Note 6 Off-balance-sheet commitments

(€ thousand)	31/12/2019	31/12/2018
COMMITMENTS MADE:		
Securities, endorsements and guarantees	64,367	67,991
Forward sales in USD	7,856	0
COMMITMENTS RECEIVED:		
Internal USD exchange contracts (MCUR)	158,050	107,039
Multi-currency revolving credit facility	1,331,000	981,000
Credit facilities	138,000	142,000

The table above does not include current orders for the business or commitments on non-current asset orders related to investment projects.

Functional guarantees for the performance of business contracts

Functional guarantees are any commitments relating to business contracts, given by Eramet to customers. Eramet, on behalf of some of its subsidiaries, particularly in the Alloys Division, grants product warranties which fall under Eramet's limit of liability defined contractually for each business contract. Eramet does not recognise provisions for guarantees given that there have been no warranty claims from its customers.

Eramet considers its financial risk relative to all the above guarantees to be low, based on historical data and on the existence of civil liability policies that would limit the financial consequences on Eramet's financial statements.

Note 7 Risk management

7.1 Currency risk

Eramet is exposed to exchange risk on two levels:

- by way of its Nickel business, Eramet receives its income mainly in US dollars, while its costs are mainly denominated in Euros (Sandouville fees and nickel purchases at SLN). Hedging transactions are therefore carried out on the basis of multi-annual budgets and forecasts, with a maximum horizon of 36 months. As part of the technical assistance between Eramet and its subsidiary SLN, all commercial hedges are made on behalf of SLN and billed back directly to SLN under the marketing agreement;
- by way of its Holding business, Eramet puts loans in place in foreign currencies for the benefit of Group companies and may enter into foreign exchange hedges. As at 31 December 2019, there was no currency hedging on long-term loans.

7.2 Risks on raw materials

Eramet is exposed to the volatility of commodity prices with regard to its sales. Eramet may be required to set up term hedges on a limited portion of nickel sales.

These hedges are made on behalf of SLN, a producer of ferronickel. As part of the technical assistance contract, the result of these hedges is charged to SLN's monthly bills. As at 31 December 2019, 168 tonnes were hedged with a fair value of -€130 thousand (31 December 2018: 974 tonnes for a fair value of €633 thousand).

7.3 Credit or counterparty risk

The counterparty risks of Eramet relate mainly to its commercial operations and, by extension, to customer accounts. Thus, Eramet may be exposed to credit risk in the event of counterparty default. To limit this risk, of which the maximum exposure is equal to the net receivables recognised in the balance sheet, Eramet uses different tools: gathering information ahead of financial transactions (from rating agencies, published financial statements, etc.), credit insurance and the establishment of letters of credit and documentary credits in order to prevent certain specific risks inherent to, for example, the geographical situation of customers.

Furthermore, Eramet's customer portfolio consists mainly of large international groups in the fields of metallurgy whose insolvency risks are more limited.

7.4 Interest rate risk

At 31 December 2019, a €60 million swap at a fixed rate of 1.67% vs. Euribor 6-month maturity June 2020 is in place for a fair value of -€614 thousand.

7.5 Liquidity risk

Eramet must ensure that it maintains a sufficient level of liquidity to meet its contractual obligations, including servicing its bank and bond debt.

In this context, Eramet anticipates the regular renewal of its current financing (credit facilities, bonds, leases, etc.) and establishes new modes of financing (ODIRNAN in 2016) according to the opportunities available.

Eramet is also careful to diversify its sources of funding, particularly between the bond and banking markets.

Revolving credit facility

The revolving credit facility (RCF) was extended on 4 February 2019 for an amount of €981 million and for a five-year term, with a new maturity of January 2024. The amount available under this revolving credit facility was maintained at €981 million.

The Group also arranged a term loan (TL) to finance its general requirements. It matures in two years and Eramet has the option to extend it to January 2024. The amount of this loan is €350 million.

At 31 December 2019, the €120 million loan obtained in 2018 from the European Investment Bank to finance investments in research, development and innovation (RDI) in digitalisation and advanced manufacturing had not yet been drawn down.

Financial liabilities are subject to the bank covenants described below:

Type of credit facility		Ratio	Amount
Revolving Credit Facility	Net debt decreased by SLN loan with the French State and amount of liability pursuant to IFRS 16/Equity	<1	€981 million
Term Loan	Net debt decreased by SLN loan with the French State and amount of liability pursuant to IFRS 16/Equity	<1	€350 million
Borrowing Base	Net debt decreased by SLN loan with the French State and amount of liability pursuant to IFRS 16/Equity	<1	€65 million
Euro private placement	Net debt/Shareholder's equity	<1	€50 million
European Investment Bank	Net debt decreased by SLN loan with the French State and amount of liability pursuant to IFRS 16/Equity	<1	€230 million

Eramet's covenants are determined on the basis of the published consolidated accounts. At 31 December 2019, the covenants showed no circumstances of accelerated maturity. Moreover, at 31 December 2019, no cases of cross-default likely to impact funding at the level of Eramet were recorded.

7.6 Operational risks of the High Performance Alloys Division

The High Performance Alloys Division produces special steels and super alloys, particularly for the aeronautics industry, which are used in the construction of aircraft, helicopters and other equipment produced by its customers in the sector. As such, Eramet may be indirectly or directly liable in the event of an incident, loss or accident, death of passengers or operating losses incurred on equipment containing parts manufactured by this Division.

As part of its risk management policy, the Division takes action to control these risks. The effectiveness of such action is reflected in the obtainment and renewal of accreditations or certifications related to this type of industry and the processing and validation, as necessary, of the validation process by customers of the manufactured parts. The Group has also taken out insurance policies to cover residual risks.

Note 8 Fees paid to the Statutory Auditors

The Statutory Auditors' fees for the certification of the financial statements invoiced for 2019 amounted to €397 thousand (including €194 thousand EY and €203 thousand KPMG) and fees for other services amounted to €53 thousand (including €16 thousand EY and €37 thousand KPMG).

Note 9 Consolidation of the Company's financial statements

Eramet S.A. is consolidated in the Eramet Group, of which it is the parent company

Note 10 Employee charges and benefits

Compensation of administration and management bodies

(€ thousand)	FY 2019	FY 2018
SHORT-TERM BENEFITS:		
• Fixed compensation	3,031	2,957
• Variable compensation	2,308	1,390
• Directors' fees	467	940
OTHER BENEFITS:		
• Post-employment benefits	2,599	2,251
TOTAL	**8,405**	**7,538**

Bonus share plans

Two new bonus share plans were granted in 2019:

- one plan for all employees on 20 February 2019 for an initial total of 24,332 shares;
- one plan open to certain employees and corporate officers on 20 February 2019, of which:
  - part of the shares are subject to two performance conditions – an internal condition with two indicators (EBITDA and ROCE) for two thirds and an external condition for one third – for an initial total of 109,085 shares, and
  - part of the shares are not subject to performance conditions, for an initial total of 15,968 shares.

The criteria for share awards and the assessment of the accounting expense are the same as those described above.

The characteristics of the two new bonus share plans for 2019 are as follows:

		Number of shares	Exercise price *(€)*	Maturity (years)(1)	Risk-free rate	Average dividend rate	Fair value of the option (€)(2)
Plan open to all employees	France/Italy	9,922	free	2 + 2	-0.44%	2.00%	57.13
	Worldwide	14,410	free	4 + 0	-0.22%	2.00%	57.14
Plan open to certain employees and corporate officers	France/Italy	93,638	free	3 + 2	-0.34%	2.00%	58.29/44.28
	Worldwide	31,415	free	4 + 0	-0.22%	2.00%	57.14/43.96

(1) Maturity = vesting period + lock-in period.

(2) Bonus share award plans whose share awards are subject to two performance conditions have two fair values: the first being the intrinsic condition and the second being the external condition.

The change in the number of bonus share awards in the 2018 and 2019 reporting periods was as follows:

Number of bonus shares	31/12/2019	31/12/2018
At beginning of period	**505,362**	**458,520**
New plans 2019	149,385	164,878
Definitive allocations	(128,228)	(92,388)
Prescribed shares	(17,974)	(4,279)
Lapsed shares	(39,001)	(21,369)
AT PERIOD CLOSE	**469,544**	**505,362**
Distribution by year of allocation		
2019	-	144,573
2020	153,842	157,239
2021	138,247	153,866
2022	133,664	49,684
2023	43,791	-

Note 11 Events after the reporting date

To the best of the Company's knowledge, no events occurred after the reporting date.

Note 12 Table of subsidiaries and equity investments

As at 31 December 2019

(thousands of Euros or other currency, except XAF in millions)		Capital	Equity other than share capital	Share of capital held	Gross carrying amount of shares held	Net carrying amount of shares held	Loans and advances granted and not repaid	Endorsements and guarantees given	Dividends received during the year	Sales of past financial year	Profit(loss) in last completed financial year
		Currency	Currency	%	EUR	EUR	EUR	EUR	EUR	Currency	Currency
I. – DETAILED INFORMATION ON EACH SECURITY (GROSS VALUE GREATER THAN 1% OF THE CAPITAL OF THE COMPANY)											
Subsidiaries (at least 50% of share capital owned)											
Eras	EUR	2,000	9	100	1,986	1,986				0	0
Eramet Ideas (previously Eramet Research)	EUR	1,410	7,420	100	1,161	1,161				20,751	1,686
Eramet International	EUR	160	4,001	100	892	892				2,158	34
Eramet Holding Nickel	EUR	227,104	(18,118)	100	229,652	229,652				0	4
Weda Bay Minerals Inc.	USD	35,505	(53,567)	100	3,616	0				0	0
Eramet Holding Manganèse	EUR	310,156	62,514	100	310,156	310,156			150,000	0	150,496
Eralloys Holding	NOK	12,800	1,414,697	100	419,445	218,807	55,935			107	(26,246)
Eramet Holding Alliages (formerly Sima)	EUR	448,000	(214,289)	100	629,584	316,193				4,686	(82,482)
Erasteel	EUR	150,661	(149,849)	100	298,169	0	134,000			198,471	(72,749)
Mineral Deposits Ltd	AUD	520,900	(167,530)	100	218,807	218,807	222			0	(628)
Eramet Services	EUR	1,540	169	100	1,540	1,540				22,857	363
Eramine	EUR	40,040	(66,237)	100	40,040	0	104,403			0	(18,524)
Eramet Cameroun	XAF	15	0	100	15	15	260			0	0
Eramet Mineral Sands	EUR	50	0	100	50	50				0	0
					2,155,114	**1,299,260**					
Equity investments (between 10 and 50% held)											
Comilog	XAF	40,812	606,678	23	53,407	53,407		30,571	49,494	667,233	28,480
Strand Minerals Pte Ltd	USD	87,720	75,651	43	421,186	37,700	176,172			0	(37)
					474,593	**91,107**					
II. – GENERAL INFORMATION ON OTHER SECURITIES (GROSS VALUE AT MOST EQUAL TO 1% OF THE CAPITAL OF THE COMPANY)											
• French subsidiaries	EUR				67	67	77,687				
• Foreign subsidiaries	EUR										
• Equity investments	EUR				456	196	246,460	4,555	123		
TOTAL					**2,630,229**	**1,390,630**	**795,139**	**35,126**	**199,617**		

	Siren No.	Head office address
I. – DETAILED INFORMATION ON EACH SECURITY (GROSS VALUE GREATER THAN 1% OF THE CAPITAL OF THE COMPANY)		
Subsidiaries (at least 50% of share capital owned)		
Eras	N/A	6B, route de Trèves L – 2633 Senningerberg R. C. Luxembourg B 35.721
Eramet Ideas (previously Eramet Research)	301,608,634	1, avenue Albert Einstein BP 120 78193 Trappes
Eramet International	398,932,939	10, boulevard de Grenelle 75015 Paris Cedex 15 France
Eramet Holding Nickel	335,120,515	10, boulevard de Grenelle 75015 Paris Cedex 15 France
Weda Bay Minerals Inc.	N/A	14th Floor, 220 Bay Street Toronto Ontario, M5J2W4 Canada
Eramet Holding Manganèse	414,947,275	10, boulevard de Grenelle 75015 Paris Cedex 15 France
Eralloys Holding	N/A	Eralloys Holding AS Strandv 50 1366 Lysaker Norway
Eramet Holding Alliages (formerly Sima)	562,013,995	10, boulevard de Grenelle 75015 Paris Cedex 15 France
Erasteel	352,849,137	10, boulevard de Grenelle 75015 Paris Cedex 15 France
Mineral Deposits Ltd		
Eramet Services	529,241,895	10, boulevard de Grenelle 75015 Paris Cedex 15 France
Eramine	428,739,627	10, boulevard de Grenelle 75015 Paris Cedex 15 France
Eramet Cameroun		Rue 1828 next to the Embassy of Japan, BP No. 35580 Yaoundé-Bastos Cameroon
Eramet Mineral Sands	in progress	10, boulevard de Grenelle 75015 Paris Cedex 15 France
Equity investments (between 10 and 50% held)		
Comilog	N/A	Compagnie minière de l'Ogooué Z.I. de Moanda BP 27-28 Gabon
Strand Minerals Pte Ltd	N/A	8 Marina Boulevard #05-02 – Marina Bay Financial Centre – Singapore 018981

Auditors' report on the annual financial statements

Financial year ended 31 December 2019

To the Shareholders' Meeting of Eramet S.A.,

Opinion

In order to execute the assignment entrusted to us by your Shareholders' Meeting, we performed an audit of the annual financial statements of Eramet S.A. for the year ended 31 December 2019, as attached to this report.

We hereby certify that the annual financial statements comply with French generally accepted accounting principles (French GAAP) and provide a true and fair view of the results of operations for the past financial year as well as the Company's financial situation and assets at the end of the financial year.

The above opinion is consistent with the content of our report to the Audit, Risks and Ethics Committee.

Basis for opinion

Audit reference framework

We conducted our audit in accordance with the professional standards applicable in France. We believe that the information we collected constitutes a sufficient and appropriate basis for our opinion.

Our duties under these standards are set out in the section entitled "Duties of the statutory auditors relating to the audit of the annual financial statements" in this report.

Independence

We performed our audit assignment in compliance with the rules of independence that apply to us, over the period from 1 January 2019 to the date of issue of our report. In particular, we did not provide services prohibited by article 5, paragraph 1 of Regulation (EU) No 537/2014 or by the French code of ethics for statutory auditors.

Observations

Notwithstanding the opinion expressed above, we call your attention to note 2 to the annual financial statements, "Significant events of the financial year", and in particular:

- Note 2 "Lithium project in Argentina", which points out that the project has been suspended and expenditure slowed pending the upcoming achievement of milestones related mainly to foreign exchange control and project financing; and that failure to satisfactorily achieve these milestones in the near future could put the project at risk;
- Note 2 "Evolution of the review of the quality process in the High Performance Alloys Division", which describes the ongoing adjustment of the quality processes at Aubert et Duval to bring them into compliance, and the €58 million provision recognised for this purpose at 31 December 2019.
- Note 2 "Ongoing rescue plan and new economic model of Société Le Nickel-SLN (SLN)", which describes the ongoing rescue plan and new economic model of Le Nickel-SLN and the framework in which the company is assessed as a going concern.

Justification of assessments - Key points of the audit

Pursuant to the provisions of articles L. 823-9 and R. 823-7 of the French Commercial Code relating to support for our assessments, we would like to call your attention to the key points of the audit relating to the risks of material misstatement that, in our professional judgement, were the most significant for the audit of the annual financial statements for the year, and the responses that we provide in view of these risks.

These assessments were made in the context of the audit of the annual financial statements taken as a whole and the issuance of our opinion expressed above. We do not express an opinion on the elements of these annual financial statements taken in isolation.

Impairment tests on equity investments and related receivables

Risks identified

Equity investments and related receivables are recognised on the balance sheet at 31 December 2019 for €2,461 million net.

They are recognised at inception at acquisition cost and depreciated based on their value in use, in accordance with the approach described in note 3.2 to the annual financial statements. Securities are measured at their value in use at the closing date. Management generally estimates value in use by taking into account both the net asset value and expected future profitability. When the value in use is less than the gross value, an impairment provision is set aside for the amount of the difference.

In estimating the value in use of these securities management uses judgements in its selection of items to consider, depending on which equity investments and related receivables are concerned.

Depending on the case, these elements may be:

- historical (for example, the net asset value of the subsidiary in question),
- based on expected profitability.

Impairment testing is a key point of the audit due to the material importance of the value of the equity investments or related receivables in the Group's financial statements and because the calculation of their recoverable value, when it is based on projected discounted future cash flows, requires the use of assumptions, estimates or assessments.

Audit procedures implemented in view of the risks

We examined indicators of impairment as well as how impairment tests are conducted.

For impairment tests based on historical data, our procedures consisted in particular of:

- reconciling the shareholders' equity used with the financial statements of the entities that were audited or other procedures where necessary;
- assessing whether any adjustments made to equity are based on documentation that provides the grounds for such adjustments.

For impairment tests based on forecasts, our procedures consisted in particular of:

- obtaining cash flow forecasts for the activities of the entities concerned and assessing their consistency with the forecast data;
- assessing the consistency of the assumptions used with our knowledge of the economic environment on the date the financial statements were prepared;
- comparing the forecasts used for previous periods with the corresponding actual results to assess whether past objectives have been achieved.

Our work also consisted in assessing the degree to which receivables are recoverable, in light of the audit procedures on equity investments.

Specific verifications

In accordance with professional standards applicable in France, we also performed the specific verifications required by law and regulations.

Information disclosed in the management report and in other documents for shareholders on the Group’s financial position and annual financial statements

We have no matters to report as to the fair presentation and consistency with the annual financial statements of the information given in the management report of the Board of Directors and in the documents addressed to the shareholders with respect to the financial situation and the annual financial statements.

We certify to the fair presentation and consistency of the information provided on payment terms referred to in article D.441-4 of the French Commercial Code.

Corporate governance information

We certify that the information required by articles L.225-37-3 and L.225-37-4 of the French Commercial Code is included in the Board of Directors’ report on corporate governance.

With respect to the disclosures pursuant to article L.225-37-3 of the French Commercial Code on the remuneration and benefits paid or allocated to corporate officers as well as the commitments made in their favour, we have verified consistency with the financial statements or with the information used to prepare these financial statements and, where applicable, with the information obtained by your Company from companies controlled by it within the scope of consolidation. On the basis of this work, we certify the accuracy and fairness of these disclosures.

With respect to the disclosures concerning the elements that your company considered likely to have an impact in the event of a public offer or securities exchange offer, provided in accordance with the provisions of article L.225-37-5 of the French Commercial Code, we have verified that this information is consistent with the documents from which it was obtained and which were communicated to us. On the basis of this work, we have no matters to report on these disclosures.

Other information

As required by law, we have verified that the management report contains the appropriate disclosures on the acquisition of equity and controlling interests and the identity of shareholders and holders of voting rights.

Information resulting from other statutory and regulatory obligations

Appointment of the statutory auditors

We were appointed as statutory auditors of Eramet S.A. by the combined shareholders' meeting of 29 May 2015 (KPMG Audit and Ernst & Young Audit).

At 31 December 2019, KPMG Audit and Ernst & Young Audit were in the fifth consecutive year of their assignment.

Previously, Ernst & Young et Autres had been statutory auditors from 2009 to 2014 and Ernst & Young Audit had been statutory auditors from 1991 to 2008.

Duties of management and persons comprising corporate governance in relation to the annual financial statements

It is the duty of management to prepare the annual financial statements to present a true and fair view in accordance French GAAP and to establish the internal control it considers necessary to ensure the annual financial statements contain no material misstatement, whether due to fraud or error.

When drawing up the annual financial statements, management is responsible for assessing the company as a going concern, presenting in these financial statements, where appropriate, the necessary going concern information and applying the going concern accounting policy, unless the company is to be liquidated or will cease operating.

The Audit, Risks and Ethics Committee is responsible for monitoring the process of preparing financial information and the effectiveness of the internal control and risk management systems, as well as internal audit where applicable, with regard to the procedures relating to the preparation and processing of accounting and financial information.

The annual financial statements have been approved by your Board of Directors.

Duties of the statutory auditors relating to the audit of the annual financial statements

Audit objective and approach

We are required to produce a report on the annual financial statements. Our objective is to obtain reasonable assurance that the annual financial statements, taken as a whole, do not contain any material misstatements. Reasonable assurance corresponds to a high level of assurance but does not guarantee that an audit carried out in accordance with professional standards can systematically detect any material misstatement. Misstatements may be caused by fraud or error and are regarded as material when it can reasonably be expected that they may, taken individually or in combination, influence the economic decisions that the users of the financial statements make on the basis thereof.

As specified in article L. 823-10-1 of the French Commercial Code, our assignment of certifying the financial statements does not consist in ensuring the viability or the quality of the management of your company.

In the context of an audit carried out in accordance with the professional standards applicable in France, the statutory auditor exercises its professional judgement throughout this audit. Furthermore:

- it identifies and assesses the risks that the annual financial statements contain material misstatements, whether due to fraud or error, defines and implements audit procedures in view of these risks, and collects information that it considers sufficient and appropriate on which to base its opinion. The risk of non-detection of a material misstatement due to fraud is greater than that of a material misstatement due to error, since fraud may involve collusion, falsification, deliberate omissions, false statements or bypassing internal control;
- it becomes aware of the internal control relevant to the audit in order to define audit procedures appropriate under the circumstances, and not for the purpose of expressing an opinion regarding the effectiveness of internal control;
- it assesses the appropriateness of the accounting methods used and the reasonableness of the accounting estimates of management, as well as the information concerning them provided in the annual financial statements;
- it assesses the appropriateness of management's application of the going concern accounting policy and, depending on the information collected, whether there is significant uncertainty linked to events or circumstances likely to jeopardise the company's ability to continue operating. This assessment is based on the information collected up to the date of its report, although it should be noted that subsequent circumstances or events could jeopardise business continuity. If it concludes that significant uncertainty exists, it draws the attention of the readers of its report to the information provided in the annual financial statements concerning this uncertainty or, if this information is not provided or is not relevant, it issues a certification with reservations or a refusal to certify;
- it assesses the presentation of all of the annual financial statements and evaluates whether the annual financial statements provide a true and fair view of the underlying operations and events;

3

Report to the Audit, Risks and Ethics Committee

We submit a report to the Audit, Risks and Ethics Committee which specifically presents the scope of the audit and the work programme implemented, as well as the conclusions resulting from our work. We also bring to its attention, where applicable, any material weaknesses in internal control that we have identified in the procedures relating to the preparation and processing of accounting and financial information.

The information communicated in the report to the Audit, Risks and Ethics Committee includes the risks of material misstatement which we consider to have been most significant for the audit of the annual financial statements for the year and which therefore constitute the key points of the audit, which we are required to describe in this report.

We also provide the audit committee with the declaration provided for in article 6 of Regulation (EU) No 537-2014 confirming our independence, within the meaning of the rules applicable in France as they are set forth, in particular, by articles L.822-10 to L.822-14 of the French Commercial Code and in the code of ethics of the statutory auditing profession. If applicable, we discuss with the Audit, Risks and Ethics Committee the risks to our independence and the protective measures applied.

Paris-La Défense, 13 March 2020

The statutory auditors

KPMG Audit Department of KPMG S.A		Ernst & Young Audit
Denis Marangé	Pierre-Antoine Duffaud	Nicolas Macé
Partner	Partner	Partner

Special Statutory Auditors' Report on regulated agreements

To the Shareholders' Meeting of Eramet,

In our capacity as statutory auditors of your company, we hereby submit our report on regulated agreements.

We are required, on the basis of the information provided to us, to establish the characteristics, basic terms and conditions and reasons to support the company's interest in the agreements we notified of or which we discovered during our assignment. We are not required to make any statement as to whether they are useful or well-founded, nor to establish whether other agreements exist. You are required, pursuant to article R. 225-31 of the French Commercial Code, to assess the interest in entering into these agreements in view of their approval.

We are also required, if applicable, to provide you with information pursuant to article R. 225-31 of the French Commercial Code relating to the execution during the past year of agreements already approved by the Shareholders' Meeting.

We have applied the due diligence we deemed necessary with regard to the professional rules of the National Company of Statutory Auditors in relation to this assignment. This due diligence consisted of checking the consistency of the information provided to us with the reference documents from which it was taken.

Agreements submitted for approval by the Shareholders' Meeting

We hereby inform you that we have not been notified of any agreement authorised and entered into in the past year to be submitted for approval by the Shareholders' Meeting pursuant to the provisions of article L. 225-38 of the French Commercial Code.

Agreements already approved by the Shareholders' Meeting

Pursuant to article R. 225-30 of the French Commercial Code, we have been notified that the following agreements, already approved by the Shareholders' Meeting in previous years, continued to be executed during the past year.

I- With Société Le Nickel-SLN

*** Persons with the duties of director at both companies:**

Christel Bories (Chairperson and CEO) and Edouard Duval (Director) (until 23 May 2019).

1/ Technical assistance contract

*** Nature and purpose:**

Under the technical assistance contract signed in 1999, Eramet provides general assistance to Société Le Nickel-SLN related to strategic, industrial, financial, tax and HR matters. The agreement was amended with retroactive effect as from 1 January 2010.

*** Terms and conditions:**

The services are remunerated on the basis of the costs actually incurred by Eramet for these services, plus a margin of 8%.

The amount billed was €8,988,279.02 for 2019, compared with €9,869,569.05 for 2018.

2/ Marketing agreement

*** Nature and purpose:**

The marketing agreement entered into between Eramet and Société Le Nickel-SLN in 1985, under which your Company markets the products of Société Le Nickel-SLN (excluding ore), was also amended with retroactive effect as from 1 January 2010.

*** Terms and conditions:**

Under this agreement, your Company purchased nickel matt and ferro-nickel from Société Le Nickel-SLN, based on a purchase price at which Eramet could realise a 3% sales margin plus a bonus, the calculation terms and trigger threshold price of which have been redefined.

The total amount of purchases billed by Société Le Nickel-SLN to your Company was €553,145,191.95 in 2019, compared with €585,502,915.84 in 2018.

Under the same agreement, Eramet, as an agent of Société Le Nickel-SLN, billed Société Le Nickel-SLN a 1.5% commission on sales of low-grade or intermediate-grade ore or washing by-products or Demag slag.

The amount billed was €573,058.19 in 2019, compared with €642,737.80 in 2018. This amendment enables Société Le Nickel-SLN to leverage the expertise of your Company's sales teams and international network to optimise and add value to its ore sales, and in turn reap an additional financial benefit once the agent's commission of 1.5% paid to your Company is deducted in accordance with market practices for these types of services.

Under an amendment that took effect on 9 May 2016 and in line with the conditions of one of your Company's "borrowing base" financing agreements, the terms for full or partial early payment were set at the fourth business day of the month, in exchange for remuneration at a rate of 1-month Euribor + 2.10%.

3/ Intercompany loan agreements

*** Nature and purpose:**

An intercompany loan agreement entered into on 23 December 2015 (authorised by the Board of Directors on 22 December 2015 and approved by the Shareholders' Meeting of 27 May 2016) for an initial amount of €120 million, amended as follows:

- Amendment No. 1 of 22 February 2016 (authorised by the Board of Directors on 17 February 2016 and approved by the Shareholders' Meeting of 27 May 2016), increasing the loan to €150 million;
- Amendment No. 2 of 27 May 2016 (authorised by the Board of Directors on 9 May 2016), increasing the loan to €190 million and extending the maturity to 31 December 2016;
- Amendment No. 3 of 27 July 2016 (authorised by the Board of Directors on 27 July 2016), increasing the loan to €325 million and extending the maturity to 30 June 2024. The interest rate was also increased to 4% + the performance participation rate based on the EBITDA of Société Le Nickel-SLN;
- Amendment No. 4 (authorised by the Board of Directors on 24 May 2018), extending the loan availability period from 30 June 2018 to 31 December 2020.

*** Terms and conditions:**

At the end of December 2019, €244 million of your Company's loan had been drawn down.

The interest was calculated based on an interest rate of 4%. It should be noted that the performance participation rate was zero in the period.

The interest amount billed was €9,327,232.87 for 2019, compared with €6,412,054.79 for 2018.

II- With Christel Bories (Chairperson and CEO)

Supplementary health and social security insurance

*** Nature, purpose and terms & conditions:**

Ms Bories' coverage under the supplementary health insurance and supplementary disability and death scheme applicable to all Eramet employees, authorised by the Board of Directors on 23 February 2017 and approved by the Shareholders' Meeting of 24 May 2018.

The Board of Directors noted that the stipulations of the supplementary insurance are in Eramet's corporate interest, as it enables the executive corporate officer to receive the same benefits as those applicable to your Company's employees.

Insurance contract entered into indirectly affecting Christel Bories

*** Nature, purpose and terms & conditions:**

In the context of providing supplementary remuneration to Ms Bories, your Company signed a life insurance contract pursuant to Article 82 of the French General Tax Code with an authorised insurer. This was authorised by the Board of Directors on 26 July 2017 and approved by the Shareholders' Meeting of 24 May 2018.

The Board of Directors noted that the signing of this life insurance contract is in your Company's corporate interest, as it is in line with market practices and institutes a remuneration policy for the executive in accordance with the Company's interest.

Paris-La Défense, 13 March 2020

The statutory auditors

KPMG Audit Department of KPMG S.A		Ernst & Young Audit
Denis Marangé	Pierre-Antoine Duffaud	Nicolas Macé

Table of the financial results of the Company over the past five years

		2015	2016	2017	2018	2019
SHARE CAPITAL AT END OF YEAR						
a)	Share capital *(€)*	80,956,815	80,978,851	81,232,663	81,239,446	81,239,800
b)	Number of shares issued	26,543,218	26,550,443	26,633,660	26,635,884	26,636,000
OPERATIONS AND RESULTS FOR THE YEAR *(€ THOUSAND)*						
a)	Sales excluding tax	626,232	585,089	634,119	715,464	731,954
b)	Result before tax, employee shareholding, depreciation, amortisation and provisions	(43,866)	(44,605)	(30,193)	212,505	128,866
c)	Income tax	(659)	8,821	3,393	3,918	2,343
d)	Employee shareholding	0	0	0	0	0
e)	Result after tax, employee shareholding, depreciation, amortisation and provisions	(331,516)	(165,554)	(17,730)	54,371	4,697
f)	Amount of proposed dividend	0	0	0	0	0
EARNINGS PER SHARE *(€)*						
a)	Result after tax and employee shareholding but before depreciation, amortisation and provisions	-1.63	-2.01	-1.26	7.83	4.75
b)	Result after tax, employee shareholding,					
depreciation, amortisation and provisions		(12.49)	(6.24)	(0.67)	2.04	0.18
C)	**PROPOSED DIVIDEND PER SHARE**	0	0	0	0	0
Employees						
a)	Average number of employees	388	355	149	144	181
b)	Payroll *(€ thousand)*	32,600	32,361	26,717	23,090	24,950
c)	Sums paid for social security benefits *(€ thousand)*	11,054	24,853	33,999	11,665	10,882

Invoices received and issued not settled at year-end and past due (table provided under I of Article D. 441-4)

(€ thousand)	Article D. 441.-I: Invoices received and not settled at year-end and past due						Article D. 441.-I: Invoices issued and not settled at year-end and past due					
	0 day (for information)	**1 to 30 days**	**31 to 60 days**	**61 to 90 days**	**91 days or more**	**Total (1 day or more)**	**0 day (for information)**	**1 to 30 days**	**31 to 60 days**	**61 to 90 days**	**91 days or more**	**Total (1 day or more)**
(A)	**LATE PAYMENT TRANCHES**											
Number of invoices concerned	16					171	6					135
Total amount of invoices concerned inc. tax	97	1,850	102	(147)	(445)	1,360	(6,909)	1,180	247	382	1,664	3,473
Percentage of total amount of purchases in the year inc. tax	0.01	0.23	0.01	(0.02)	(0.06)	0.17						
Percentage of sales for the year inc. tax							(0.90)	0.15	0.03	0.05	0.22	0.45
(B)	**INVOICES EXCLUDED FROM (A) RELATING TO DISPUTED OR UNBOOKED PAYABLES AND RECEIVABLES**											
Number of invoices excluded						0						0
Total amount of invoices excluded inc. tax						0						0
(C)	**REFERENCE PAYMENT PERIODS USED (CONTRACTUAL OR LEGAL) – ARTICLE L. 441-6 OR ARTICLE L. 443-1 OF THE FRENCH COMMERCIAL CODE)**											
Payment periods used to calculate late payments	Contractual periods: (specify) Legal periods: (specify)						Contractual periods: (specify) Legal periods: (specify)					

Reincorporation of general costs and sumptuary expenses

Not applicable.

3.3 CONSOLIDATED FINANCIAL STATEMENTS FOR 2018 AND 2017

In accordance with Article 28 of Regulation (EC) No. 809/2004 of the Commission, the following information is included by reference in this Registration Document:

a) the 2017 consolidated financial statements, the corresponding audit report and the overview of the articles appearing in paragraphs 6.1, 6.1.3 and 2 respectively of the 2017 Registration Document filed with the AMF on 28 March 2018;

b) the 2018 consolidated financial statements, the corresponding audit report and the overview of the articles appearing in Chapter 3 of the 2018 Registration Document filed with the AMF on 3 April 2019.

The parts not included in the 2017 and 2018 Registration Documents are either not applicable to investors or are covered elsewhere in this Registration Document.

The two reference documents cited above are available on the Company's website (www.eramet.com) and on the AMF's website (www.amf-france.org).

3.4 DIVIDEND POLICY

Dividend payment methods

Dividends are paid out annually at the time and place established by the Shareholders' Meeting, or, failing this, by the Board of Directors, within a maximum period of nine months from the end of the financial year. Dividends duly received cannot be repeated.

An interim dividend may be paid out before the date of the Shareholders' Meeting, by setting the amount, as decided by the Board of Directors, under the conditions established in Article L. 232-12, paragraph 2, of the French Commercial Code.

It may be proposed to shareholders, in whole or in part, that they opt for payment in new shares of the Company, under the conditions of Article L. 232-18, paragraph 1 of the French Commercial Code.

In accordance with the provisions in force in France, the limitation period for unclaimed dividends is five years from their payment date. Unclaimed sums are paid to the French State, in accordance with the applicable provisions.

Allocation and division of results (Article 24 of the Articles of Association)

"From the net profits, as defined by law, less previous losses where applicable, 5% shall be deducted to establish the reserve fund provided for by law, until this fund has reached one-tenth of the share capital.

Distributable profit is made up of net profit for the financial year, less previous losses and the deduction provided above and increased by profit carryforwards. From the distributable profit, the Ordinary Shareholders' Meeting may deduct any sum it deems appropriate to set, either to be carried forward to the next financial year, or to be carried in one or more reserve funds, general or special, the assignment or use of which it shall determine.

Any surplus shall be distributed evenly across all of the shares.

The Shareholders' Meeting may grant each shareholder, for all or part of the dividend distributed, the option of a dividend payment in shares under legal conditions, or in cash."

Table of allocation of 2019 result

The proposed allocation of the 2019 result is included in the second resolution proposed to the next Shareholders' Meeting in Chapter 9 of this document.

Dividend policy

Payment methods

The Company does not usually pay out an interim dividend. Dividends are paid out each year after the Shareholders' Meeting called to vote on the management and the financial statements for the previous year. A mixed pay-out in cash and in shares may be proposed as an option for shareholders.

Amount of dividend

The Company strives to pay regular, substantial dividends.

DIVIDENDS PAID IN THE LAST THREE YEARS

	2019	2018	2017
Number of shares receiving dividends	26,636,000	26,635,884	26,633,660
Net income – Group share	€(184) million	€53 million	€203 million
Dividends per share	€0	€0.60	€2.30
TOTAL PAID OUT	**€0 MILLION**	**€16 MILLION**	**€61.3 MILLION**

3.5 INSURANCE POLICY

Property and casualty insurance (Fire, Accident, Multi-risk)

As risks are identified and their impact managed, the Group defines the most suitable insurance strategy to transfer the financing of its insurable residual risks as part of global schemes, taken out with internationally recognised, reputable insurers of sound financial standing.

The Group thus implements adapted solutions, offering the optimum balance between the cost and scope of the proposed coverage, and has sufficient insurance in place to cover the main risks relating to its business, both in scope and in the amounts insured or cover limits.

The Group also provides primary coverage in some insurance schemes, which enables it to define and/or adapt retention levels to have some control over insurance costs.

The three main categories of insurance taken out cover possible claims against the Group's civil liability stemming from its activities, damage to its facilities and the associated operating loss, and the risk of damage or loss during transportation.

Civil liability

The general civil liability scheme covers the financial consequences for the Group of loss, damage or injury caused to third parties in the context of its activities or due to its products.

This scheme includes civil liability components: exploitation/ pre-delivery, products/post-delivery, professional or engineering.

A scheme for civil liability for aeronautical products has been taken out specifically for the requirements of the High Performance Alloys Division.

The Group also has an insurance scheme for Harm to the Environment and Environmental Liability.

Property damage and operating losses

Its purpose is to cover the damaging consequences of events that may occur at facilities such as fire, explosion, machine breakdown or natural event.

Faculty/goods transported

This scheme covers all of the Group's subsidiaries around the world for all of the goods transported for which they are responsible.

4 Corporate governance

4.1 REPORT BY THE BOARD OF DIRECTORS ON CORPORATE GOVERNANCE

This report, provided for in the last paragraph of Article L. 225-37 of the French Commercial Code, covers the points provided for in Article L. 225-37-4 of the French Commercial Code.

4.1.1 Board of Directors

4.1.1.1 Composition of the Board

The Company is administered by a Board of Directors with 17 members at most. Where relevant, the members include a Government representative and directors appointed at the Government's proposal pursuant to Articles 4 and 6 of Order No. 2014-948 of 20 August 2014 on the governance and share capital transactions of publicly owned companies. Under this Order, Mr Bruno Vincent, a Government representative, was appointed to the Board by the order of 23 May 2019. Furthermore, in accordance with Article L. 225-27-1 of the French Commercial Code and Article 10.9 of the Articles of Association, two directors representing employees were appointed, one by the Company Social and Economic Council and the other by the European Works Council. Their term of office is four years from their appointment.

In accordance with the Shareholders' Agreement of 16 March 2012 between Sorame and CEIR, on the one hand, and FSI Equation (a subsidiary of APE, acting for the State) on the other (agreement amended on 21 March 2013, subject to Decision and Notice No. 212C0647of the *Autorité des marchés financiers* (AMF) at its conclusion as well as AMF Decision and Notice No. 216C1753 concerning changes to the concert with the acquisition by the *Agence des participations de l'État* (APE) of 100% of the share capital of FSI Equation on 29 August 2016, and amended on 25 April 2019 to bring the stipulations of the Agreement into line with the above-mentioned Order No. 2014-948 of 20 August 2014 without altering the balance between the parties to the Agreement),, the Board of Directors is comprised as follows:

- five directors put forward by the Sorame-CEIR concert party;
- three directors put forward by the *Agence des participations de l'État* (APE);
- two directors put forward by STCPI;
- one director put forward by mutual agreement between Sorame-CEIR and APE;
- five "qualified persons", three put forward by the Sorame-CEIR concert and two by the APE, selected in view of their expertise and their independence with respect to the nominating party and the Company itself, in line with the AFEP-MEDEF Corporate Governance Code for listed companies;
- one director called on to chair the Board of Directors.

In accordance with the Articles of Association and the Directors' Charter, each individual director must become the holder of one hundred shares within eighteen months of joining the Board and retain them for the duration of his or her term of office.

For historical reasons associated with the Company's shareholding structure and the existence of a Shareholders' Agreement since 1999, the terms of office of the 16 Board members appointed by the General Shareholders' Meeting are as follows: two terms of office will come to an end at the General Shareholders' Meeting called to approve the financial statements for the year ended 31 December 2019, five terms will end at the General Shareholders' Meeting called to approve the financial statements for the year ended 31 December 2020, one will end at the General Shareholder's meeting called to approve the financial statement for the year ended 31 December 2021, and eight terms of office expire at the General Meeting called to approve the financial statement for the year ended in 31 December 2022.

Other participant at Board meetings: Cécile Green (Social and Economic Council delegate).

4.1.1.2 Detail of terms of office

Full details of the composition of the Board of Directors and terms of office of its members at the time of this report can be found in the table set out in the Appendix to this report.

4.1.1.3 Composition of Committees

The internal rules specifying the operating rules and duties of each Committee are available on the Company's website.

The Audit, Risks and Ethics Committee currently comprises six directors: Miriam Maes (independent director – Chairman of the Committee), Christine Coignard (independent director), François Corbin (independent director), Cyrille Duval, Sonia Sikorav (independent director) and Bruno Vincent.

The Remuneration and Governance Committee is currently composed of seven directors: Claude Tendil (Committee Chairman – independent director), Cyrille Duval, Frédéric Gaidou (director representing employees), Philippe Gomès, Miriam Maes (independent director), Catherine Ronge (independent director) and Bruno Vincent.

The Appointments Committee currently comprises four directors: Claude Tendil (Chairman of the Committee, Chairman of the Remuneration and Governance Committee, independent director), Cyrille Duval, Manoelle Lepoutre (independent director) and Bruno Vincent.

The Strategy and CSR Committee currently comprises ten directors: Manoelle Lepoutre (independent director, Chairman of the Committee), Christel Bories (Chairperson and CEO), Christine Coignard (independent director), Cyrille Duval, Jérôme Duval, Nathalie de La Fournière, Jean-Yves Gilet, Jean-Philippe Letellier (director representing employees), Sonia Sikorav (independent director) and Bruno Vincent.

4.1.1.4 Comply or Explain

Corporate Governance Code

In accordance with the decision of the Board of Directors taken on 9 December 2008, Eramet refers to the AFEP-MEDEF Corporate Governance Code for listed companies ("the AFEP-MEDEF Code") as its reference framework; the Code is available on the AFEP and MEDEF websites.

The Company considers that its practices are compliant with AFEP-MEDEF Code recommendations. In some cases, certain adjustments have been made to the recommendations for reasons detailed in the table set out in the Appendix to this report.

Diversity policy applied to Board members (excluding directors representing employees): a description of its objectives, implementation methods and results obtained during the past financial year

In accordance with paragraph 6 of Article L. 225-37-4, the Board of Directors reflected during the financial year on the desirable balance of its composition and that of the Committees it has set up within it, particularly in terms of diversity (representation of women and men, nationalities, age, qualifications and professional experience).

In general, the Board recognises the benefits of diversity in its broadest sense and considers the diversity of its members as an essential element for its discussions and decision-making, which promotes effective functioning and good governance. A diversified Board is a Board that has a balance of skills, experience and expertise, as well as a diversity of perspectives that are relevant to the Company's interests and strategic objectives.

With regard to the Company's corporate interest, its strategic objectives, the plurality of its businesses and the specific context of the regions in which the Company operates are taken into consideration when selecting and presenting candidates for appointment to the Board, not only the skills, experience and expertise of a candidate, but also factors such as age, gender and geographical representativeness in relation to the countries in which the Group operates.

With regard to the composition of the Board during the past financial year, the following points should be noted:

- the proportion of female directors is 41% (7 out of 17 members). This proportion is in compliance with the minimum threshold of 40% provided for in the first paragraph of Article L. 225-18-1;
- the directors are between 37 and 74 years old. The average age of directors is 56. Under Article 10 of the Articles of Association, directors may not be over seventy years of age at the time of their appointment. A director who has reached the age of seventy during his or her term of office may have his or her term of office renewed once. The number of directors over the age of seventy may not exceed one-third of the Board's membership. Two directors are over 70. Directors are appointed for a term of four years;
- 10 directors have been in office for less than four years, six less than eight years and one more than twelve years. The distribution between the older directors on the Board and those most recently appointed combines new vision with long-term consistency;
- 11 directors reside in metropolitan France, two elsewhere in the European Union, two directors in New Caledonia, one director in Gabon and one director in the United States;
- the directors have a wide range of training and professional experience (metallurgical skills, finance, management, etc.).

Independence

The AFEP-MEDEF Code considers a director to be independent "when he/she has no relationship of any kind whatsoever with the Company, its Group or its management that could compromise his/her freedom of judgement. Therefore, an independent director means any non-executive corporate officer of the Company or its Group who does not have any special ties (significant shareholder, employee, other) with the Company, its Group or its management". The AFEP-MEDEF Code also identifies a number of criteria that the Board must consider to determine whether a director can be classified as independent:

- "not being or not having been in the preceding five years:
  - a salaried employee or executive corporate officer of the Company,
  - a salaried employee, executive corporate officer or director of a company consolidated by the Company,
  - a salaried employee, executive corporate officer or director of the parent company or of a company consolidated by the latter";
- "not being an executive corporate officer of a company in which the Company directly or indirectly holds a directorship or in which a directorship is held by a salaried employee designated as such or by an executive corporate officer (current or former within the past five years), of the Company";
- "not being a customer, supplier, investment banker, commercial banker or advisor (or being directly or indirectly related to these persons):
  - classified as significant vis-à-vis the Company or its Group,
  - or for which the Company or its Group represents a significant percentage of its business activity.

The assessment of the significance of the relationship with the Company or its Group is debated by the Board and the quantitative and qualitative criteria leading to this assessment (continuity, economic dependency, exclusivity, etc.) are explained in the report on corporate governance";

- "not having close family ties with a corporate officer";
- "not having been a Statutory Auditor of the Company in the past five years";
- "not having been a director of the Company for more than twelve years. After twelve years, a director is no longer considered to be independent".

As at the date of this report, based on an annual review by the Board of the criteria set out above, there were seven independent directors on the Board out of a total of 17 Board members (the two directors representing employees are not counted in accordance with the provisions of the AFEP-MEDEF Code); therefore, more than one third of Board members are independent, in accordance with recommendation 8.3 of the AFEP-MEDEF Code in respect of controlled companies.

The General Shareholders' Meeting in May 2020 will be asked to vote to approve the renewal of the terms of office of the two independent directors, Ms Miriam Maes (Chairman of the Audit, Risks and Ethics Committee and a member of the Remuneration and Governance Committee) and Ms Sonia Sikorav (a member of the Audit, Risks and Ethics Committee and the Strategy and CSR Committee). Ms Maes and Ms Sikorav were appointed as Board members in May 2016.

It is noted that at the annual review of the independent status of directors, the Board performed an appraisal of business relationships existing between the Eramet Group and the Group in which certain independent directors hold a corporate office. Eramet's mining and metallurgical business generates business flows with a limited number of customers that have no other business relationships with Eramet directors. To carry out its business, Eramet uses a number of suppliers of raw materials, goods and services. Among these, there are three groups in which three directors in particular (Ms Lepoutre for petroleum products, Mr Corbin for tyres and Mr Tendil for insurance) work in a professional capacity. This appraisal enabled the Board to verify that there were no significant business relationships in that regard, either in terms of the nature of goods or services provided, or in terms of their corresponding value or the conditions of their negotiation or provision.

4.1.1.5 Work of the Board and its Committees during the 2019 financial year

Board of Directors

The Board of Directors met seven times in 2019. The directors also met during the financial year without the executive corporate officers.

In addition to examining recurring items relating to the business of the Group and its Divisions, Board meetings were concerned, in particular, with:

- approval of the Group and Company financial statements for 2018 and documents related to the convening of the annual General Shareholders' Meeting;
- review of the 2019 interim financial statements;
- review of occupational safety results within the Group;
- review of productivity improvement plans;
- proposed investments and divestments by Divisions;
- examination of development financing options for the Group and its main subsidiaries;
- review of the report required by Article L. 225-102-3 of the French Commercial Code on payments made to the authorities of countries where the Group operates mining activities;
- monitoring the Group's human resources policy.

Individual participation at meetings of the Board of Directors and the Committees in 2019 is shown in the table below.

	Board of Directors	Audit, Risks and Ethics Committee	Remuneration and Governance Committee	Strategy and CSR Committee	Appointments Committee
Michel Antsélévé	100%	-	-	-	-
Christel Bories	100%	-	-	100%	-
Emeric Burin des Roziers(1)	100%	-	-	-	-
Christine Coignard	100%	100%	-	100%	-
François Corbin(1)	100%	100%	-	-	-
Cyrille Duval (Sorame)	100%	100%	100%	100%	100%
Édouard Duval(2)	100%	-	-	100%	100%
Georges Duval(2)	100%	-	-	100%	-
Jérôme Duval(1)	100%	-	-	100%	-
Nathalie de La Fournière (CEIR)	100%	-	-	100%	-
Frédéric Gaidou	100%	-	100%	-	-
Jean Yves Gilet	100%	-	-	100%	-
Philippe Gomes	71%	-	100%	-	-
Manoelle Lepoutre	100%	-	66%	100%	100%
Jean-Philippe Letellier	85%	-	-	100%	-
Miriam Maes	85%	100%	66%	-	-
Louis Mapou	28%	-	-	-	-
Catherine Ronge	100%	-	100%	-	-
Sonia Sikorav	100%	100%	-	100%	-
Claude Tendil	100%	-	100%	-	100%
Antoine Treuille(2)	100%	100%	100%	-	-
Bruno Vincent, French Government representative	100%	100%	100%	100%	100%
AVERAGE ATTENDANCE RATE	**93%**	**100%**	**90%**	**100%**	**100%**

(1) Appointment at the General Shareholders' Meeting of 23 May 2019.
(2) Expiry of term of office at the General Shareholders' Meeting on 23 May 2019.

Audit, Risks and Ethics Committee

The Company refers to the AMF working group's report on Audit Committees when organising the Committee's work (AMF recommendation of 22 July 2010).

The Committee meetings are attended, in particular, by the Chairman and CEO, the Deputy Chief Executive Officers in charge of the operating Divisions, the Deputy CEO with responsibility for finance and digital transformation, the Statutory Auditors and the Group's Director of Risk, Internal Control and Audit, the Director of Accounting, Consolidation and Group Taxation, the Director of Group Planning and Management Control and the Director of Financing and Treasury, the Director of Ethics and Compliance and the Group Legal Director.

The Committee met six times in 2019.

In addition to presenting the financial statements for the previous year in February and examining the interim financial statements in July, each year the Committee reviews internal audit reports for the year as well as the internal audit programme for the following year. The examination of the financial statements by the Committee is accompanied by a presentation by the Statutory Auditors describing the findings of their work and the main issues involved.

In 2019, the Committee examined the following points in particular:

- draft reports to shareholders;
- the work of the Internal Audit Department for the current year and its draft work plan for the following year;
- the monitoring of changes to the Group's working capital requirement and that of its main subsidiaries;
- the monitoring of progress regarding the ramp-up of the Group's and its subsidiaries' projects;
- the Group's financing activities;
- the process for monitoring the Group's risk management, including social and environmental risks;
- the process for monitoring the Group's internal audit;
- the procedure for monitoring the Group's off-balance-sheet commitments;
- the process for monitoring the Group's tax issues;
- the Group's ethics compliance programme;
- the process for monitoring cybersecurity risks.

Remuneration and Governance Committee

The Committee met four times in 2019.

During the year, besides the proposed remuneration elements for executive corporate officers (detailed in the section "Remuneration of the management and administration bodies"), the Committee also proposed to the Board of Directors, which the latter approved, as part of the annual performance share award plan for corporate officers and senior executives of the Company and its subsidiaries, a 2019 Erashare worldwide bonus share plan, allowing the allocation of two bonus shares to all employees of the Company and its subsidiaries, in addition to a selective performance share and bonus share plan for 2019. The Committee reviewed the conclusions of the annual evaluation of the Board's operations and reviewed updates to the internal regulations of the Board and the Committees.

Appointments Committee

The Committee met three times in 2019 to review the candidacies of new directors being proposed and periodic succession planning for key Group management personnel. The executive corporate officer is involved in the work of the Appointments Committee.

Strategy and CSR Committee

The Committee met three times in 2019. At these meetings, the Committee examined the evolution of the markets in which the Group operates and their competitiveness, as well as the resulting strategic options. On a case by case basis, the Committee examined the productivity improvement programmes carried out, as well as certain investment or disinvestment projects. The Committee is also kept informed of the main challenges facing the Company, including in the field of social and environmental responsibility, for which it annually reviews the Group's CSR roadmap.

4.1.1.6 Assessment of the Board's work

The Board provides for an annual self-assessment of its work, alternating with an assessment of the Board by an expert third party every three years. The purpose of the assessment is to review the Board's operating procedures, to ensure that important issues are properly prepared and discussed. In this respect, on an annual basis each director fills out a detailed questionnaire on the functioning of the Board and its specialised Committees. This allows directors to freely express their appreciation of the directors' individual contributions.

The evaluation carried out by a third-party expert for the 2019 financial year was carried out by an expert third party using interviews with the directors and the possibility of scheduling individual interviews with the Secretary of the Board. The results of this evaluation were analysed by the Remuneration and Governance Committee and discussed at the Board meeting of 12 March 2020.

The proposed improvements and their implementation methods were defined by the same Board and notably the proposal to include in the company's Articles of Association the opportunity to appoint a Lead Director.

4.1.2 Internal rules of the Board and its Committees, Directors' Charter, and Securities Trading Code of Conduct

The internal rules, which can be consulted on the Company's website, specify the composition, organization and functioning of the Board and its Committees, the roles and powers of the Chairman of the Board and the Chief Executive Officer and the rights and duties of the directors. The internal rules are binding on all directors, as well as on any other person who may attend meetings of the Board or its Committees in any capacity whatsoever.

In addition to its general powers defined by law and the rules, the Board reviews and approves all decisions relating to the Group's major strategic directions and ensures that they are effectively implemented by General Management.

Board members and Committee members may, in the performance of their respective duties and having first informed the Chairman and CEO, confer with members of the Group's management. They report on the information obtained and advice received.

The Committee members may request any advice or opinion from any external consultant or expert, if they consider it necessary.

To this end, they may request external technical studies relating to matters within the Committee's competence, at the expense of the Company, after being put out to competitive tender and after informing the Chairman and CEO or the Board of Directors itself, subject to reporting back to the Board thereon.

The Board meets as often as the interests of the Company require on dates that are adapted to legal obligations. Convening notices are sent by the means judged to be the best adapted for ensuring traceability of the convening notice and within sufficient time to allow the directors to examine the files with the appropriate advance notice. If specified in the convening notice, Board meetings may be held by videoconference or telecommunications on subjects authorised by the Company's Articles of Association or by law.

The Chairman is responsible for circulating to each director in advance of the meeting a file containing all the documents and information required for consideration of the items of the agenda.

The Secretary of the Board draws up the minutes of each Board meeting, which the Chairman submits to directors for approval at the subsequent Board meeting, the draft minutes being sent to each participant (directors and Group Works Council member) before the scheduled meeting date.

In the interest of good corporate governance, the Board has incorporated the Directors' Charter into its internal rules, which sets out the rights and duties of the directors and to which every director is accountable. Directors must adhere to the charter by signing it when they are appointed. This charter notes in particular that:

- directors must, under all circumstances, act in the corporate interest of the Company and are committed to defending and promoting the Company's values;
- directors must ensure that the Board is fully informed in advance of any actual, potential or perceived conflict of interest. He/she must abstain from taking part in the debate on the related resolution;
- directors must maintain their personal independence of analysis, judgement, decision and action, and reject any direct or indirect pressure that may be exerted on them, which may emanate from any third party or functions they perform elsewhere;
- directors contribute to the collective responsibility and efficiency of the work of the Board and the Committees, acting in good faith, with loyalty and with duty of confidentiality;
- directors must dedicate the necessary time and attention to their duties and, where possible, attend all meetings of the Board and the Committees of which they are a member, take the necessary time to prepare the work carried out therein and obtain all relevant information for such purpose. Directors undertake to keep the Board informed of mandates held in other companies. They attend the General Shareholders' Meetings;
- directors must seek the approval of the Board before committing themselves personally to a competitor of the Group;
- directors must treat all the files submitted to them for the performance of their mandate in the strictest confidence, as well as the debates and information to which they have access as part of the Board and the Committees and, as such, shall not disclose them to anyone in any way;
- directors must ensure that they receive in a timely manner all documents and information required for the fulfilment of their duties. It is their responsibility to request from the Chairman all documents they deem necessary for such purposes. Any director who believes that the information provided in advance is not sufficient may request the Chairman or the Board to postpone ruling on this issue;
- if a director is no longer in a position to perform his or her duties, either by his/her own decision or for any other reason, he/she must inform the Chairman of the Board of Directors, seek solutions to remedy the situation and, failing this, draw the personal conclusions with regard to the exercise of his/her mandate.

The Securities Trading Code of Conduct, established in accordance with the European "market abuse" regulation, aims at preventing insider trading offences and infringements and establishes a period of abstention from any transaction involving Eramet securities prior to publication of the Company's annual and interim financial statements and its quarterly financial results. Directors must respect the Group's Securities Trading Code of Conduct.

4

4.1.3 General management

4.1.3.1 Management of the Company

Since the deliberations of the Board meeting of 26 March 2003, the Company's Chief Executive Officer is also Chairman of the Board of Directors, given that the Board considered this arrangement best suited to the Company's organization and shareholding structure, with 63% of the share capital controlled by two shareholder groups in concert. Regular dialogue between the two main shareholders that are party to the Shareholders' Agreement and General Management is thus facilitated through a single point of contact combining the duties of Chairman of the Board of Directors and CEO. The amalgamation of the functions of Chairman and Chief Executive Officer is in compliance with balanced corporate governance rules, based on:

- a Board structure comprising at least one third independent directors;
- prior examination by the Strategy and CSR Committee followed by Board approval are required for major strategic lines of action.

In accordance with Article 16 of the Articles of Association, the Board may, at the recommendation of the head of the Company's General Management, appoint up to five Deputy CEOs. The Company's CEO and the Deputy CEOs may not hold their position beyond the age of 70.

4.1.3.2 Role of General Management

The Executive Committee consists of the Chairman and CEO, two Deputy CEOs, one responsible for the Mines and Metals Division and the other for the High Performance Alloys Division, the Director of Human Resources, Health and Security, the Deputy CEO in charge of Finance and Digital Transformation, the Communications and Sustainable Development Director, the Director of Strategy, Innovation and Investor Relations, and the Group Legal Director. The fact that the heads of Corporate support departments (Human Resources, Health and Security Department, Administration and Finance Department, Communication and Sustainable Development Department and Strategy, Innovation and Investor Relations Department) are members of the Executive Committee strengthens the effectiveness and consistency of their actions.

All members of the Executive Committee, as well as the Director of Risk, Internal Control and Internal Audit, the Director of Group Security and the Director of Ethics and Compliance report directly to the Chairman and Chief Executive Officer.

The Deputy Chief Executive Officer in charge of finance and digital transformation also supervises the information systems, the digital transformation, Group management, audit, insurance, financing and treasury, accounting, consolidation and Group taxation.

4.1.3.3 Limitations to the powers of the Chief Executive Officer

At its meeting of 23 May 2017, the Board of Directors granted Ms Bories all powers conferred by French law to a Chairman and CEO of a public limited company.

The Chairman and CEO exercises full authority pursuant to the law and within the scope of the Company's corporate purpose, subject to the proviso that, "no decision relating to the Company's major strategic, economic, financial or technological direction may be taken without first being discussed by the Board", as specified in Article 13, sub-section 2 of the Articles of Association.

However, in accordance with the Board's Internal Rules, the following operations are subject to prior authorisation by the Board: all strategic investments, as well as any significant transaction, particularly acquisitions or disposals, exceeding €50 million or that may significantly affect the Group's results, the structure of its balance sheet or its risk profile. Projects and transactions of between €20 million and €50 million that are not significant in scope are submitted to the Board for information purposes.

In line with Article 13, sub-section 4 of the Articles of Association, "acts concerning the Company are signed either by the CEO, the Deputy CEO or by any specially authorised person."

4.1.4 Company policy on gender equality in the workplace, including within the Executive Committee

These elements are included in the "Non-Financial Performance Statement/Human resources" section of the management report.

4.1.5 Information on the remuneration and compensation of the Chairman and Chief Executive Officer

These elements are included in the section "Remuneration of the Management and Administration Bodies" of the management report.

4.1.6 Information on share ownership, shareholders' agreements and investments in associates

These elements, as well as information which may have an impact in case of takeover bids, are included in the "Eramet and its shareholders" section of the management report.

4.1.7 Miscellaneous provisions

4.1.7.1 Description of related-party agreements – internal procedure to assess current agreements concluded under normal conditions

The description of related-party agreements can be found in the special report of the Statutory Auditors, in the "Financial Statements" section. An internal evaluation procedure is in place to review standard agreements concluded under normal conditions: it sets out a typology of agreements based on the CNCC 2014 guide, implementation by the Company's internal departments and an annual review by the Audit Committee of the type of agreements entered into during the financial year and the conditions attached to them. The Audit Committee's conclusions are submitted annually to the Board for review.

4.1.7.2 Powers given by the General Shareholders' Meeting to the Board of Directors relating to capital increases and the status of their use

The table summarising the powers granted by the General Shareholders' Meeting to the Board of Directors is included in the "Eramet and its shareholders" section of the management report.

4.1.7.3 Means of shareholder participation at General Shareholders' Meetings

The means by which shareholders may participate at General Shareholders' Meetings are set out in Articles 8, 20, 21 and 22 of the Articles of Association.

4.2 LIST OF DIRECTORS AND THEIR POSITIONS

Bories Christel

Director[5]
Chairman and Chief Executive

Born: on 20 May 1964 (55 years) French nationality
Business address: 10, boulevard de Grenelle 75015 Paris, France
100 Eramet shares held

Date of first appointment

Director and Chairman and CEO: General Shareholders' and Board Meeting of 23 May 2017

Date of last reappointment, and end date of term of officet

- **Expiry date:**

General Shareholders' Meeting called to approve the 2020 financial statements

Other positions held

- **Within Group companies**
  - Director of Comilog S.A.
  - Director of Société Le Nickel SLN
- **Within non-Group companies**
  - Director of Legrand (listed company)
  - Director of the France Industrie organization
- **Offices held and completed during the past five years**
- **Within non-Group companies**
  - Director of Smurfit Kappa (listed company) (until December 2019)
  - Deputy CEO of Ipsen (listed company) (until 2016)
- **Within Group companies**
  - Chairman of Aubert & Duval (from December 2017 to February 2018), EcoTitanium (from December 2017 to March 2018)

(5)Strategy and CSR Committee.

Antsélévé Michel
Director

Born: on 19 February 1965 (54 years) Gabonese nationality

Business address: BP 12905 Libreville Gabon

Mr Antsélévé is a senior civil servant of the Gabonese Government, Director General for Industry and Competitiveness in the Ministry of Trade and Industry.

100 Eramet shares held

Date of first appointment

General Shareholders' Meeting of 15 May 2013

Date of last reappointment, and end date of term of office

- **Reappointment:**

General Shareholders' Meeting of 23 May 2017, for a four-year term

- **Expiry date:**

General Shareholders' Meeting called to approve the 2020 financial statements

Other positions held

- **Within Group companies**
  - None
- **Within non-Group companies**
  - Vice Chairman Board of Directors of Total Gabon since March 2017 (listed company)
- **Offices held and completed during the past five years**
  - Director representing the Gabonese Republic on the Board of Directors of Compagnie de Navigation Intérieure (Gabon) (until 2013)
  - Director representing the Presidency of the Gabonese Republic on the Boards of Directors of Société de Développement des Ports (Gabon) (until 2016)
  - Director representing the Presidency of the Gabonese Republic on the Boards of Directors of Compagnie Minière de Belinga (Gabon) and Société Nationale de Gestion et de Construction du Logement Social (Gabon) (until the start of 2017)

Burin des Roziers Emeric
Director

Born: on 8 September 1980 (39 years) French nationality

Business address: 10, boulevard de Grenelle 75015 Paris

Mr Burin des Roziers is Chief Executive Officer of Endel (an Engie subsidiary).

1,067 Eramet shares held

Date of first appointment

General Shareholders' Meeting of 23 May 2019

Date of last reappointment, and end date of term of office

- **Expiry date:**

General Shareholders' Meeting called to approve the 2022 financial statements

Other positions held

- **Within Group companies**
  - None
- **Within non-Group companies (unlisted companies)**
  - Chairman of Endel SAS and of Technical Engineering Support SAS (an Endel subsidiary)
- **Offices held and completed during the past five years**
  - Director of Gulf Chemical and Metallurgical Corporation (until 2016) (a US subsidiary of Eramet)

Coignard Christine

Director [1][4][5]

Born: on 5 February 1964 (55 years) French and Canadian nationalities

Business address: 10, boulevard de Grenelle 75015 Paris

Ms Coignard is Managing Director and founding partner of Coignard & Haas GmbH, a strategy and development consulting firm.

100 Eramet shares held

Date of first appointment

General Shareholders' Meeting of 23 May 2017

Date of last reappointment, and end date of term of office

Expiry date:

General Shareholders' Meeting called to approve the 2020 financial statements

Other positions held

Within Group companies

- None

Within non-Group companies

- Director of Polymetal International plc (listed company – United Kingdom)
- Managing Director and founding partner of Coignard & Haas GmbH (Germany)

Offices held and completed during the past five years

- *Managing Director of Hatch International Advisers Ltd (United Kingdom)*
- *Director of Tenetopera Ltd (United Kingdom)*

Corbin François

Director [1][4]

Born: on 14 September 1957 (62 years) French nationality

Business address: 10, boulevard de Grenelle 75015 Paris

Mr Corbin is General Delegate to the Chairman of the Michelin Group for international affairs and Vice-President of MEDEF International in charge of coordination in the ASEAN region.

1 Eramet share held

Date of first appointment

General Shareholders' Meeting of 23 May 2019

Date of last reappointment, and end date of term of office

Expiry date:

General Shareholders' Meeting called to approve the 2022 financial statements

Other positions held

Within Group companies

- None

Within non-Group companies (unlisted companies)

- Director, MEDEF International (France)
- Director, MEDEF International (United States)
- Director, France/China Committee

Offices held and completed during the past five years

- Chairman of Michelin Ventures SASU (until 2019)
- Director, Michelin Foundation (until 2019)

(1) Audit, Risks and Ethics Committee.
(4)Independent director.
(5)Strategy and CSR Committee.

Duval Jérôme

Director[5]

Born: on 30 December 1972 (47 years) French nationality

Business address: 10, boulevard de Grenelle 75015 Paris

Cousin of Cyrille Duval and Nathalie de La Fournière.
Mr Duval is Director of Financement Maritimes Amériques at Crédit Agricole CIB.

600 Eramet shares held

Date of first appointment

General Shareholders' Meeting of 23 May 2019

Date of last reappointment, and end date of term of office

- **Expiry date:**

General Shareholders' Meeting called to approve the 2022 financial statements

Other positions held

- **Within Group companies**
  - None
- **Within non-Group companies (unlisted companies)**
  - None
- **Offices held and completed during the past five years**
  - None

Sorame

Director[1][2][3][5] represented by Duval Cyrille

Born: on 18 July 1948 (71 years) French nationality

Business address: 10, boulevard de Grenelle 75015 Paris

Uncle of Nathalie de La Fournière, cousin of Jérôme
Mr Duval is CEO of Sorame and Chairman of CEIR.

6,041 Eramet shares held

Date of first appointment

General Shareholders' Meeting at 11 May 2011

Date of last reappointment, and end date of term of office

- **Reappointment:**

Shareholders' Meetings of 29 May 2015 and 23 May 2019 for a four-year term

- **Expiry date:**

General Shareholders' Meeting called to approve the 2022 financial statements

Other positions held

- **Within Group companies**
  - Director of Comilog SA and Metal Securities
- **Within non-Group companies (unlisted companies)**
  - Chairman of CEIR
  - CEO of Sorame
- **Offices held and completed during the past five years (Group companies)**
  - Manager of SCI Grande Plaine (until 2016)
  - Chairman of Forges de Montplaisir (until 2016)
  - Chairman of Brown Europe (until February 2017)
  - Deputy CEO of Eramet Holding Alliages (until October 2017)
- **(non-Group company)**
  - Director of Nexans (until May 2019)

(1) Audit, Risks and Ethics Committee.
(2)Remuneration and Governance Committee.
(3)Appointments Committee.
(5)Strategy and CSR Committee.

CEIR

Director[5] represented by represented by de La Fournière Nathalie

Born: on 1 October 1967 (52 years) French nationality

Business address: 10, boulevard de Grenelle 75015 Paris

Niece of Cyrille Duval, cousin of Jérôme Duval

Ms de La Fournière is Finance and Administration Director of the Agence d'Urbanisme et d'Aménagement Toulouse Aire Métropolitaine.

100 Eramet shares held

Date of first appointment

General Shareholders' Meeting of 11 May 2011

Date of last reappointment, and end date of term of office

- **Reappointment:**

General Shareholders' Meetings of 29 May 2015 and 23 May 2019, for a four-year term

- **Expiry date:**

General Shareholders' Meeting called to approve the 2022 financial statements

Other positions held

- **Within Group companies**
  - None
- **Within non-Group companies**
  - None
- **Offices held and completed during the past five years**
  - None

Gaidou Frédéric

Director representing employees[2]

Born: on 11 December 1974 (45 years) French nationality

Business address: 10, boulevard de Grenelle 75015 Paris

Mr Gaidou is Product Responsibility Coordinator in the Communication and Sustainable Development Department.

21 Eramet shares held

Date of first appointment

Appointed by the European Works Council on 24 April 2018 in accordance with Article 10.9 of the Articles of Association

Date of last reappointment, and end date of term of office

- **Expiry date:**

11 November 2022

Other positions held

- **Within Group companies**
  - None
- **Within non-Group companies**
  - None
- **Offices held and completed in the past five years**
  - None

(2)Remuneration and Governance Committee.

(5)Strategy and CSR Committee.

Gilet Jean Yves

Director(5)

Born: on 9 March 1956 (63 years) French nationality

Business address: 82, rue de l'Université 75007 Paris

Mr Gilet is Chairman of Gilet Trust Invest SAS, a strategy and management consulting company.

100 Eramet shares held

Date of first appointment

Co-opted by the Board on 23 September 2016

Date of last reappointment, and end date of term of office

- **Reappointment:**

General Shareholders' Meeting of 23 May 2019, for a four-year term

- **Expiry date:**

General Shareholders' Meeting called to approve the 2022 financial statements

Other positions held

- **Within Group companies**
  - None
- **Within non-Group companies**
  - Chairman of Gilet Trust Invest SAS
- **Offices held and completed during the past five years**
  - Executive Director of Bpifrance (2013-2016)
  - Director of CGG Veritas (2014-2015)
  - Director of Eiffage (until May 2017)
  - Director of Orange (until January 2017)

Gomès Philippe

Director(2)

Born: on 27 October 1958 (61 years) French nationality

Business address: General Shareholders' Meeting 126, rue de l'Université 75355 Paris 07 SP

Mr Gomès is member of parliament of the second constituency of New Caledonia.

101 Eramet shares held

Date of first appointment

Co-opted by the Board on 10 December 2014

Date of last reappointment, and end date of term of office

- **Reappointment:**

Shareholders' Meeting of 23 May 2017, for a four-year term

- **Expiry date:**

Shareholders' Meeting called to approve the 2020 financial statements

Other positions held

- **Within Group companies**
  - None
- **Within non-Group companies**
  - None
- **Offices held and completed during the past five years**
  - Deputy Chairman of STCPI (from 2004 to 2009)
  - Chairman of the Agence pour la Desserte Aérienne de la Nouvelle-Calédonie (ADANC) (from 2009 to 2011)
  - Chairman of Société Immobilière Calédonienne (SIC) (from 2004 to 2009)
  - Chairman of Société de Participation Minière du Sud Calédonien (SPMSC) (from 2005 to 2009 and in 2014)
  - Chairman of the Board of Directors of Enercal (until July 2017)
  - Chairman of Nouvelle-Calédonie Énergie (until December 2018)
  - Deputy Chairman of STCPI (until 2019)

(2) Remuneration and Governance Committee.

(5) Strategy and CSR Committee.

Lepoutre Manoelle
Director[3][4][5]

Born: on 8 May 1959 (60 years) French nationality

Business address: TOTAL, 2 place Jean-Millier La Défense 6, 92078 Paris La Défense Cedex.

Ms Lepoutre is Director of Civil Society Commitment within the TOTAL group.

100 Eramet shares held

Date of first appointment

General Shareholders' Meeting of 11 May 2011

Date of last reappointment, and end date of term of office

- **Reappointment:**

General Shareholders' Meetings of 29 May 2015 and 23 May 2019, for a four-year term

- **Expiry date:**

General Shareholders' Meeting called to approve the 2022 financial statements

Other positions held

- **Within Group companies**
  - None
- **Within non-Group companies (unlisted companies)**
  - Director of Fondation Villette-Entreprises
- **Offices held and completed during the past five years**
  - None

Letellier Jean-Philippe
Director representing employees[5]

Born: on 19 January 1963 (56 years) French nationality

Business address: 10, boulevard de Grenelle 75015 Paris.

Mr Letellier is Energy Management Coordinator in the Energy and Climate Department.

21 Eramet shares held

Date of first appointment

Appointed by the Central Works Council as from 23 June 2018 in accordance with Article 10.9 of the Articles of Association

Date of last reappointment, and end date of term of office

- **Expiry date:**

22 June 2022

Other positions held

- **Within Group companies**
  - None
- **Within non-Group companies**
  - None
- **Offices held and completed during the past five years**
  - None

(3)Appointments Committee.
(4)Independent director.
(5)Strategy and CSR Committee.

Maes Miriam

Director(1)(2)(4)

Born: on 8 May 1956 (63 years) Dutch nationality

Business address: 80 St Pancras Way, Camden Courtyards, flat 25, London, NW1 9DN.

Ms Maes has held executive management positions in several international companies.

100 Eramet shares held

Date of first appointment

Appointed by the General Shareholders' Meeting of 27 May 2016

Date of last reappointment, and end date of term of office

- **Expiry date:**

General Shareholders' Meeting called to approve the 2019 financial statements

Other positions held

- **Within Group companies**
  - None
- **Within non-Group companies**
  - Director of Assystem SA (France) (listed company) and Vilmorin & Cie (France) (listed company)
  - Chairman of the Supervisory Board of the Port of Rotterdam (Netherlands)
  - Director of Urenco (England) and Ultra Centrifuge Netherlands
  - Chairman of Foresee (United Kingdom)
- **Offices held and completed during the past five years**
  - Director of Naturex (France) (listed company) (until September 2018)
  - Chairman of the Board of Directors of Elia Asset BV and Elia System Operator BV (Belgium) (listed company) (until May 2017)
  - Chair of Sabien Technology Group Ltd (United Kingdom) (until 2015)
  - Director of Kiwi Power Ltd (United Kingdom) (until 2014)

(1) Audit, Risks and Ethics Committee.

(2) Remuneration and Governance Committee.

(4) Independent director.

Mapou Louis

Director

Born: on 14 November 1958 (61 years) French nationality

Business address: 10, boulevard de Grenelle 75015 Paris

Mr Mapou is a member of the Southern Province Assembly and the Congress of New Caledonia.

99 Eramet shares held

Date of first appointment

Appointed by the General Shareholders' Meeting of 24 May 2018

Date of last reappointment, and end date of term of office

- **Expiry date:**

General Shareholders' Meeting called to approve the 2021 financial statements

Other positions held

- **AWithin Group companies**
  - None
- **Within non-Group companies**
  - Chairman of STCPI since 2018
  - Director of Promo Sud (financing and development company of the Southern Province of New Caledonia)
  - Member of the Supervisory Board of IEOM
- **Offices held and completed during the past five years**
  - Director of Eramet from March 2001 to June 2014
  - CEO of Sofinor (financing and investment company of the Northern Province) until August 2014
  - Chairman of STCPI (Société Territoriale Calédonienne de Participation) until November 2014
  - Executive Director of the Board of Directors of KNS (Koniambo Nickel SAS) until August 2014

Ronge Catherine

Director(2)(4)

Born: on 13 April 1961 (58 years) French nationality

Business address: INNEVA 3, rue de Chaillot 75116 Paris

Ms Ronge is Chair of Weave Air, a strategy consultancy firm.

100 Eramet shares held

Date of first appointment

Co-opted by the Board on 17 February 2016

Date of last reappointment, and end date of term of office

- **Reappointment:**

General Shareholders' Meeting of 23 May 2017, for a four-year term

- **Expiry date:**

General Shareholders' Meeting called to approve the 2020 financial statements

Other positions held

- **Within Group companies**
  - None
- **Within non-Group companies**
  - Director of the Colas Group (listed company)
  - Director of Paprec Holding
  - Chairman of Inneva
  - Chairman of Weave Air
  - Vice-Chairman of the Armines Association
- **Offices held and completed during the past five years**
  - Director of Innoveox (until 2016)

(2) Remuneration and Governance Committee.
(4) Independent director.

Sikorav Sonia

Director(1)(4)(5)

Born: on 8 May 1957 (62 years) French nationality

Business address: 10, boulevard de Grenelle 75015 Paris

Ms Sikorav is an independent director and has held executive management, strategy management and procurement management positions in different industrial groups.

100 Eramet shares held

Date of first appointment

Appointed by the General Shareholders' Meeting of 27 May 2016

Date of last reappointment, and end date of term of office

- **Expiry date:**

General Shareholders' Meeting called to approve the 2019 financial statements

Other positions held

- **Within Group companies**
  - None
- **Within non-Group companies**
  - Director of NSC Groupe and PSB (listed companies) (France)
- **Offices held and completed during the past five years**
  - Director of Eolane (France) – (2009-2017)
  - Director of ENSCP – École nationale de chimie de Paris (until 2014)

4

(1) Audit, Risks and Ethics Committee.
(4)Independent director.
(5)Strategy and CSR Committee.

Tendil Claude

Director(2)(3)(4)

Born: on 25 July 1945 (74 years) French nationality

Business address: GENERALI France, 2, rue Pillet-Will 75009 Paris

Mr Tendil is Chairman of the Board of GENERALI IARD.

100 Eramet shares held

Date of first appointment

Co-opted by the Board on 25 May 2012 (ratified by the General Shareholders' Meeting of 15 May 2013)

Date of last reappointment, and end date of term of office

- **Reappointment:**

General Shareholders' Meetings of 29 May 2015 and 23 May 2019, for a four-year term

- **Expiry date:**

General Shareholders' Meeting called to approve the 2022 financial statements

Other positions held

- **Within Group companies**
  - None
- **Within non-Group companies**
  - Chairman of the Board of GENERALI IARD
  - Director of GENERALI France
  - Director of GENERALI VIE
  - Director of Europ Assistance Holding
  - Director of SCOR SE
  - Chairman of RVS (association)
  - Member of the Executive Committee of MEDEF
  - Chairman of the Institut pour l'innovation économique et sociale (2IES)
  - Chairman of Fondation ARC for cancer research
- **Offices held and completed during the past five years**
  - Chairman and CEO of GENERALI France, GENERALI Vie, GENERALI Iard (until October 2013)
  - Chairman of the Board of Europ Assistance Holding (until 2015) and Europ Assistance Italy (until April 2015)
  - Director of Assicurazioni Generali SpA
  - Member of the Supervisory Board of GENERALI Investments SpA
  - Permanent representative of Europ Assistance Holding on the Board of Europ Assistance Spain (until 2014)
  - Chairman of the Board of Directors of GENERALI France, GENERALI France Assurances and GENERALI Vie (until 2016)

(2) Remuneration and Governance Committee.

(3) Appointments Committee.

(4) Independent director.

Vincent Bruno

Director(1)(2)(3)(5)

Born: on 6 March 1982 (37 years) French nationality

Business address: Agence des Participations de l'État

139, rue de Bercy Teledoc 229 75012 Paris

Mr Vincent is Director of Energy Shareholdings at the Agence des participations de l'État (APE).

Number of Eramet shares held: not applicable

Date of first appointment

Appointed as Government representative on 23 May 2019, as per the Order of 20 August 2014

Date of last reappointment, and end date of term of office

Not applicable

Other positions held

- **Within Group companies**
  - None
- **Within non-Group companies**
  - Director of ORANO SA and AREVA SA
- **Offices held and completed during the past five years**
  - Director of Monnaie de Paris (from 2013 to 2014), Imprimerie nationale (from 2013 to 2014), the Grand Port Maritime of La Rochelle (from 2013 to 2014), the Grand Port Maritime of Marseille (from 2014 to 2017), SNCF Réseau (from 2015 to 2017), Aéroports de Lyon (from 2015 to 2016) and Aéroports de la Côte d'Azur (from 2014 to 2016)

As provided by paragraph 12.1 of Appendices 1 and 2 of Commission Delegated Regulation (EU) 2019/980, the Company states that, to its knowledge and at the time of writing this report:

- no conviction of fraud has been handed down in the last five years against any member of the Board of Directors or of General Management;
- in the last five years, no member of the Board of Directors or of General Management has been associated with a bankruptcy, receivership, liquidation or court-ordered administration in their capacity as member of an administrative, management or supervisory body, or as CEO of a company;
- no proceedings and/or official public penalty has been handed down in the last five years against any member of the Board of Directors or of General Management by the statutory or regulatory authorities (including the relevant professional bodies); and
- no director or member of General Management has in the last five years been stripped by a court of his or her right to act as a member of an administrative, management or supervisory body or from participating in the management or business affairs of a listed company.

No director has a conflict of interest within the meaning of section 12.2 of Appendices 1 and 2 of Commission Delegated Regulation (EU) 2019/980 or has entered into a service contract with Eramet.

(1) Audit, Risks and Ethics Committee.

(2)Remuneration and Governance Committee.

(3)Appointments Committee.

(5)Strategy and CSR Committee.

4.2.1 Implementation of the "Comply or Explain" rule

AFEP-MEDEF Code recommendation	Eramet Corporate Governance
Recommendation 16.1 on the composition of the Appointments Committee: "It must comprise a majority of independent directors."	The Appointments Committee comprises two independent directors out of its four members, including the Chairman of the Remuneration and Governance Committee, who is also Chairman of the Appointments Committee. This is due to the control on the company's shares in which a group of shareholders holds 62.51% of shares and 74% of voting rights.
Recommendation 16.2.1 on the powers of the Appointments Committee:"with regard to the selection of new directors" "this committee is responsible for making proposals to the Board after reviewing in detail all the elements to be taken into account as part of its deliberations, particularly in view of the composition and the changes in the Company's shareholding structure, to achieve a balanced composition of the Board: representation of women and men, nationality, international experience, expertise, etc. In particular, the committee organises a procedure for selecting future independent directors and conducts its own reviews of potential candidates before approaching any of these."	Under the terms of the Shareholders' Agreement governing the relations between the Company's main shareholders, the latter have the power to put forward new directors. The remit of the Appointments Committee is to ensure that the proposals made by the main shareholders do not contravene laws or the Company's Articles of Association, and to verify that there are no conflicts of interest and, regarding independent directors, to state a position on the independence criteria of such directors.
Recommendation 25.1 ongoing provision of information to shareholders on remuneration of corporate officers "All components of executive corporate officers' remuneration, whether potential or vested, are publicly disclosed immediately after the Board meeting at which they are approved."	There is no communication after Board meetings held to review remuneration. The components are communicated in the Universal Registration Document.

4.2.2 Changes to the composition of the Board of Directors and its Committees during the 2019 financial year and up to the date of filing of this registration document

Board	
Co-opting	None
Appointment of new permanent representatives representing legal entity directors	None
Appointments by the General Shareholders' Meeting	On 23 May 2019, the General Shareholders' Meeting appointed François Corbin, Jérôme Duval and Emeric Burin des Roziers as directors.
Resignations	None.
Expiry of the terms of office of directors	At the General Shareholders' Meeting of 23 May 2019, the terms of office of Antoine Treuille, Édouard Duval and Georges Duval and of FSI Equation have not been renewed.
Government representative pursuant to Articles 4 and 6 of Order No. 2014-948 of 20 August 2014	Mr Bruno Vincent, a Government representative was appointed to the Board by the order of 23 May 2019.
Committees	
Audit, Risks and Ethics Committee	As of 23 May 2019, Antoine Treuille is no longer a member of the Committee and François Corbin and Cyrille Duval were appointed to the Committee.
Remuneration and Governance Committee	As of 23 May 2019, Ms Lepoutre and Mr Treuille are no longer members of the Committee and Mr Cyrille Duval, Mr Gomès, Ms Ronge and Mr Frédéric Gaidou joined the Committee.
Strategy and CSR Committee	As of 23 May 2019, George and Édouard Duval are no longer members of the Committee and Mr Jérôme Duval, Ms de La Fournière and Mr. Letellier joined the Committee. Ms Lepoutre became the Committee chairperson.
Appointments Committee	As of 23 May 2019, Mr Édouard Duval is no longer a member of the Committee and Ms Lepoutre joined the Committee.

5 Risk management

This chapter presents the Risk Management System implemented by General Management and all of the Eramet teams to prevent and control the significant Group risks which Eramet believes it may have to address.

The Group conducts its business in a constantly changing environment, which creates risks, many of which are beyond its control. The risks and uncertainties described below are not the only risks to which the Group is currently exposed or will be exposed in future. Other risks or uncertainties which the Group is currently unaware of or regards as unimportant as at the date of this document, might have an adverse effect on its operations, results, financial situation and outlook.

However, Eramet cannot provide an absolute guarantee that the risk management objectives will be met or that the risks will be completely eliminated.

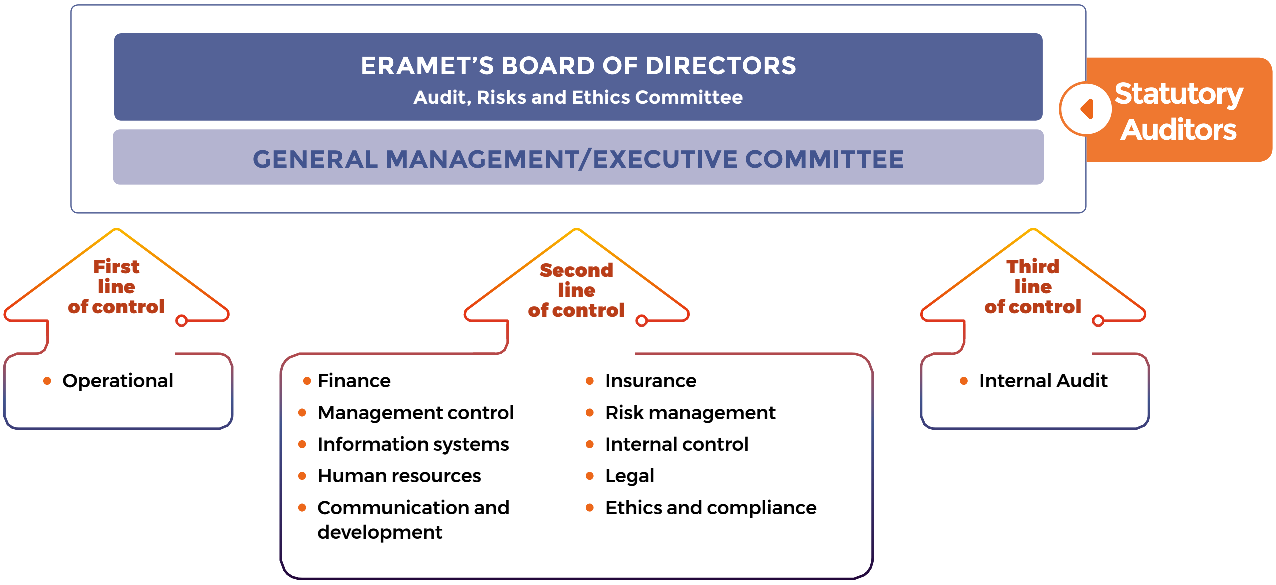
5.1 PRINCIPLES OF RISK MANAGEMENT WITHIN ERAMET

The Eramet Group recognises that risk-taking is vital and inherent to its business development. It is therefore committed to a risk management approach that provides a better understanding of its risks and engages in calculated risk-taking to increase its performance and enable it to take better advantage of opportunities.

In this respect, risk management is considered by the Eramet Executive Committee to be a key component of the Group's governance system.

The Eramet Group has launched an integrated risk management approach aligned with the organization's objectives and the Group's strategy and in accordance with the 2010 AMF recommendations, creating a Risk Management function and coordinating the three risk control lines presented below:

Organization 3 lines of control



The first line of control corresponds to controls performed by operational management.

The second line of control is provided by the various functions set up by management to monitor risk control and compliance.

The third line of control is based on the independent assurance provided by Internal Audit.

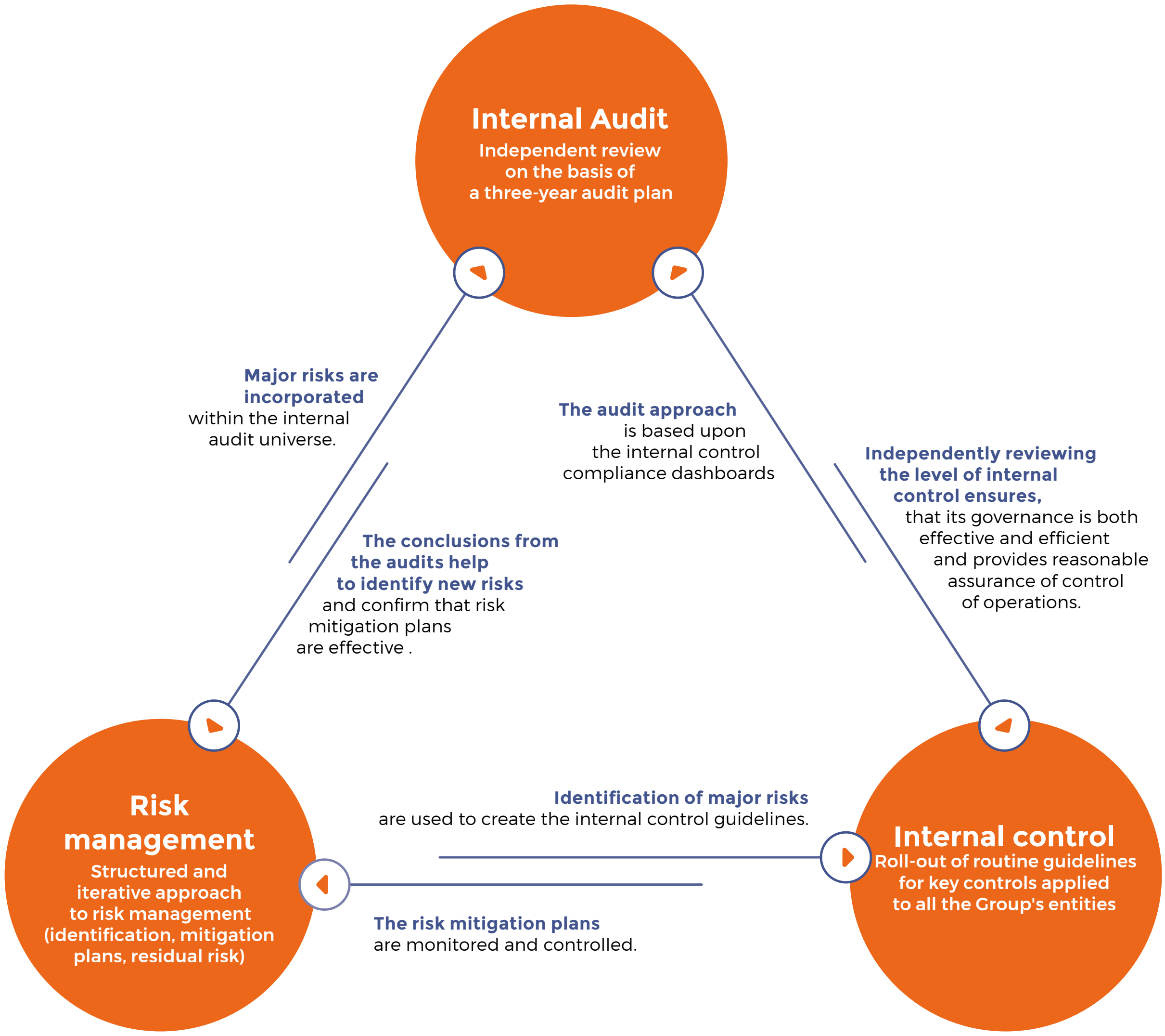
The coordination of the three lines of control that make up the Risk Management System is provided in particular by a Risk Management Committee composed of ten permanent members: the Group Risk Manager, the Director of Risk Management, Internal Control and Internal Audit, the Director of Environment, Industrial Risks and Product Risks, the Industrial Risk Coordinator, the Security Director, the Safety Director, the Group Insurance Manager, the Director of Ethics and Compliance, the Information Systems Security Manager and the Director of Public Affairs. This Committee is an operational body for exchange between the businesses contributing to the risk control approaches. It acts as a medium for the risk management culture within the Group. Its aims are:

- to inform the various members of their respective tasks, thereby helping to improve risk management;
- to provide an overview of risks and subsequent challenges, enabling them to locate the risks pertaining to their area of expertise in relation to other risks;
- to ensure that risks identified as emerging or rapidly evolving are taken into account.

The Risk Management System also includes a Crisis Management System, a Country Risk Committee and an Ethics and Compliance Committee.

5.2 AN INTEGRATED APPROACH TO RISK MANAGEMENT WITHIN ERAMET

In 2019, the Group combined Risk Management, Internal Control and Internal Audit within a single department in order to improve risk management for the Group on the basis of the expertise of each of the three functions:



The Risk Management System provides a structured approach for identifying, categorising, handling and controlling all kinds of risks faced by the Group. It contributes to Eramet's success by anticipating risks and by minimising the probability of occurrence and/or the impact of these risks. It aims to identify the strategic, operational, financial and regulatory risks that might materialise over a time horizon of three to five years, to address them by defining action plans to mitigate the probability and impact of risks, to establish or optimise the necessary internal control processes to manage the Group's activities and operations, and to monitor the Group's exposure to the specific risk universe associated with its business model. It is based on an iterative approach that enables continuous monitoring of risks.

Risk management, an iterative process

The implementation of this process led to the mapping in 2019 of the Group's major risks, which was presented to the Audit, Risks and Ethics Committee of Eramet's Board of Directors in December 2019. The main risks identified and described below help to outline control areas that are then rolled out in operational action plans designed to strengthen existing control mechanisms.

For operational risks, the monitoring of changes to the risks identified and the implementation of the control systems are carried out by the managers of the Divisions in coordination with:

- the Group's Communication and Sustainable Development Department for industrial risks and risks related to the environment and CSR;
- the Group Human Resources, Health and Security Department for risks related to health and security;
- the Group Safety and Prevention Department for risks related to occupational safety;
- the Ethics and Compliance Department for risks of non-compliance;
- the Group Risk Manager, the Risk Managers of the Divisions and the Risk Management Coordinators for other risks within the Group's various entities.

For Group financial risks, the monitoring of changes to the risks identified and the implementation of the related control systems are carried out by the Finance and Treasury Department for the entire Group, in conjunction with the managers of the Group's subsidiaries.

The Executive Committee is responsible for addressing and managing the Group's strategic and/or major and ethical risks, with the assistance of the Group Risk Management, Internal Control and Audit Department.

Finally, the Group Insurance Management Department defines and implements the Group's residual risk transfer policy, following approval by the Executive Committee.

The internal control system contributes to the management of the Group's activities and the efficiency of its operations. It incorporates procedures and controls to provide reasonable assurance regarding the control of risks related to the Group's activities and is implemented by the Group's operational management. Its effectiveness is verified by the Internal Control Department. Risk ownership and responsibility for risk management are assigned at the most appropriate level (subsidiarity principle). Each operations manager is therefore directly involved in the implementation of internal controls and is responsible for assessing and reducing the risks related to the processes and activities for which he or she is responsible.

In accordance with the AMF reference framework, updated in July 2010, the internal control procedures in force at Eramet are designed to:

- ensure that transaction execution or management activities and the conduct of personnel comply with the policies laid down by the Company's governing bodies and those set out in applicable legislation and regulations and that they adhere to the Company's values, standards and internal rules;
- check that the accounting, financial and management information provided to the Company's governing bodies faithfully reflects the Company's business activities and position;
- ensure that insurance procedures and/or programmes are put in place to protect the Company's assets against risks of loss resulting from theft, fire, improper or illegal actions and natural hazards;
- prevent and control risks of error or fraud, in particular in the areas of accounting and finance.

However, as with any control system, it cannot provide an absolute guarantee that these risks are totally eliminated.

In 2019, the Group created an Internal Control function. Internal control is now based on a network of Internal Controllers at Group, Division and entity levels, responsible for effectively establishing control routines to ensure that procedures are actually implemented.

Internal Audit is the third line of control, which assesses the way in which the Group identifies and controls its risks. It is an independent and objective activity that provides the Group with assurance on the degree of control of its operations and provides it with advice on how to improve them. It helps the Group to achieve its objectives by evaluating its risk management, control and corporate governance processes through a systematic and methodical approach and by proposing ways to enhance its effectiveness. It ensures that procedures are followed in the audited areas.

Group Management is responsible for implementing appropriate risk management and maintaining an adequate level of internal control. The scope of Internal Audit's intervention is to assess whether the audited organizations and processes are adapted to enable the Group to achieve its objectives. Internal Audit identifies opportunities to improve internal control and ensures that quality, continuous improvement and value creation are encouraged in the Group's control processes.

The results of the risk mapping exercise are included in the Group's internal audit plan to ensure that the existing control process functions properly, and that the defined action plans are actually implemented. The Internal Audit Department provides the Group's Executive Committee and the Audit, Risks and Ethics Committee with regular updates on its work and findings, as well as the degree of completion of action plans within the audited entities. In 2019, a total of 31 internal audits were performed. The effective implementation of the internal audit recommendations by the Group entities is reported to the Group Executive Committee and the Management Committees of the Divisions.

Since 2018, Eramet's Internal Audit Department has been IFACI certified according to professional internal audit standards, attesting to the compliance of its practice with the best international standards, and has established a continuous improvement plan.

5.3 MAIN RISK FACTORS TO WHICH THE GROUP IS EXPOSED

The main risk factors described below, to which the Group is exposed due to its business model and the activities it performs, are identified in the Group's 2019 risk map, which was presented to the Audit, Risks and Ethics Committee in December 2019. The residual level of importance, i.e. after the risk management measures described below were implemented, derives from the Group's assessment of the probability of occurrence of the risks and their potential impact.

Pandemic coronavirus disease was a key event occurring during the first quarter 2020. Accordingly, key risk factors were assessed again. At this stage, it does not seem that the net importance level needs to be fundamentally increased nor modified by comparison with what it was before this crisis. In particular, this is resulting from risk mitigation factors implement by the Group. However, many uncertainties exist to assess the real impact of this pandemic disease upon Group financials and activities. They are presented thereafter, in section 5.3.2. Operational Risks.

Category	Risk factors	Net importance level
STRATEGIC	Geopolitical risks	High
	Risks that assets the Group's portfolio assets which have not been sufficiently profitable will not be recovered, or inability to reposition certain Group entities in terms of competitive costs	Medium
	Risk of social and environmental acceptability	Medium
	Risks related to non-execution of the chosen strategy of profitable growth with a diversified business portfolio	Medium
OPERATIONAL	Risks related to the manganese ore supply chain	High
	Risks of interruption in delivery to a strategically important customer of Aubert & Duval	High
	Risks related to production reliability and the development of new metallurgical products	Medium
	Risks of failure of information systems, safeguarding of information and cyber attacks	Medium
	Risks related to security	Low
	Risks related to industrial and environmental safety	Low
	Risks to the health and safety of personnel	Low
LEGAL	Risk of legislative and regulatory changes	Medium
	Risk of non-compliance with regulations and ethics	Low

5.3.1 Strategic risks

5.3.1.1 Geopolitical risks

The Group has operations in Gabon, New Caledonia, Senegal, Indonesia and Argentina. The Group's political risk is intrinsically linked to the extraction, processing and/or marketing of the Group's products in countries outside the OECD area, where the political situation and business environment are not stable. Unfavourable political, socio-economic and regulatory developments in the countries in which the assets are located may affect the Group's financial position, profitability and outlook. The same applies in the event of terrorist activities, war, health crises or the blocking of public services, access to deposits, logistics or transport.

Tensions between the United States and China are impacting world trade, specifically prompting a slowdown in growth, while China remains the Group's primary market. This has created an overall context of falling prices and a risk of protectionism, leading to increased customs duties, which has adversely affected sales of high-speed steels in the US in particular.

The Group's profitability and sustainability can also be impacted by specific taxes (fees, taxes or duties) to which the business is subject locally.

Risk management

To support its various activities and projects, the Group's policy is to develop and maintain firm, sustainable and complementary partnerships with national partners and local firms. These partnerships may take the form of a stake in Group subsidiaries, with a number of special covenants to take account of the existing shareholder balance. The

Group is also keen to develop and maintain working relations and consultation with the public authorities and all stakeholders regarding the impact of changes in the business environment on local operations and the Group's performance.

Measures to reduce risks have been directed at several areas:

(a) Strong and lasting partnerships

Relationship with STCPI and New Caledonia – Société Le Nickel-SLN shareholders' agreement

Société Le Nickel-SLN, a subsidiary with 56% of its shares held by Eramet and 10% by Nisshin Steel, also has 34% of its capital held by Société Territoriale Calédonienne de Participation Industrielle (STCPI), which also has an equity investment of around 4% in Eramet. STCPI represents the three New Caledonian provinces: the South Province on the one hand and the North Province and Islands on the other.

The shareholders' agreement of Société Le Nickel-SLN includes the distribution of directorships on the following basis: eight for Eramet (including the representative of Nisshin Steel), and four for STCPI, which is also entitled to appoint an observer.

Relationship with Pt Antam and Indonesia (Weda Bay)

Following the implementation of the framework agreement signed in 2018 with the Chinese steel group Tsingshan, the Tsingshan group, through its subsidiary Newstride, holds 57% of the capital of Strand Minerals (Indonesia) Pte Ltd and Eramet 43%.

The Indonesian company Pt Weda Bay Nickel, a project and exploration company created for the development of the Weda Bay nickel deposit on Halmahera Island in Indonesia, is 90% owned by Strand Minerals (Indonesia) Pte Ltd and 10% by the Indonesian public limited liability nickel producer Pt Antam Tbk (Antam), a company specialising in the exploration, mining, refining and distribution of mining products.

Relationship with the Government of Gabon

Compagnie Minière de l'Ogooué (Comilog), a subsidiary of Eramet, which holds a 63.71% stake, is 28.94% owned by Société Équatoriale des Mines (a 100% state-owned company) and the Caisse des Dépôts of Gabon.

Four Gabonese directors sit on Comilog's Board of Directors.

Relations with the Republic of Senegal

The Republic of Senegal is a 10% shareholder in Grande Côte Operations, a 90% subsidiary of Eramet, which operates the Grande Côte mineral sand deposit in Senegal. The Republic of Senegal is represented by two directors (out of a total of eight) on the Grande Côte Board of Directors.

Generally speaking, the Country Risk Committee is responsible for monitoring trends in geopolitical risks in the areas in which the Group is present. In particular, it ensures measures are implemented that are consistent with the Equator Principles and the Group's CSR Roadmap.

(b) Monitoring of specific regulatory developments in sensitive areas

Mining operations are subject to specific regulations, depending on extraction locations and activities. These regulations chiefly relate to:

- research permit and mining concession regimes;
- obligations specific to mining operations;
- environmental protection and biodiversity limits and controls;
- site restoration after depletion.

These regulations may change, with a possible impact on operations and results.

In addition to actual mining activity, industrial operations are also subject to specific regulations, depending on the industrial site. These regulations mainly cover:

- authorisations to operate the installations (technical studies to be carried out prior to the authorisation, applicable procedure, etc.);
- the limitation of the impacts of the facilities on the environment, health and the surrounding area (discharges into the natural environment, industrial risks, waste disposal, etc.);
- the cessation of activity and the rehabilitation of sites at the end of their operation (risks related to polluted sites and soils, etc.).

These regulations may change, with a possible impact on operations, particularly where additional capital expenditure is required to factor in environmental concerns in response to changes in regulations.

The Group has also implemented a Group-wide policy for the prevention and management of crises, including health crises, through procedures that focus on three situations:

- crisis prevention: applicable standards, identification and implementation of operational measures to counter weak signals, crisis simulation exercises so that each person knows his or her role and to continually improve emergency planning (in conjunction with the industrial risk matrix, which was updated in 2016);
- serious incident management: definition of a serious incident, Group reporting, feedback;
- crisis management: as the sites already have their own emergency plans (contingency plan, ERP or other) the Group central crisis management system was updated in 2016. It includes procedures for the escalation of alerts, the assessment of their severity, the organization in crisis units and feedback, as well as crisis management coordination interfaces with site emergency plans. In the event of a health crisis, the Group's Medical Advisor is automatically involved in the crisis unit. He or she is in charge of monitoring the evolving situation from a medical perspective and coordinates all health-related measures taken in this context.

5.3.1.2 Risks of non-recovery of assets held by the Group for which profitability is insufficient, or inability to reposition certain Group entities in terms of competitive costs

The Group is exposed to the cycles of the Chinese economy, the aerospace market cycle, and the volatility of the commodities market and the Euro/US dollar exchange rate, whose impact on the Group's current operating result and on EBITDA can be measured as follows:

- nickel metal: €110 million[(1)] for a variation in the LME nickel price of 1 USD/lb;
- nickel ore: €20 million[(1)] for an average ore price variation of 10 USD/wet metric tonne;
- manganese ore: €150 million[(1)] for a variation of 1 USD/dmtu;
- manganese alloys: €70 million(1) for an average manganese alloy price variation of 100 USD/t;
- oil: difference of €20 million for a variation of 10 USD/bbl;
- USD: +/-135 million for a difference of +/- 10 cents in EUR/USD.

The Group's turnover and profitability are therefore directly dependent on these exogenous and highly volatile factors. The Group must constantly improve the performance of its assets in order to withstand the cyclical lows. This is especially true for Société Le Nickel ("SLN"), whose cash cost must be repositioned compared with its competitors, thanks to the successful execution of back-to-competitiveness plans and cost reduction plans. A delay in these various progress plans would impact its profitability.

The risk of loss of competitiveness of the assets also depends on access to electricity, in particular the construction and commissioning of the new power plant in New Caledonia, which must take over from the current power station, which is reaching end of life, and the optimisation of the distribution methods for this energy.

The competitiveness of some of the Group's assets also depends on the valuation of mineral resources and reserves, the evolution of which over time is directly linked to the technical and economic assumptions used for their exploitation and processing (geological data, techniques and operating costs, conversion factors, choice of process, environmental, legal and tax regulations).

Risk management

In order to address this risk, several operational productivity and performance improvement plans have been launched. Their accelerated roll-out in the entities of each of the Group's Divisions as well as in the Holding Company continued in 2019 and their objectives were readjusted in order to optimise their results.

Specifically, the Group launched a rescue plan for SLN, based on increasing the number of mine and plant working hours and making the organization more productive, and on exports of low-grade ore, thereby absorbing more of the fixed costs. It also renegotiated its electricity costs.

The Group is pursuing a cross-functional transformation project launched in 2017, based in particular on an initial management component aimed at establishing managerial and operational excellence at all levels of the organization in order to improve performance and facilitate the Group's strategic ambitions.

5.3.1.3 Risks related to non-execution of the chosen strategy of profitable growth with a diversified portfolio of activities

Eramet's business model is based on the extraction and refining of minerals (manganese, nickel, mineral sands) and the production and processing of parts and finished products in high value-added alloys (high-performance steels, aluminium and titanium based superalloys). Its environment is characterised by a cyclical market and high capital intensity. Access to a limited world-class mineral resource and the development of projects for exploiting it require long-term investments.

Given the capital intensity involved, the decision to launch new mining operations hinges on the results of technical and financing feasibility studies and is directly impacted by changes in the price of raw materials, exchange rates, costs and financing methods. At the bottom of an economic cycle, some of its decisions may be delayed or projects abandoned, which may have an adverse impact on the Group's financial situation.

The Group is now engaged in a new balanced strategy of profitable growth through a selective allocation of resources combining return on capital and long-term growth. A delay in the implementation of the new strategy could affect the Group's financial position and degrade its competitive positioning, affecting the ability of its business model to create value over the long term.

(1) Based on a €/USD exchange rate of 1.13.

Risk management

As part of the strategy transformation currently underway, a new M&A Department was set up in 2017 to consolidate the review and execution of strategic operations. The aim is to strengthen Eramet's portfolio by expanding it into attractive markets in which the Group is already an industrial or commercial leader or enjoys significant advantages, to allow redeployment so that the Group can diversify its geographical and financial asset base.

The Group takes the possible introduction of an overall carbon tax into account when calculating the profitability of its investment projects.

The digital transformation is a major element of value creation and business model transformation for Eramet, as outlined in the strategic guidelines presented in Chapter 1 "Presentation of the Group". This digital transformation approach relies on two cross-functional pillars of Group Management: the Information Systems Department and the Human Resources, Health and Security Department. 2019 saw the completion of numerous digital transformation projects, concerning the modelling of mining deposits, lowering energy consumption, improving the productivity of the Group's mines and plants and employee safety. These achievements and the organization established were also recognised with the BFM Business Grand Prize for Digital Acceleration in October 2019 and the BFM Digital Manager of the Year Awards in November 2019.

5.3.1.4 Risks related to social and environmental acceptability

The Group is exposed to the risk of a change in the perception of its mining and industrial activities by the market and by civil society, which could impact the Group's reputation and generate difficulties or obstacles to operating and marketing its products. These risks materialised when one of SLN's mines was blocked by anti-mining activists between August and October 2019. The assessment of the mining reserves assumes unimpeded access to the deposits. Administrative bottlenecks or obstacles caused by social or community movements would reduce usable volume and, as a result, modify the quality of these reserves.

Risk management

In addition to the efforts made by mining and industrial sites in their areas of operation, the Communication and Sustainable Development Department (DC2D) coordinates efforts to reduce and control risks related to social and environmental acceptability.

In particular, a community relations methodology and fundamentals consistent with the principles of the World Bank were established in 2019 and are now being rolled out, including within the framework of the Group's CSR Roadmap 2018-2023. The quality of the actions taken was recognised by non-financial ratings agency Vigeo Eiris, which ranked Eramet third among the 45 Mining & Metals Europe panel in July 2019.

5.3.2 Operational risks

5.3.2.1 Risks related to the manganese ore supply chain

The profitability of the Group's mining activities and the competitiveness of its mining assets depend on the conditions of the transportation of ore to the port areas of the countries in which it operates and the use of shipping to transport its products: first, in various stages, to production sites and then for delivery to customers, because of the long distances between the mines where raw materials are extracted and the sites where they are processed, and between those sites and the markets. An interruption in sea or rail transport or a sharp rise in transport prices would have a negative impact on results and asset profitability.

Against a backdrop of increased traffic, greater capacity on the Gabon railway (Trans-Gabon) enabling evacuation of all the manganese ore is a key factor in support of mining production growth.

Risk management

To protect itself against sharp rises in sea freight costs, the Group seeks to negotiate long-term contracts with predefined conditions and to book some ships on a long-term basis. During periods of low sales activity, however, this may entail the renegotiation of contracts. The risk of damage is moreover covered by specific insurance policies.

Through its subsidiary, Setrag, the Group holds the concession for the Trans-Gabon railway for a period of 30 years from November 2005. In addition to providing a public service and transporting miscellaneous goods, the railway primarily carries manganese ore from the Moanda mine to the port in Owendo (Libreville) for Comilog. Since 2016, Setrag has been implementing a plan to restore the sole railway, continuing to improve equipment maintenance and investing in new rolling stock, under a programme of several tens of millions of euros over a period of eight years.

In Senegal, Eramet subsidiary Grande Côte Operations holds a 25-year railway concession beginning in 2011 to transport ore from the mining site to the Dakar port facilities and holds a licence to use the port area at the Dakar autonomous port.

5.3.2.2 Risks of interruption in delivery to a strategically important customer of Aubert & Duval

Non-compliance revealed in Aubert & Duval's quality management system has raised the level of risk that delivery to certain customers, particularly in aeronautics, will be interrupted.

Risk management

Aubert & Duval has implemented a business continuity plan, specifically by establishing impact matrices for the criticality of its products vis-à-vis customers. This involves cross-analysing the criticality for the customer of the requested products with risks of halting Aubert & Duval's manufacturing tools and process. The analysis enables the criticality of the risk of failure by Aubert & Duval to be evaluated, so that mitigation measures can be implemented in advance to foster business and supply continuity.

Furthermore, a specific action plan has been adopted, which includes:

- more robust management of documentation associated with production, in order to make product manufacturing and shipment flows more fluid;
- strengthening industrial performance to improve production reliability as processes evolve, specifically by rolling the QRQC (Quick Response Quality Control) method, and design standards for the manufacturing ranges based on APQP (Advanced Product Quality Planning).

Aubert & Duval is also implementing more measures, in close collaboration with its customers, to most effectively deal with any risks of interruption to the production chain and to identify longer-term areas for progress that will enable them to be minimised.

5.3.2.3 Risks related to production reliability and the development of new metallurgical products

Aubert & Duval, a subsidiary of the Group's High Performance Alloys Division, produces high power forged or die-forged parts, as well as high-performance steels and super alloys, particularly for the aerospace and energy markets. Any failure of the design or manufacturing process or the chain of controls would result in legal and financial consequences for Aubert & Duval related to production slowdown or downtime or the inability of the customer to use the product and possible product recall. In addition, Aubert & Duval and Eramet would be exposed to reputational risks, loss of confidence impacting the sustainability of the subsidiary, and financial risks of counterparties incurred by the holding company, Eramet S.A.

Risk management

Aubert & Duval has rolled out a global quality management organization to improve the reliability of the production cycle by implementing the following control methods:

- extensive work to strengthen the capability of existing critical products and those under development;
- identification and tracking of key parameters to detect drift and weak signals;
- a production organization based on self-control and anomaly detection;
- enhanced audit and product controls by the quality teams;
- a policy of prevention of falsification (awareness, audits);
- product qualification processes in close connection with customers and external certification bodies.

In 2018, as part of an internal review of quality processes initiated by the new management, the High Performance Alloys Division found instances of non-compliance in its quality management system. As soon as they were discovered, these non-compliant practices were immediately stopped, and a market announcement was made on 8 December 2018. The discovery resulted in the establishment of a corrective action plan in line with the highest international standards, as well as verification and analysis procedures for products in use, in close collaboration with the customers concerned.

The Nuclear Safety Authority (*Autorité de sûreté nucléaire* or ASN) confirmed via a press release dated 20 August 2019 that, at this stage, it had not identified any risk in terms of nuclear safety. The ASN published a summary of its conclusions after an on-site inspection at Aubert & Duval on 9 and 11 October 2019. These conclusions state that Aubert & Duval and its customers had carried out complementary, in-depth investigations, and that the action plan implemented by Aubert & Duval to deal with these irregularities was consistent and commensurate with the issues involved.

The corrective action plan is based on three key components:

- a "human" component, designed to improve knowledge of, and respect for, the rules of ethics and compliance that the Company is obliged to implement in connection with its business and the risks associated with the failure to comply with these rules, both in terms of the safety and security of the products in use and in terms of the liability of both the Company and individual employees. It is mainly based on an extensive training system;
- an organizational component, designed to improve the Division's product control methods and quality processes to ensure full independence of the functions responsible for implementing these controls;
- a technical component, designed to improve the operational performance and reliability of developments by establishing a new product development process (APQP, or Advanced Product Quality Planning) and rolling out the QRQC (Quick Response Quality Control) standard, which involves eliminating quality problems as soon as they arise and dealing with them on the ground.

The roll-out of this plan is being monitored very regularly, both internally by the Group Audit, Risks and Ethics Committee, and externally by customers, authorities and certifying bodies. Successful implementation thereof enabled Aubert & Duval to re-earn its ISO 9001 and EN 9100 (aeronautics) certifications in 2019, which had been suspended when the non-compliance was announced.

5.3.2.4 Risks of failure of information systems, protection of information and cyber attacks

The Group depends on IT infrastructure and applications, particularly for supply, production, distribution and invoicing, reporting and consolidation activities, as well as new product design and development.

The risks to the Group could be information system malfunction (loss of availability, data theft, destruction or loss of data integrity) related to external threats (denial of service, hacking, malware) or internal threats (tampering, breach of data confidentiality).

Other types of indirect threats should also be prevented, such as those related to social engineering (Chairman or treasurer fraud, blackmail, ransomware, etc.). As the Eramet Group is part of the supply chain of major contractors, it is particularly likely to be targeted by threats designed to cause disruption throughout this chain.

All of these risks and threats could impact the Group's operations and profitability.

Risk management

In order to address the risks and threats, the Group stepped up its information system security and cyber-security by recruiting a Group Chief Information Security Officer at the end of 2017, who reports to the Information Systems Department, which has created a team to cover all of the Group's entities, responsible for:

- preventing risk by raising awareness among all employees, emphasising best practices;
- continuing the Information Systems protection programme and boosting control of access of people and materials, as well as detecting potential vulnerabilities by auditing critical elements;
- improving the prevention and detection of security incidents and the response model in accordance with the various risks and threats.

5.3.2.5 Risks related to security

The risk of intentional attack affects all organizations. Eramet is particularly exposed because of its presence in 21 countries, some of which are more exposed to terrorist threat, or in countries considered politically and economically unstable that could experience social violence. The Group is therefore exposed to risks of attacks on the security of persons and property in the countries where it operates and/or at its industrial sites, resulting in human and financial losses.

Risk management

The Group's security policy is centred around protection of the people, facilities and information that support its development and economic efficiency. Three objectives are pursued:

- a strategic objective that assesses the nature of threats and measures the risks to the Group's people and assets;
- an operational objective that puts in place the resources and means necessary to prevent and protect;
- an educational objective that informs and raises awareness among Eramet Group employees about the reality of the risks, the means implemented to address them, and the behaviours to adopt.

The protection measures put in place by the Security department are the result of analysis and monitoring of the security situation and the assessment of the threat. They also depend on the nature of the activities carried out by the Group's units in the region and the effectiveness of the public institutions in the countries concerned.

The Group has also implemented a Group-wide crisis prevention and management policy through procedures that focus on three situations:

- crisis prevention: applicable standards, identification and implementation of operational measures to counter weak signals, crisis simulation exercises so that each person knows his or her role and to continually improve emergency planning (in conjunction with the industrial risk matrix, which was updated in 2016);
- serious incident management: definition of a serious incident, Group reporting, feedback;
- crisis management: as the sites already have their own emergency plans (contingency plan, ERP or other) the Group central crisis management system was updated in 2016. It includes procedures for the escalation of alerts, the assessment of their severity, the organization in crisis units and feedback, as well as crisis management coordination interfaces with site emergency plans.

These procedures have been deployed across all sites.

5.3.2.6 Risks related to industrial and environmental safety

The Eramet Group is exposed to the risk of accident or major industrial and/or environmental damage that could affect one of its sites, which could affect the safety or health of people on site and/or in the surrounding area, and or significantly impact the environment. Such an event could lead to an interruption of business, jeopardising the continuity of a strategic Group asset, as well as additional costs related to legal claims against Eramet and damage to its reputation.

Risk management

The Environment, Industrial Risks and Product Responsibility Department coordinates initiatives aimed at reducing, managing and controlling industrial and environmental risks. The organization, means and methods for controlling these risks are detailed in Chapter 6, section 6.2.1 "Challenges, objectives, organization and means for the prevention of environmental and industrial risks".

With regard to major projects and investments, the Group applies criteria such as consideration of the health, safety, social and environmental dimensions of sustainable development as part of its investment procedure, and the Environment, Industrial Risks and Product Responsibility and CSR functions are systematically represented on project steering committees.

5.3.2.7 Risks to the health and safety of persons

The Group uses processes and industrial equipment that are a potential hazard for users. Molten metal, industrial machinery, heavy machinery, chemicals, noise and vibrations are all examples of dangers intrinsic to the Group's activities. These hazards generate risks of potentially serious accidents and damage to the health of Eramet employees, external contractors, and, in some cases, local residents.

In addition, the Group's subsidiary Comilog is exposed to the risk of an acute health crisis in the context of the Marcel-Abéké Hospital, which it manages. On a general level, poor enforcement of safety rules and the behaviour of staff could damage the integrity of stakeholders (employees, temporary staff and subcontractors) across the Group.

Risk Management

Within the Group's Human Resources, Health and Security Department, the Medical Advisor and the Safety and Prevention Director coordinate measures aimed at reducing and managing the risks to the health and safety of individuals. The organization, means and methods for controlling these risks are detailed in the Health, Safety and Hygiene section of Chapter 6.

5.3.2.8 Risks related to the impact of pandemic coronavirus disease (Covid-19)

Pandemic coronavirus disease was a key event occurring during the first quarter 2020. Many uncertainties exist to assess the real impact of this pandemic disease upon Group financials and activities. Although it is complex to fully identifying the involved risks, the most significant seems to be as follows:

Risks related to restriction of activities demanded from Public authorities to limit the speed of the dissemination of the coronavirus pandemic. These measures are rather delicate to implement, especially in the process manufacturing industries. In addition, they may lead to a significant decline in commercial demand from markets in which the Group is having business, and may induce a break in the supply of critical materials because of the disturbance of the supply chains. An increase of commercial disputes may also happen due to the inability to fulfill commercial commitments.

Risks related to containment measures in the countries where the Group is having operations, where differences from one country to the other may sometimes exist, with the effect of teleworking and the risk of irrational behaviors resulting from the fear to contracting the virus, and which may prevent business continuity or recovery.

Risks of economic downturn, which would result in price drop for products sold by the Group or a decline of order from key customers, themselves impacted by the economic downturn. This could significantly reduce Group profitability and financial results.

Risk management

In order to cope with this situation, the Group implemented measures with the objectives to:

- communicate, warn and therefore protect the health of the employees and their relatives,
- participate to the containment of the pandemic disease in putting in place and in strictly enforcing the measures as decided by the Public authorities from the affected countries,
- ensure business continuity with the organization of prevention plans in the production sites, in close connection with suppliers, customers and business continuity plans.

Several crisis units have been set up at different organization layers (sites, entities, Divisions), coordinated by a Corporate crisis unit, as to ensure fast and well suited decision taking. The Corporate crisis unit is monitoring the pandemic disease evolution worldwide and the implementation of needed actions as to guaranty employee protection and the business continuity of the Group.

Measures to restrict Group cash outflow were put in place with the objective to reduce costs, to maintain Group solvency and financing capabilities.

5.3.3 Legal risks

5.3.3.1 Risk of legislative and regulatory changes

Mining operations are subject to specific regulations, depending on extraction locations and activities.

These regulations may change, with a possible impact on operations and results.

The Group's products are obtained by using metals and implementing processes. Stricter regulations or the prevalence of the precautionary principle could expose the Group to threats to the sustainability of its operations or activities to preserve the health of employees and/or local residents, to expensive adaptations of production processes, or to the standardisation or overhaul of the production of certain operations.

Risk management

The Communication and Sustainable Development Department (DC2D), in liaison with the Group Legal Department, coordinates the risk control measures related to legislative and regulatory developments. Details on the organization, means and methods for controlling these risks are set out in Chapter 6.

5.3.3.2 Risk of non-compliance with regulations and ethics

The Eramet Group deploys the applicable regulations to all of its sites worldwide.

Like any French organization with international operations, Eramet may therefore be exposed to legal and/or reputational risks, with potentially significant financial impacts if one of its employees fails to comply with the many laws in force.

Risk management

Risk ownership and responsibility for risk management are assigned at the most appropriate level, according to the principle of subsidiarity, therefore each operations manager is directly involved in the management of risks related to the activities for which he or she is responsible. As a service centre, the Group Legal Department provides the whole Group with legal support on all matters within its area of expertise.

Regarding ethics and corruption regulations, the Group Conformity and Ethics Officer, in conjunction with the Group Legal Department and the Communication and Sustainable Development Department, coordinates efforts to reduce and control the risk of breaches of the Ethics Charter or non-compliance with ethics regulations. Details on the organization, means and methods for controlling these risks are set out in the Governance sections.

6 Non-financial performance statement

6.1 ERAMET GROUP'S CSR CHALLENGES AND APPROACH

6.1.1 Group business model

Eramet, a global mining and metallurgical group, is a key player in the extraction and recovery of metals (manganese, nickel, mineral sands) and the production and processing of high value-added alloys (high-speed steels, high-performance steels, superalloys, aluminium- and titanium-based alloys). The Group supports the energy transition by developing high growth potential activities such as extraction and refining of lithium and recycling. Eramet is positioned as its customers' preferred partner in the steelmaking, stainless steelmaking, aeronautics, pigments, energy and new-generation batteries industries.

Relying on operational excellence, high-quality investment and the know-how of its employees, the Group has a virtuous business, management and societal model that creates value. As a corporate and fiscal citizen, Eramet works to achieve a sustainable and responsible industry. Eramet has close to 13,000 employees in approximately 20 countries and has generated turnover of around €3.7 billion in 2019.

The infographics presenting the Group's business model can be found in Chapter 1 of the Registration Document (Part 1.2). This graphical representation shows the Group's strategy, resources, activities and the value created for its various stakeholders.

Chapter 2 further develops the activities and markets in which the Group operates.

6.1.2 CSR risk assessment

In addition to its risk mapping exercise that takes into account CSR risks (risk management is described in Chapter 5), Eramet has developed, with the support of its internal stakeholders, specific risk maps in three particular areas: the Environment, Human Rights and Anti-Corruption. This comprehensive work on risk assessment provides the Group with a precise view of the challenges it faces.

The table summarises the main CSR risks that have emerged from the various risk mapping exercises[1]. The order in which the risks are presented has no relation to the impact or occurrence of that risk.

Overview of the Eramet Group's CSR risks0

Main CSR risks	Stakeholder expectations	Information in Non-Financial Performance Statement	
ENVIRONMENTAL CONTINGENCIES		**SECTION 6.2**	
Atmospheric emissions	OO	6.2.3.1	Airborne emissions
Historical soil pollution	O	6.2.3.3	Rehabilitation of closed industrial sites
Production of waste (hazardous and non-hazardous)	OO	6.2.4.1 6.2.4.2	Optimisation of the consumption of primary raw materials Waste prevention and recovery
Water consumption	OOO	6.2.4.3 6.2.6.3	Optimisation of water consumption Water management
Emissions into water	OOO	6.2.3.2 6.2.6.3	Aqueous waste Water management
Climate change – energy consumption and GHG emissions	OOO	6.2.5	Fight against climate change
Production of waste rock and tailings	OO	6.2.6.2 6.2.6.4	Responsible resource management Tailings and mine waste management
Erosion	OOO	6.2.6.3 6.2.6.5	Water management Rehabilitation of mining sites
Biodiversity	OOO	6.2.7	Preservation of biodiversity
SOCIAL RISKS AND HUMAN RIGHTS		**SECTION 6.3**	
Security, health and safety of employees	OOO	6.3.2.1 6.3.2.2 6.3.2.3	Employee safety Employee health Employee security
Attracting/retaining talent	OO	6.3.2.4	Promotion and development of employees
Industrial relations	O	6.3.2.4.3	Social dialogue close to the reality on the ground
Discrimination/harassment	OO	6.3.2.4.4	Equal opportunities, measures to foster non-discrimination and diversity
Impacts on human rights of communities	OO	6.3.3	Commitments to communities
ETHICAL RISKS (IN BUSINESS RELATIONS)		**SECTION 6.4**	
Risk of corruption in relations with customers and suppliers	O	6.4.1	Ethics, Compliance and Anti-Corruption
Risk of potential conflicts of interest	O	6.4.1	Ethics, Compliance and Anti-Corruption
Non-compliance with ILO conventions in the supply chain	OO	6.4.2	Responsible value chain

Legend: OOO = regarded as a major issue by stakeholders; OO = regarded as a major issue for internal or external stakeholders and O = regarded as a moderately important issue.

(1) As matters relating to societal commitments to combat food waste, food insecurity, respect for animal welfare and responsible, sustainable and fairly traded food are not significant for the Group, they are not included in a specific report.

The measurement of stakeholder expectations shown above has been estimated on the basis of the materiality analysis carried out by an external third party for the Group in 2019. 27 issues, grouped into four categories (Human Capital, Products and Know-How, Environment and Ethics, and Governance and Societal Responsibility), were thus submitted to stakeholders for consultation.

The selected panel comprised Group directors, managers and site directors and employee representatives (from inside the Group), and customers, suppliers, public authorities, NGOs, civil society associations, professional associations, banks, investors and shareholders, and researchers and universities (from outside the Group). The consultation was based on a questionnaire, as well as individual interviews, with anonymous and equally weighted consolidation.

All the information arising from the materiality analysis is provided in the form of a matrix (please see Chapter 1). In addition to sharing a Group vision of stakeholder expectations, this approach has also enabled Eramet to confirm the pertinence of its CRS roadmap and the Group's targets.

In order to facilitate the reading of Eramet's Non-Financial Performance Statement, a themed approach has been adopted: environmental protection (6.2), the Group's social and societal commitments (6.3), in particular respect for human rights and the social consequences of its activities, and business ethics (6.4), focusing in particular on anti-corruption and tax evasion.

6.1.3 Group CSR approach

Eramet's societal responsibility approach is based on a platform of reference legislation, a progress plan and integrated organization of Group governance.

6.1.3.1 Group policies

Due to the nature of its mining and industrial activities, and aware of its strong interaction with the local areas in which it operates, Eramet is resolutely focused on all matters related to sustainable development (SD) and corporate social responsibility (CSR). The Group is committed to a responsible approach and continuous improvement. It aims to be a company recognised for its strategic model, management system and social commitment.

There are two key commitments underpinning Eramet's sustainable development and CSR approach: the Sustainable Development Policy and the Ethics Charter.

In a spirit of continuous improvement that creates shared value, Eramet's Board of Directors adopted a Sustainable Development policy in 2010.

This policy is structured around four priorities:

- the protection and development of Group employees;
- the management of risks to and impacts on health and the environment;
- the integration of sustainable development into product policy and innovation;
- and finally, maintaining a relationship of trust with stakeholders.

Implemented in 2015, the Group's Ethics Charter sets out the rules and principles of action and behaviour that are applicable to and binding on all Group employees. It relates to the Group's commitments and those of its employees in many areas, including but not limited to development, stakeholder relations, employee safety, protection of the environment, security, customer engagement, social dialogue, combating harassment, transparency, anti-corruption and compliance with competition rules.

These two documents have been translated into the 12 languages of the countries where the Group operates and are the subject of e-learning courses for employees.

Finally, specific policies enable the Group to make further commitments on certain issues, such as the environment, safety, climate change and human rights. These will be addressed in the relative sections.

All of these texts are available on the Group's website (www.eramet.com).

6.1.3.2 Group commitments

Faced with global challenges, the Group works in line with shared, recognised international approaches to achieve sustainable development.

This is notably the case of the United Nations Global Compact, a reference international initiative for voluntary commitment to societal responsibility. Open to all kinds of organizations, it promotes four areas of action: human rights, labour law, the environment and anti-corruption.

Eramet, in keeping with its CSR approach and its day-to-day actions, joined the Global Compact in 2019, confirming its support for the fundamental values it abides by. With the aim of continuously improving its level of societal responsibility, Eramet, by adhering to the Global Compact, has committed to continuing to incorporate these principles into its strategy, organizational culture and operations.

As a signatory to the Global Compact, one of the Group's commitments is to publish an annual Progress Report. Eramet communicates its contribution to the four Global Compact challenges through its Non-Financial Performance Statement and its Vigilance Plan. Eramet uses these two annual publications to report on Group policies, actions and results as part of its CSR approach. A reconciliation table is provided at the end of the Universal Registration Table.

The Group has also undertaken to contribute to the UN Sustainable Development Goals (SDGs), in order to build a more sustainable, inclusive world.

The SDGs continue to be incorporated into the global and national political scene and the economic and financial spheres. They thus appear to be a pertinent framework for action, constituting an agenda by 2030 through which all players (public, private, civil) can commit to sustainable development.

Four SDGs stand out, to which Eramet makes a particular contribution through its economic and production activities:

- **SDG 8 Decent work and economic growth,** for the creation and provision of decent work and economic growth, created directly by the Group's entities and with local communities (local content);
- **SDG 12 Responsible production and consumption,** particularly through sustainable development targets for natural resources, reducing waste and corporate social responsibility;
- **SDG 9 Industry, innovation and infrastructure,** by working to establish a sustainable and modern industry in different countries, and through its products to assist the development of the required infrastructure, particularly in terms of construction and mobility;
- **SDG 13 Climate action,** with its initiatives regarding its energy and climate footprint and its positioning on the metals of the energy transition.

This contribution meets the expectations expressed by Eramet's stakeholders. An analysis based on the Group's materiality matrix shows that the SDGs to which Eramet's strategy specifically contributes are in line with the SDGs regarded as a priority by the stakeholders surveyed by the Group.

These major global objectives are an external reference framework used by businesses to structure their CSR strategies. They are what Eramet referred to when it was designing its CSR Roadmap. Other SDGs are positively impacted by the Group's activity, such as SDG 3 Good health and well-being, and SDG 4 Quality education. Details of this contribution, presented in Chapter 1, which covers Eramet's CSR strategy, are provided in each section of the Non-Financial Performance Statement.

Eramet is also committed to other industry-specific or themed initiatives, such as the Extractive Industries Transparency Initiative (EITI) and the Responsible Minerals Initiative (RMI), presented throughout the Non-Financial Performance Statement.

6.1.4 Management of the CSR strategy

6.1.4.1 CSR Roadmap 2018-2023

The Eramet Group has adopted a CSR Roadmap to effectively manage its CSR performance. This Roadmap, which links the CSR priorities with the pillars of the Group's five-year strategic vision, covers the period 2018-2023. The Roadmap also provides a framework for the Group's contribution to the United Nations SDGs.

The CSR Roadmap comprises 13 goals, divided into three areas:

- commitment to people;
- commitment to economic responsibility;
- commitment to the planet.

The Roadmap has been shared and validated by the Strategy and CSR Committee and the Board of Directors, which review it periodically. The Committee, made up of directors with recognised expertise, is tasked with assisting the Board and, in particular, evaluating the consistency between the Group's strategy and the CSR principles to which the Group adheres, ensuring that management performs an analysis of internal or external factors related to CSR issues (risks and opportunities) impacting the Group, ensuring that the Vigilance Plan is implemented in accordance with legislative requirements, taking note of the main findings and observations of the work of the independent third-party body in the context of CSR regulations, assessing them and examining the management action plans, including the Roadmap.

The Executive Committee also closely monitors the progress of the commitments made, during interim reviews carried out based on careful internal management and organised on a quarterly *ad hoc* basis, the CSR Steering Committee. This Committee comprises representatives of the Departments in charge of the CSR Roadmap objectives and experts from the individual businesses (Finance, Operational Divisions). It also generates proposals and initiatives for the Group, with the aim of continuously improving its CSR approach. Actions pertaining to the Group's Vigilance Plan, incorporated into the Roadmap when it was designed, are also monitored in this context.

For each of the 13 goals, a specific action plan and monitored annual objectives have been developed. The table below shows the 13 Roadmap objectives, the 2023 KPIs, the results achieved in 2019 and the progress made towards the 2023 target.

Focus area	Objective	KPI 2023	2019 results	Annual performance
COMMITMENT TO PEOPLE	1 – Ensure the Health and Safety of employees and subcontractors	Zero fatalities Workplace accident frequency rate with and without work stoppage FR2 < 4	FR2 = 5.4 12 serious accidents (4 fatalities)	
	2 – Build skills and promote talent and career development	100% of employees participate in at least one training course per year	84% of employees	
	3 – Strengthen employee engagement	Group employee engagement rate > 75% (barometer)	No survey in 2020	
	4 – Integrate and foster the richness of diversity	30% of managers are women	23.8%	
	5 – Be a valued and contributing partner to our host communities	100% of sites have established a mechanism for dialogue with local stakeholders 100% of sites have implemented an investment programme to contribute to local development, with a focus on actions in favour of young people	Group inventory + Formalisation of the "Community Relations" Group programme with focus on Mines	
COMMITMENT TO ECONOMIC RESPONSIBILITY	6 – Be an energy transition leader in the metals sector	Committed diversification of Eramet's business portfolio in relation to the supply chain for electric mobility batteries	Lithium Initial Project Validation	
	7 – Actively contribute to the development of the circular economy	Quantities (t) of additional materials recovered through the circular economy action plan 2 Mt of low-grade incidental ores and tailings recovered over the period 2019-2023 10 kt of waste recovered in the period 2019-2023	34 kt recovered 1.7 kt recovered	
	8 – Be a reference company in terms of respect for human rights in our field of activity	Recognition for our application of the United Nations Guiding Principles, measured by reaching a mature level according to the UNGP Reporting Framework (Shift-Mazars)	Formalisation of Group approach and policy adoption	
	9 – Be an ethical partner of choice	100% of sales and purchasing teams trained on anti-corruption every year	100% of Purchasing and Trade Directors and persons reporting directly to them trained	
	10 – Be a responsible company of reference in the mining and metallurgy sector	100% of the Group's suppliers and customers identified as high-risk are in line with Eramet's CSR/Ethics commitments[1]	58% of high-risk suppliers and 99% of customers assessed are compliant	
COMMITMENT TO THE PLANET	11 – Reduce our atmospheric emissions	Tonnes of ducted dust emitted by industrial facilities: -80% in 2023 compared *to* 2018	-35% compared to 2018	
	12 – Protect water resources and accelerate the rehabilitation of our mining sites by fostering biodiversity	Ratio of rehabilitated areas to cleared areas ≥ 1 over the period 2019-2023[2]	1.2	
	13 – Reduce our energy and climate footprint	KPIs: Reduction of t CO2/t outgoing product (ref. 2018) -26% in 2023 compared to 2018[3]	-14%	

Performance legend:

Performance without progress and less than the annual milestone set.

Performance with progress compared with the previous year but less than the annual milestone set.

Performance in line with the annual milestone set.

Performance exceeding the annual milestone set.

(1) Identified as "high-risk" refers to parties evaluated as critical and/or sensitive (in terms of importance to Eramet or CSR risk – depending on the business activity or country concerned), which must be compliant, verified on the basis of a CSR/Ethics evaluation. If they do not comply following the evaluation, the Group encourages dialogue and support, but reserves the right to terminate the business relationship.

(2) Excluding long-term infrastructure.

(3) Of which 16.5% is due to the business mix effect related to the Group's strategic choice to develop its mining activity, which is lower in emissions than its processing activities.

To assess the overall progress of its Roadmap, Eramet measures its CSR performance indicator based on the year's achievements[1]. For 2019, the indicator reached 112 (100 indicating validation of all targets). Most of the objectives set for the year were achieved. More than half of them even exceeded the milestones set. This was particularly the case for three of the environmental targets, regarding the rehabilitation of mining sites, particle emissions and industrial waste recovery. Lastly, although the 2019 milestone for low-grade incidental ores and tailings has not yet been fully achieved, at this stage this does not mean that the target will not be validated at the end of 2023.

6.1.4.2 CSR organization

Eramet's commitment is reflected in the Company's involvement at the highest levels and the fact that the Group's highest priority CSR issues are addressed at each level of management.

Group organization

Board of Directors

- Strategy and CSR Committee
- Audit, Risks and Ethics Committee

Executive Committe

- Human Resources, Health, Safety and Security Department
- Communication and Sustainable Development Department
- Strategy, Innovation and Investor Relations Department

Reporting directly to GM

- Ethics and Compliance Department
- Safety and Prevention Department

Support Departments

- Group Doctor
- Human Resources Department
- Public Affairs Department
- Security Department
- Public Affairs Department
- Energy & Climate Department
- Environment, Industrial Risks and Product Department

Operational entities

- Site Managers
- HSE Officers
- HR Managers
- Safety Coordinators
- CSR Officers
- Protection Coordinators
- Energy Officers
- Buyers
- Ethics
- Compliance Officers

(1) The method used to calculate this indicator is described in the methodological note provided in section 6.5.

The objectives and action plans of the CSR Roadmap are implemented across all the Group's Divisions and operational entities. Successful implementation thereof has been strengthened by the establishment of working groups and cross-functional committees focusing on various themes (CSR, biodiversity, mining environment, responsible purchasing, responsible sales, human rights, ethics).

Furthermore, the Group pays particular attention to the integration of social, environmental, health and safety, cultural and societal criteria in the design and development of its projects. By referring to the most demanding international standards, the Group is committed to building long-term relationships with its stakeholders wherever it operates, in accordance with specific rules and cultural norms as well as current scientific knowledge. The Communication and Sustainable Development Department is systematically represented on the Project Steering Committees. Section 6.4.4 of this chapter details the application of these general principles to all the Group's projects.

Eramet has put in place monitoring and control measures and tools to ensure the concrete implementation of CSR objectives throughout its scope of activity. These tools include dedicated information systems that collect and consolidate data and indicators for all Group companies. Details of the standards and tools used to produce this information are provided in the methodological note in section 6.8.

The Group also relies on an internal audit system for the performance of its entities in terms of Environment, Health, Safety, Energy and Ethics, which is detailed in section 6.2.1.3. The data from these audit and control systems is used to feed the Group's continuous improvement approach.

The Eramet Group's Vigilance Plan and its update report, referring to the Non-Financial Performance Statement, are attached to this Universal Registration Document.

6.2 PRESERVATION OF THE ENVIRONMENT

6.2.1 Challenges, objectives, organization and resources for the prevention of environmental and industrial risks

6.2.1.1 Environmental issues and risks for Eramet industrial sites

The Group's industrial and mining sites carry out activities that are sometimes very different from each other in geographical areas that are themselves diverse. Therefore, environmental issues and risks vary greatly from site to site. 40 sites are more closely monitored because they are considered as representing significant environmental challenges (the distribution sites or sites with tertiary activity only not included in this category).

The environmental issues and risks specific to the Group's mining operations are described in detail in the section dedicated to the mining environment (6.2.6).

The following table aims to give an overview of the major environmental issues and risks for the major categories of the Group's industrial sites. The purpose of this summary is to help the reader in their understanding: it is necessarily macroscopic and schematic and cannot completely reflect the diversity of the issues and risks for each site taken individually. Some sites also include activities in several of the categories presented here. Moreover, the majority of the industrial sites located in France fall under the ICPE (classified facilities for environmental protection) regime and some are under SEVESO status.

TABLE SUMMARISING THE ENVIRONMENTAL ISSUES AND RISKS AT ERAMET'S INDUSTRIAL SITES

Challenges/Risks	Pyrometallurgical sites[1] (furnaces)	Hydrometallurgical sites[2]	Development and processing metallurgical sites[3] (rolling mills, forging, die-forging, heat treatment, etc.)	Comments
• Water consumption	***	***	**	Except for hydrometallurgical sites, the vast majority of the Group's water consumption is linked to industrial equipment cooling loops. The water consumed in these processes does not undergo any transformation. In addition, the vast majority of sites work in closed loops, which greatly reduces the demand. In other cases, water is returned to the natural environment.
• Emissions into water	**	***	*	Hydrometallurgical sites are the sites that present relatively the most significant risks of water pollution, due to the use of chemicals and an aqueous process. All industrial waters are managed in accordance with applicable regulations.
• Atmospheric emissions	****	*	**	Sites that have metallurgical furnaces or electricity generation plants are the sites that amass most of the Group's atmospheric emissions (dust, nitrogen oxides or sulphur). The main sources of emissions from installations are equipped with capture and treatment equipment, in accordance with applicable regulations and the best available technologies.
• Energy consumption/ greenhouse gas emissions	****	*	**	Sites that have metallurgical furnaces and/or electricity generation facilities are the sites that amass the bulk of energy consumption and greenhouse gas emissions.
• Production of hazardous waste	***	***	**	Pyrometallurgical activity produces dust, sludge and slag, which, depending on their intrinsic characteristics and locations of operation, can be considered hazardous waste.
• Impact on biodiversity	*	*	*	The Group's industrial sites are mainly located in urban and industrial areas.
• Risks of historical soil pollution	***	***	***	The production sites are generally designed on soil protection slabs and the storage of hazardous products is equipped with retention systems, which reduces the risk of soil contamination. However, as industrial practices have evolved, the oldest sites may present risks of historical soil pollution

Legend:

* Low. ** Moderate. *** Significant. **** Major.

(1) Comilog Dunkerque (France), CIM and CMM (Gabon), Eramet Marietta (United States), Eramet Norway (Kvinesdal, Sauda and Porsgrunn in Norway), SLN Centrale B and Doniambo (New Caledonia), TTI (Norway),Aubert & Duval Les Ancizes (France), Erasteel Commentry (France).

(2) Eramet Sandouville (France), CMM (Gabon).

(3) Brown Europe, EcoTitanium, Forges de Monplaisir, Interforge, UKAD (France), Aubert & Duval sites in Firminy, Imphy, Issoire, Les Ancizes and Pamiers, TAF in Gennevilliers (France), Aubert & Duval in Irun (Spain), Erasteel Champagnole, Erasteel Commentry (France), Erasteel Boonton (United States), Erasteel Kloster (Langshyttan, Söderfors and Vikmanshyttan in Sweden), Erasteel Stubs (UK), EIML (China), SQUAD (India).

Note that the noise or light pollution does not represent a significant environmental impact. The various sites concerned respect the noise levels stipulated in their operating licences, and the subject does not appear as important in the assessment of litigation made by the Group.

6.2.1.2 Environmental objectives

Eramet has four key environmental objectives:

1. strict compliance with the laws and regulations applicable to its activities.
2. the implementation of environmental management systems certified in accordance with ISO 14001 for all industrial and mining sites with significant environmental issues.

   The indicators and results relating to these first two objectives are detailed in section 6.2.2.
3. incorporating environmental issues as comprehensively as possible into the design of industrial and mining projects, as set out in the Group "Incorporation of HSE/CRS factors in projects" in 2018.

   How this commitment is applied in the Group's major projects is detailed in section 6.4.5 "Governance of the sustainable development of industrial and mining projects".
4. and finally, the voluntary and continuous reduction of the Group's environmental footprint. Four key objectives for reducing the environmental footprint corresponding to the Group's major challenges have been defined for the 2018-2023 period as part of the CSR Roadmap, and are set out below.

RSE 2023

CIRCULAR ECONOMY	7 – Actively contribute to the development of the circular economy	**Indicator:** Quantities (t) of materials recovered through the circular economy action plan **Objectives:** • **2 Mt of low-grade incidental ores and tailings recovered** over the 2019-2023 period • **10 kt of reclaimed waste** over the 2019-2013 period
AIR	11 – Reduce our atmospheric emissions	**Indicator:** Tonnes of ducted dust emitted by the pyrometallurgical industrial facilities **Objective:** -80% in 2023 compared to 2018
BIODIVERSITY/MINE REHABILITATION	12 – Protect water resources and accelerate the rehabilitation of our mining sites by fostering biodiversity	**Indicator:** Ratio of rehabilitated areas/cleared areas Ratio objective ≥ 1 over the 2019-2023[(1)] period
GREENHOUSE GASES	13 – Reduce our energy and climate footprint	**Indicator:** t CO_2/t outgoing product **Objective:** -26% in 2023 compared to 2018

(1) Excluding long term infrastructure

The interim results for these targets as at the end of 2019 are detailed in the remainder of the document.

The Group's goal to reduce its environmental footprint is in line with its ambition to develop an industry with sustainable practices compliant with the UN's SDG 9 on Industry, Innovation and Infrastructure and 12 on responsible Consumption and Production. With its circular economy, waste reclamation and emissions reduction goals, Eramet has made a specific commitment to targets 12.2 on "Sustainable management and efficient use of natural resources", 12.4 "Environmentally sound management of chemicals and all wastes" and 12.5 "Reduce waste generation through prevention, reduction, recycling and reuse".

The measures taken by Eramet to limit its impacts on biodiversity, ecosystems and water resources around its sites contribute directly to SDG 6 "Clean water and sanitation" and 15 "Life on land".

Lastly, conscious of the urgency of climate issues, Eramet contributes to SDG 13 Climate action and its target 13.1 "Strengthen resilience and the capacity to adapt to climate-related hazards and natural disasters in all countries", on the one hand by reducing its Energy and Climate impact, and on the other, through the development of projects to promote energy transition, such as the Lithium project, a critical metal for electric mobility.

6.2.1.3 Organization and instruments for the prevention of environmental risks

To implement its objectives, the Group relies on a network of internal experts and on a structured organization:

- the Environment, Industrial Risks and Product Liability Department (DERIP) defines the Group's benchmarks, coordinates the general dynamics of continuous improvement, implements the control mechanisms of internal standards and provides expert technical support to the sites and projects;
- more than 60 people make up the network of HSE functions at sites, with a reporting line to their senior management for the vast majority of them;
- once a year, the Committee of Occupational Hygiene, Health and Safety (HS & S) and Environment (E) analyses the skills available within the Group with regard to requirements and concerns. This proactive approach is conducted in coordination with the Human Resources Departments of the Group Divisions and the Safety Prevention and Environment Departments.

Monitoring and control systems constitute one of the key strengths of the Group's environmental management.

In this respect, a dedicated environmental IT system (EraGreen) has been fully deployed in all industrial and mining sites, allowing for the collection and consolidation of environmental and energy performance indicators.

The Group also relies on a demanding internal audit system for the performance of its entities in the areas of Environment, Health, Safety and Energy. The common audit guidelines are structured according to three pillars: human involvement, operational control and prevention. They fully take into account the requirements of ISO 14001, OHSAS 18001 and ISO 50001. Joint teams comprised of Internal Auditors (Corporate, Divisions and Sites) conduct these audits over several days to provide a detailed overview of the environmental performance of sites. Sites may also be subjected to targeted audits on specific issues (containment of atmospheric emissions, mine tailings management or environmental management system in 2019 for instance). During the period 2015-2019, 30 out of 40 sites with significant environmental issues were audited in accordance with these methods.

Corrective action plans are defined at the end of each audit, and for all risks considered significant, a quarterly report on the implementation of corrective actions is consolidated at Group level.

6.2.1.4 Organization and instruments for the prevention of industrial risks

The main industrial risks to which the Group's sites may be exposed are fire, explosion (including, for certain sites, related to the risk of contact between water and molten metal), machine breakdown on critical, geotechnical (tailings stockpiles or tailing dams) equipment, and natural events (floods, storms/cyclones, etc.).

Eramet focuses specifically on preventing these risks as early as possible in its industrial and mining projects, by identifying major accident scenarios and their causes and impacts, and by setting up prevention and/or protection safeguards (important components of safety) that reduce the probability or severity of an event. In 2019, this mainly concerned the Lithium projects in Argentina, and extension of the manganese mine in Gabon.

For sites in operation, the industrial risk control system is based primarily on the programme of insurance engineering visits (insurance prevention audits) to industrial sites with a two-year cycle, in close collaboration with insurers, brokers and the Group Insurance Department.

Any significant risk detected during these audits results in a corrective action plan implemented by the site concerned. The monitoring of corrective actions agreed as a result of these visits is documented in a semi-annual summary report covering compliance with Eramet's industrial risk standards (revised in 2016) and the progress of recommendations made by the insurer during its prevention visits.

In addition, Eramet carries out regular third-party audits of its waste rock stockpiles and tailing dams to ensure the control of associated geotechnical risks (see section 6.2.6.4 "Tailings and mine waste management").

In addition, Eramet performs audits on other target risks or on the maturity of industrial security management systems: two audits were carried out in 2019 on the French sites Commentry and Sandouville.

Finally, the Group has implemented crisis prevention and management procedures. These procedures focus on three action areas:

- crisis prevention: identification of weak signals and operational response thereto, crisis simulation exercises so that each person knows their role and in order to continually improve emergency planning (in conjunction with the Group industrial risk standards);
- serious incident management: definition of a serious incident, Group reporting, feedback;
- crisis management: the sites define their own emergency plans (contingency plan, ERP or other), the corporate crisis management system includes procedures for escalation of alerts, assessment of their severity, organization into crisis units if required and feedback.

These procedures were deployed across all sites. As in 2018, special attention was paid to crisis simulation exercises across all sites: out of the 34 sites monitored, more than 90% conducted one or more exercises in 2019, some of them in cooperation with the fire brigade.

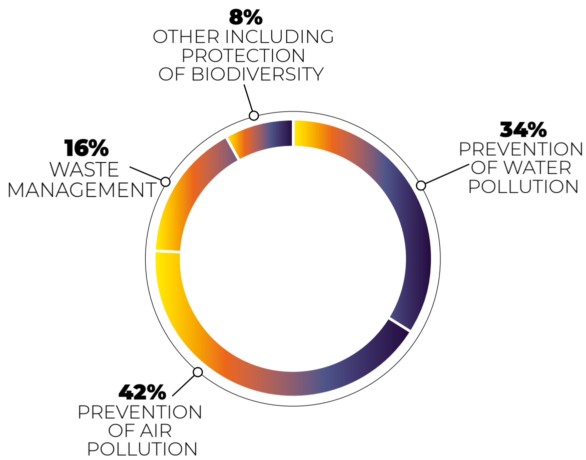
6.2.1.5 Financial resources devoted to environmental preservation

Environmental expenditures are estimated at nearly €17.5 million in 2019, and approximately €65 million for the last three years.

The expenditures considered here relate strictly to environmental prevention and protection. For example, they include the installation of new equipment or work performed in order to minimise impacts. They also cover certain investments made for new activities with an exclusively environmental dimension.

The chart below provides the breakdown by theme of these resources over the 2017-2019 period.

Expenditures for the environment



80% of 2019 environmental expenditures are linked to the prevention of air pollution and water pollution in equal proportion.

With respect to air pollution, the most significant investments in 2019 concern the SLN plant site of Doniambo (New Caledonia), where several actions intended to limit the production of particulate dust have been implemented, as well as the Kvinesdal site (Norway).

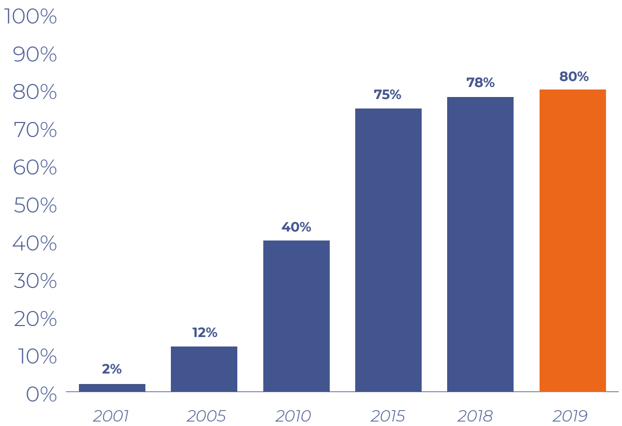
In relation to the prevention of water pollution, the most significant investments in 2019 relate to water management and anti-erosion actions on SLN mining sites, and to continuing rehabilitation operations on the segment of the River Moulili downstream from the Comilog mine (Gabon).

6.2.2 ISO 14001 certifications and environmental compliance indicators

It should be noted that since 2013, the Group measures the progress of its ISO 14001 certification target for sites likely to have a significant impact on the environment. All industrial and mining sites in operation are concerned.

As at the end of 2019, sites that had obtained ISO 14001 certification now represent 80% of the target objective. In 2019, the Moanda Metallurgy Complex was incorporated into the Comilog (Gabon) environmental management system and received a favourable notice for its certification. While waiting to receive official certification, the plant is recorded in the accounts under certified plants.

Evolution of ISO 14001 certified sites (including mines)



"Zero dispute" goal (environmental compliance)

The Eramet Group promotes a policy of strict regulatory compliance, transparency and dialogue with the supervisory authorities in all circumstances, particularly in the event of temporary difficulties or special operating conditions. The objective is to achieve zero formal notices or legal proceedings arising from a breach by Group sites of binding regulatory requirements.

To measure the achievement of this objective, the Group monitors four indicators:

- **Type 1 – Weak signals:** Written warning by the authorities as a reminder of a deadline which, if not observed, could lead to formal notice: (known in the US as a "notice of violation"), a third-party claim against the plant or in the media;
- **Type 2: Declaration of a non-compliance** and notice by the authorities to take action by a specific deadline in order to avoid a fine; for example, in mainland France, New Caledonia, Gabon: formal notice; in the US: "notice of enforcement" or "consent agreement" between the authorities and the operator, or an "administrative order";
- **Type 3 – Legal action:** Legal proceedings by the public prosecutor or any other public authority following a notice of violation or a claim brought before the courts by a third party. Legal claims by employees or third parties for damages arising from the breach of an obligation or environmental damage. Legal claims by third parties against an administrative permit issued pursuant to environmental legislation;
- **Type 4 – Actual sanction:** An administrative sanction (fine, suspension of permit), unfavourable legal ruling or criminal conviction.

The indicator trend in recent years is shown below:

	2017	2018	2019
Type 2 – Observations of non-compliance	4	1	6
Type 3 – Legal action	0	2	1
Type 4 – Actual sanction	0	1	1

In 2019, a minimum fine (€1,700) was levied against Aubert & Duval, following contamination of the Allier river by its Issoire (France) site in 2015.

The only legal action related to environmental issues in 2019 against Group subsidiaries concerns the suit against SLN (New Caledonia) filed by an environmental protection association on the issue of air quality.

The type 2 events identified in 2019 concern the Eramet sites in Sandouville (France), Erasteel in Commentry (France) and Mouyabi for Setrag (Gabon). Corrective action plans have been systematically implemented.

6.2.3 Emissions reduction

6.2.3.1 Airborne emissions

Airborne emissions		2017	2018	2019
Sulphur oxides (SOx)	tonnes	13,072	14,379	13,249
Nitrogen oxide (NOx)	tonnes	6,910	7,623	7,992
Total dust channelled	tonnes	1,519	2,535	1,617
Nickel	tonnes	8.9	11.1	11.2
Manganese	tonnes	276	529	506

The main contributors to airborne emissions are pyrometallurgical activities with their fusion plants, heat treatment furnaces and energy production plants. CO_2 emissions are discussed in section 6.2.5.

Airborne emissions may vary as a function of the nature of raw materials and ores used, the transfer and loading technologies in place, the installed capacity of the equipment and especially the sites' activity level.

In pyrometallurgy, channelled emissions are generated in the handling of materials, furnaces, grinding and milling operations, as well as operations involving molten liquid metal and slag. In hydrometallurgy, channelled dust emissions most often occur during the handling, grinding, drying or transfer of materials.

The air effluent treatment systems generally used in the Group's plants are electrostatic precipitators, baghouse dust collectors, scrubbers and washing towers. Specific treatment systems for certain pollutants can also be used, such as activated carbon filters. The different items of equipment are installed according to the characteristics of the effluent and the industrial processes, the target purification performances and regulatory requirements.

The sulphur oxide (SOx) emissions are mainly generated at SLN (thermal power station and Doniambo plant). The drop in emissions in 2019 is mainly linked to the site's lower production and therefore to the oil-fired power plant being called upon to operate less.

RSE 2023

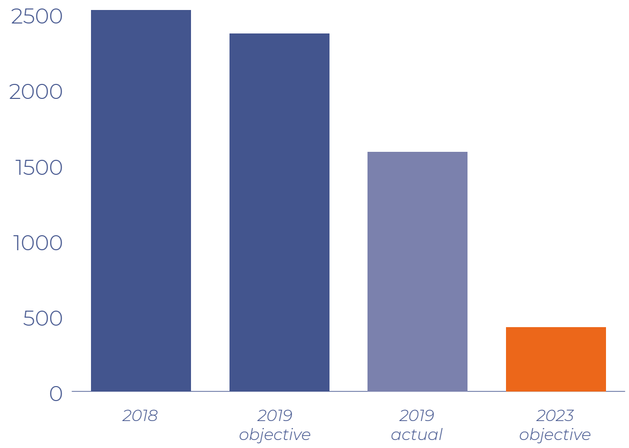
In the context of the CSR roadmap, Eramet is committed to a performance indicator that monitors ducted dust discharge from pyrometallurgical sites. 80% reduction has been set as the target for the 2018–2023 period, and an initial reduction of 6% was targeted for 2019.

At the end of 2019, the results far exceeded the goal with a reduction of more than 35%.

This improvement is the result of the action plan set up on the sintering chain of the Moanda Industrial Complex (CIM) in Gabon, the first remedial actions were implemented in early 2019, then completed in June during the annual interruption of the line. Since then, emission levels have stabilised thanks to the preventive measures taken to ensure that this work continues.

It must also be stressed that a lower production of certain units in 2019 has also contributed to this decline.

Ducted dust emissions *(in tonnes/year)*



6.2.3.2 Aqueous waste

Aqueous waste		2017	2018	2019
Suspended solids (SS)	tonnes	10,944	8,084	6,970
Chemical oxygen demand (COD)	tonnes	126	155	243
Nickel	tonnes	6.7	3.6	4.4
Manganese	tonnes	37.5	29.9	34.7

As with its atmospheric emissions, Eramet is committed to reducing its aqueous waste. Industrial sites are working to improve treatment processes to ensure a better quality of discharged water.

In addition to preventive systems, such as basins and double-walled storage tanks, curative mechanisms, such as effluent treatment plants using physico-chemical processes or hydrocarbon separators (separation by decantation), are used to allow discharges that are in accordance with the statutory limit values.

Discharges of suspended solids fell by 14% thanks to the lower discharges from the Doniambo site. The reported value for COD (chemical oxygen demand) type of discharges has risen sharply; this is due solely to the environmental monitoring advances at the Tyssedal (Norway) site which includes since 2019, a new parameter (total organic carbon, i.e. TOC). By extrapolating, TOC can be used to evaluate the COD that cannot be directly measured in a seawater context. The security factor used for this extrapolation will be subsequently improved.

Finally, the Group's sites also closely monitor the quality of groundwater and the impact of the activity on soils and subsoils. Several hundred piezometers are distributed throughout the Group's various sites, both within and outside of the Company, to support the initial phases of any new project (characterisation of the initial state) and also to monitor any impacts on ground and surface water.

6.2.3.3 Rehabilitation of closed industrial sites

The Group exercises the utmost vigilance against potential impacts on soils and subsoils resulting from its past, current or future activities, both in the area of its industrial and mining activities.

Over several years, the Group has developed expertise to support the cessation of activity of certain industrial sites. This expertise concerns the investigation, monitoring and management of potentially impacted land through various projects, such as the rehabilitation of industrial land, the end of life of landfills, or former mines. This expertise is also consulted in the context of internal audits or in advance of acquisitions and disposals. It is important to mention the implementation of a policy of systematic characterisation of soil conditions before any new project is undertaken. Finally, the Group is taking action to strengthen its knowledge of the state of the soils and subsoils of the various sites at which the Group operates.

The main recent advances in the management of closed industrial sites include:

- Aubert & Duval Gennevilliers (France):After completing the rehabilitation of the "B/C" site, the project continued on the "A" site where the rehabilitation work will be prepared in 2020 in accordance with the administration's instructions;
- Valdi Feurs (France): the site notified the authorities of the winding up of its business in 2013. On the land belonging to the Group, the remediation work, which began in 2015, was completed in 2016. The inventory report (administrative clearance) was obtained in 2017. The land was sold in 2019. The restoration of leased buildings began in 2019 and will continue in 2020.

Rehabilitating mining sites is a major focus of the environmental policy; it is described in the Mining environment section (6.2.6) and in section 6.2.7 on biodiversity.

6.2.4 Circular economy

The circular economy can be defined as a system of trade and production which, at all stages of the product life cycle, aims to increase the efficiency of the use of natural resources and virgin raw materials and reduce the impact of economic activities on the environment.

Eramet has a long-standing commitment to such a model. This model applies to all the resources used: water, energy, raw materials. Given its business activities, Eramet is particularly active in optimising the use of primary metal resources. Metals are particularly ideal for growing the circular economy because they are infinitely recyclable.

Eramet's contribution to the circular economy is expressed in four main ways:

1.	**DEVELOPING NEW ACTIVITIES DEDICATED TO RECYCLING**	The Group has developed two recycling activities since 2017: • transforming the Erasteel Commentry steel mill (France), now equipped with a new recycling line which uses pyrometallurgy to reclaim industrial waste (oil catalysts, scalings and other metalliferous waste) by recovering several strategic metals such as cobalt, molybdene and nickel; • in Auvergne, the EcoTitanium plant, which began operating in 2017. EcoTitanium is Europe's leading recycling business for aviation-grade titanium alloys. It produces alloys from massive titanium scrap and chips collected from major aircraft manufacturers and their subcontractors. Furthermore in 2019, the lithium-ion battery recycling project, known as ReLieVe, led by Eramet in collaboration with BASF and SUEZ, was selected by the European Union. The project seeks to develop an innovative "closed loop" process, used to recycle lithium-ion batteries in electrical vehicles.
2.	**PARTICIPATING IN INDUSTRIAL AND TERRITORIAL ECOLOGICAL INITIATIVES**	Wherever possible, Eramet industrial sites take part in territorial industrial ecological initiatives that provide local residents with the heat, energy or fluids produced by their activities, or conversely, use the fluids produced by nearby plants. Examples include: • the Porsgrunn plant (Norway) which every year provides the equivalent of 200 GWh of thermal energy in the form of carbon monoxide (gas discharge) to the nearby chemical plant which produces fertiliser; • the excess steam produced by the Eramet Norway site in Kvinesdal (Norway) is used to heat numerous local infrastructures, and the hot wastewater is reused by several external customers including a fish farm; • part of the energy used by the Sandouville plant (France) comes from a local waste incineration plant.
3.	**FOR THE GROUP'S MINING ACTIVITIES: RESPONSIBLE MANAGEMENT OF MINING RESOURCES**	By recovering as much so-called low-grade incidental ores as possible in order to optimise recovery from deposits, and by recovering as much mining tailings from ore concentration processes as possible. This makes it possible to recover more resources with an almost constant environmental footprint (mining operations have already been carried out). Eramet mining subsidiaries are historically also involved in these steps. The actions undertaken in this area are described in section 6.2.6.2 "Responsible management of resources".
4.	**FOR THE GROUP'S INDUSTRIAL SITES: MAXIMISING RECYCLED FLOWS**	By incorporating as much secondary raw materials as possible into inputs, or by maximising the (internal or external) recovery of the waste generated by activities.

RSE 2023

Through its CSR roadmap, the Group has decided to further strengthen its commitment to the circular economy. Hence the two new goals that have been set, corresponding to the last two priorities of the previous table.

The general idea is to encourage actions that enable the recovery of material flows that were not previously recovered.

For the 2019-2023 period, the targets are:

- **2 Mt** of waste and low-grade incidental ores recovered

The goal is to be able to recover materials without significantly enlarging the environmental footprint during the extraction phase, in other words, recover materials that have already been handled, for which the environmental impact of the extraction phase has essentially already taken place.

- **10 kt** of waste recycled over the period

Eligible actions are actions that help to enhance waste flows in the waste management hierarchy: re-use > internal or external material recovery (recycling) > energy recovery.

The ideal recovery is primarily material recovery, through re-use, internal recycling or external material recovery.

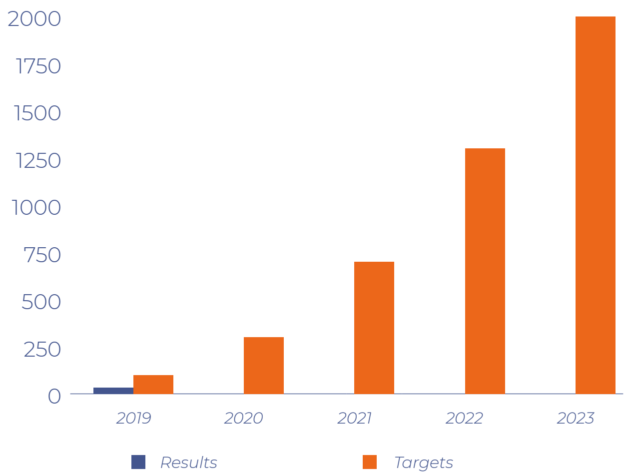
A special Circular Economy Committee has been created. The Committee's role is to identify and validate the actions and projects that fall within the scope of the above definitions.

At the end of 2019, ten actions were certified by the Committee. Most of them are innovative R/D projects which will produce results in one or two years' time. However, four projects are already productive and contributed in 2019 to indicators with the following results at the end of 2019:

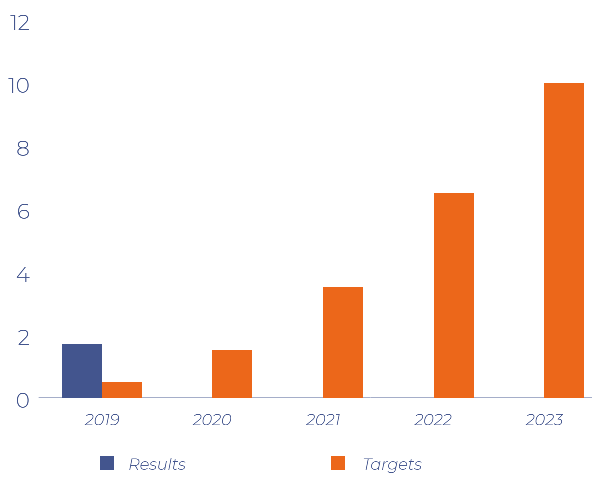
- 34 kt of recovered mine waste;
- 1,700 tonnes of recovered waste.

Results at the end of 2019 are illustrated by the following charts which also show the progress made with respect to the intermediate target set at the end of 2019, late for the first goal (at this stage, this is not an obstacle to achieving the goal at the end of 2023), and early for the second.

Kt of recovered additional ore/mine waste (total)



Kt recovered additional waste (total)



6.2.4.1 Optimisation of the consumption of primary raw materials

Approximately 9 million tonnes of raw materials are consumed by the Group's plants, of which about 75% is ore (produced overwhelmingly by the Group's mines) and 7% is reducers (coal and coke). The rest of the consumption consists mainly of metals used in alloy factories, and various additives.

Eramet is prepared to optimise its different input consumptions as much as possible Furthermore, wherever possible, the Group prioritises the use of secondary raw materials over primary raw materials.

In this respect, the steel mills of the High Performance Alloys Division (Les Ancizes, Commentry and Soderfors) are true circular economy champions: their secondary raw material use rate varies between 85 and 95%, by adding the internal recycling flows and the processing of secondary raw materials purchased externally (scraps, etc.).

6.2.4.2 Waste prevention and recovery

Eramet strives to adhere to the waste management hierarchy: first, prevent waste production/reuse waste/maximise recycling and recovery or, failing this and as a last resort, safely dispose of the waste under environmentally friendly conditions.

Thus, historically, special efforts have been made at all sites to reuse the waste as permitted by their physical-chemical properties; for example, slag from SLN (New Caledonia) and the depleted slag from Comilog Dunkerque are homologated and integrated for applications in road technology.

As explained in section 6.2.4, Eramet is committed through its CSR Roadmap 2018-2023 to further improve waste recovery (both hazardous and non-hazardous). At the end of 2019, 1,700 tonnes had already been recovered thanks to the following new projects and actions:

- re-using wooden pallets for the Pamiers plant (France);
- recycling in the filtered dust process at the Dunkerque plant (France);
- slag recovery from the SLN plant in Noumea (New Caledonia) on new markets outside Caledonian territory.

Waste production		2017	2018	2019
Amount of non-hazardous waste	thousands of tonnes	4,509	4,676	4,266
Amount of hazardous waste	thousands of tonnes	64	64	65

The concepts of hazardous and non-hazardous waste are defined in accordance with the regulations of the host countries. Indeed, to date the measures regarding waste are very disparate from one country to another.

Non-hazardous waste

The mining activities and their related industrial operations are the main source of non-hazardous waste. A significant tonnage of these is stored in industrial basins in Gabon. These are the fine fractions of manganese ore collected after the washing step which serves to isolate the grained fraction intended for the market. In terms of nickel activity, the Doniambo plant generates another important tonnage of non-hazardous waste through pyrometallurgical activity corresponding to the smelting of slag. The three major contributors – the SLN plant (New Caledonia), the Moanda mines and the Moanda Industrial Complex (CIM) (Gabon) – account for 99% of the total amount calculated for 2018.

At much lower tonnages, industrial activities of the steelworks and of the smelting-reduction or of the ferro-alloys production sectors of the Group generate non-hazardous by-products or waste. They are in the form of slags or inert slag mainly stored in an internal landfill or are subject to some external recovery.

Finally, although quantities are still much lower, local initiatives are also being implemented at many sites to reduce food waste: accurate forecasts of the people present on site each day (absences, holidays, visitors, etc.) to inform the catering service, the composting of plant-based food waste or redistribution to neighbouring farms as animal feed.

Hazardous waste

The activities that generate hazardous waste are mainly derived from the pyrometallurgical processes of the Group Mines and Metals Division. The High Performance Alloys Division's major sites, such as the plants in French plants Pamiers and Les Ancizes, also generate significant quantities of hazardous waste.

These activities produce dust recovered by filtration systems, sludge and sodium-calcium slag which, depending on their intrinsic properties and the location of the operation, can be considered hazardous waste.

The hazardous waste is treated through specific, authorised channels. Controls are put in place to ensure the proper management of this waste throughout the process (transport of waste, delivery to approved centre and final treatment).

The amount of hazardous waste produced has remained stable over the last three years.

6.2.4.3 Optimisation of water consumption

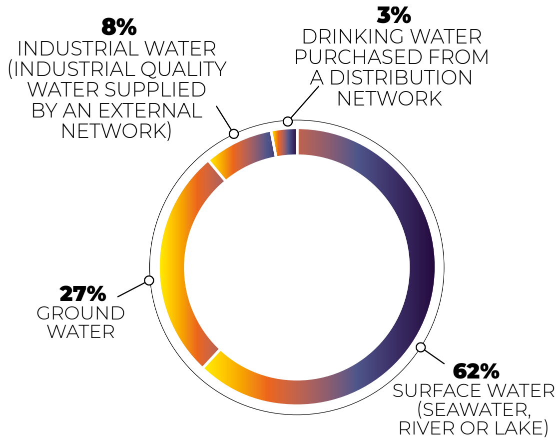
Consumption		2017	2018	2019
Total water consumption	millions of m³	44.5	42.4	43.2

Before any comment on the water consumption of Eramet Group sites, it is important to point out that none of the Group's industrial sites are located in a country confronted with "water stress" according to the definition adopted by the UN, that is to say, whose water resource per inhabitant, for all uses combined, is generally less than 1,700 m³ per person per year. Although this water resource is often substantial or abundant on its sites, the Group attaches real importance to its preservation. Multiple actions are taken to use only the required amount.

In Norway, controls carried out in 2019 on reporting showed that records of water quantities obtained from the fjord for the TTI site were not accurate. This mistake has been corrected, including for 2018 and 2017 values for the sake of consistency.

Total water consumption breaks down in 2019 as follows:

Breakdown of the source of the water used in 2019



Mining, metallurgy and hydrometallurgy activities consume water in several ways:

- processes for cooling furnaces and other metallurgical installations;
- washing of ores, raw materials and by-products;
- hydrometallurgical processes: solubilisation and reaction media.

Water resources are essential for running some of the processes used within the Group. The cooling of electric furnaces, for example, must be perfectly managed and optimised. In some cases, a lack of water supply may lead to risky situations in which safety must be ensured before any other consideration.

Whenever technically possible, the sites:

- encourage internal recycling of the water consumed. The cooling of furnaces and other metallurgical facilities, as well as other high-consumption uses, are mainly done in a closed circuit. This is the case, for example, of the washing of ores in Gabon, or the mining facilities in Senegal. The water consumption is then essentially supplemented in order to compensate for evaporation or losses in the system;
- prioritise the use of water from a nearby industrial site such as Eramet Norway Porsgrunn.

Water management on mining sites is broken down in section 6.2.6.3.

With respect to water consumption in 2019, consumption has been relative stable over the last three years.

6.2.5 Fight against climate change

In light of rapid Climate change and recognising the anthropogenic cause of this change, Eramet is conscious of its duty to prevent, adapt and communicate transparently with its employees, its partners and all of its co-citizens in general.

Eramet has therefore made a commitment to increasingly integrate the recognition of climate challenges into both its strategic decisions and reporting. For reporting, Eramet relies on the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) which is one of the best international practices in the field.

6.2.5.1 Eramet recognises climate issues

The transition to a low-carbon economy is a systemic issue and Eramet has chosen to broaden the perspectives of climate change impacts beyond the matter of its direct carbon footprint by assessing the impacts on the entire value chain in which it operates. Global demand to reduce emissions among Eramet's customers (due to regulations or as a consequence of carbon recovery, for example) is a source of risks, and at the same time provides opportunities for the Group's activity.

In addition to the Group's essential contribution to energy and climate transition, Eramet is increasingly including in its strategy, the physical and non-physical impacts of climate change on the Group's assets, productivity and the markets on which its products are sold.

6.2.5.1.1 Analysis of climate risks

Eramet's growing efforts to optimise its global performance is particularly reflected in the deployment of continuous improvement tools. The methodology used to implement these tools incorporates analyses of the Group's risk and opportunities, which include climate challenges even if they are not always explicitly addressed as such.

Eramet's risks and opportunities in light of climate change are classified based on their time horizon, which considering the Group's activities (ore recovery and metallurgical transformation) are as follows:

- short term (ST): less than two years;
- medium term (MT): between two and eight years;
- long term (LT): more than eight years.

Risks	Title	ST	MT	LT	Implemented actions
PHYSICAL	Flood, cyclone, hydric stress, fire	X			Methodology during the update
ECONOMICS	Market trends towards metal requirements different from those produced by Eramet, in quality or quantity.			X	Analysis according to climate change scenarios + 2°C Implementation of strategic projects (including R & I) to address these needs
	Growing customer demand for low-carbon labelled products		X		Integration of lifecycle analyses in development project review processes, in particular through low-carbon products
REGULATORY	Regulatory change towards more restrictive Carbon taxation	X			Establishment of an internal carbon price for investments and development project analysis
TECHNOLOGICAL	Growing need to invest in low-emission technologies		X		Investment in the Group's digital transformation Establishment of energy efficiency improvement programmes External and proprietary funding of R & I
REPUTATION	Association of Eramet's high carbon-emission energy-intensive activities	X			Benchmark on the Carbon content of our products
UPSTREAM DOWNSTREAM FLOWS	Non control of CO2 emissions associated with these flows		X		Development of scope 3 CO2 assessment tools

PHYSICAL IMPACT RISKS	Risks related to the physical impacts of climate change include those related to extreme weather events and long-term changes in climate patterns (rising sea levels, water stress, fire, etc.). Eramet is conscious of the particularly close horizon of these phenomena, some of which are already visible. The Group has decided to consequently adapt its risk analysis to explicitly include the direct impacts of climate modifications on its activity as from 2020. Specific questions are addressed to the sites through the EraGreen environmental reporting tool on their risk assessment and the adaptation measures envisaged. In 2019, slightly in excess of one in two sites reported that they could be affected by the consequences of climate change in the very long term. Most of them have already begun considering how to limit the impact on their business.
ECONOMIC RISKS	At the Group level, climate change will lead to higher taxes on energy, and greater difficulty of access to financing for certain investments. At present, it is difficult to assess the consequences more accurately. As a result of the processes implemented, energy bills represent a significant portion of the Group's production costs in the operation of its mines and industrial sites. The Group's competitiveness is therefore sensitive to energy prices and the control of its energy use.
REGULATORY RISKS	European and Norwegian plants, representing approximately 25% of the Group's scopes 1 & 2 emissions, are subject to the European Union Emissions Trading Scheme (EU ETS), which entails increased financial risk due to the uncertainties inherent in the long-term quotas market, as well as uncertainties related to legal mechanisms that may evolve and be adopted in the future. Indeed, there is currently no globally applicable carbon market, only fragmented and uncoordinated regional systems. The Group is preparing for the potential emergence of such a market by experimenting with an internal price for its investment projects, and for the evaluation of its strategic options, on the basis of an internal price of €30 per tonne of CO_2. The provision is also applicable to the investment projects developed in the geographic areas that do not have the incentive of a carbon quota system. The consequence of this choice is to prioritise lower-carbon emitting technological solutions and contribute to improving the awareness of climate change with all Eramet employees.

6.2.5.1.2 Study of climate change-related opportunities

Opportunities	Title	ST	MT	LT	Implemented actions
UPSTREAM DOWNSTREAM FLOW	Availability of energy transition critical materials		X		Reinforcing Li and Ni assets
COMMERCIAL	Strong growth on energy transition and digital transformation markets necessitating metal products by Eramet		X		Development projects for the products concerned (Lithium, Nickel)
PHYSICAL	No opportunity identified to date, continued watch	X			N/A
REGULATORY	Tax breaks to European electro-intensive players	X			Coordination of aid application initiatives
TECHNOLOGICAL	Productivity gains associated with the roll-out of lower-emission (more efficient) technologies	X			Deployment of an energy efficiency action plan
REPUTATION	Positive image associated with assisting the energy transition	X			Regular communications on Eramet product applications in the energy transition sectors
	Positive image associated with low carbon products	X			Communications on the robust performance of the products concerned

UPSTREAM AND DOWNSTREAM FLOW OPPORTUNITIES	In addition to its historic position on manganese and nickel ore, Eramet's strategy is clearly positioned on metals critical to the energy and digital transition: lithium, nickel salts and cobalt. These markets are changing rapidly due to the demand for metals for batteries, particularly for electric vehicles, solar panels and electronics. Battery development will lead to a sharp increase in demand for certain critical metals: demand for lithium is expected to increase threefold by 2025, for pure nickel salts and cobalt twofold. It is clear that securing access to critical metal resources is a structural competitive advantage in the supply chain. Eramet is the only European player to have secured significant resources of critical metals in this fast-growing market. The Group's current mining assets offer key advantages: very rich geological resources allowing long-term mining.
COMMERCIAL OPPORTUNITIES	These strategic developments are conducted in accordance with the highest Western health, safety and environmental standards, as well as in compliance with the highest corporate social responsibility and ethical standards: high metal recovery yields, environmental footprint, harmonious and respectful relationships with stakeholders and local communities. It is essential to ensure full product traceability to ensure strict compliance with Western corporate social responsibility standards and customer requirements. Eramet is thus positioning itself as the supplier of energy transition critical metals produced to the highest social and environmental responsibility standards. This should enable the Group to diversify its asset base both financially and geographically: • lithium, particularly via the Eramet deposit in Argentina; • increased exposure to nickel salts and cobalt; • development of short loop recycling, with a view to optimising the circular economy.
REPUTATION OPPORTUNITIES	Eramet's manganese activity through Norwegian, French and Gabonese (C2M) plants has one of the lowest emission factors in the entire manganese industry, around 1.04 tCO_2/t, where the sector average is higher than 4.80 tCO_2/t according to the MnI (Manganese institute). This performance is achieved in particular thanks to the energy mix of the hydro-metallurgy installations concerned (hydro-electricity in Norway and in Gabon).

6.2.5.1.3 2°C scenario analysis

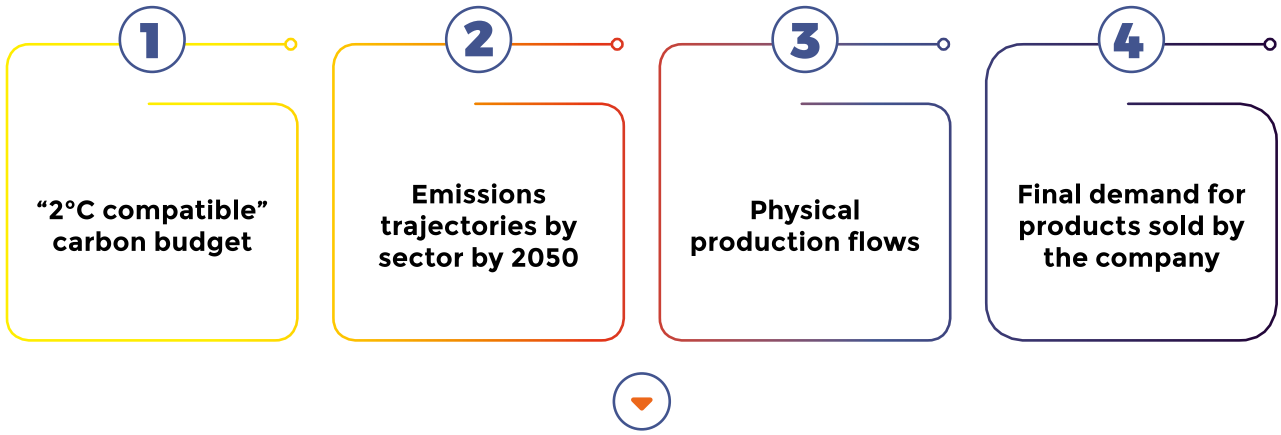
As an emissive industry on one hand but also a contributor to the development of low-carbon technologies on the other, Eramet's alignment with the transition to a decarbonated economy carries as many risks as of opportunities for its business.

Scenario-based analyses is a powerful tool for managing this chapter of the strategic reflection. It entails a forward-looking review, projecting Eramet's current activity onto various possible worlds, in order to assess the consequences on business. This approach is efficient for building a comprehensive model of the complex changes and the interactions between them, which is helpful for defining the transformations caused by climate change.

The Group conducted this analysis in 2018 in collaboration with a domain-specific expert consultant. The adopted approach ("by physical flows") is founded, for each scenario, on the physical reality of the activity, which the Group ensures is compatible with the maximum limit of 2°C[1] increase in temperature.

(1) In other words, a world where the future combined greenhouse gas emissions do not exceed the maximum carbon budget required to maintain a global average temperature increase below 2°C compared to the preindustrial era, namely ~800 $GtCO_2$eq. (vs. ~2,000 $GtCO_2$eq. emitted by humanity since the industrial revolution).

Principles of the physical flow-based approach



Identification and quantification of transition impact scenarios on demand yields the first major strategic recommendations for Eramet.

In four steps, this approach identifies the Company's risks and opportunities more precisely than a purely economic and financial approach, which would simply "distort" the economic figures (price, production cost, etc.), by for instance introducing a carbon price, to quantify the impact on demand without either evaluating or accurately translating the Company-wide micro-economic consequences of the adopted transition scenario.

Transition to a low-carbon economy clearly identifies its ultimate arrival point, i.e., achieving worldwide carbon neutrality between 2050 and 2100. The scenario adopted to perform this analysis is the International Energy Agency's (IEA) 2 Degrees Scenario (2DS) with Carbon Capture and Storage (CCS). This is based on the forward-looking Energy Technology Perspectives documents accessible to the general public. It is known here as "2˚C with CCS".

The main outcome for the "2˚C with CCS" scenario is that Eramet metals, in particular nickel, lithium and alloys, are metals that are critical to the development of energy transition technologies and essential for climate change management. This translates into a favourable outlook for changes in demand between now and 2030.

For nickel demand is expected to increase by 3% by 2030 in the IEA's 2˚C scenario.

This growth is driven in particular by lithium-ion batteries (which use nickel) to store electricity. Indeed, the quantity of nickel demanded in 2030 for the energy transition represents 25% of primary nickel production in 2017, illustrating the significant role played by batteries as a demand growth driver.

Manganese is a metal that accounts for more than 90% of metals in the steel industry and according to this analysis overall demand (primary and recycled) will increase by 5% to 10% between now and 2030.

Lithium is an essential metal in the production of lithium-ion batteries being used in electric mobility, among other things, and demand is expected to multiply fourfold by 2030.

These results underscore the resilience of demand for these metals in the IEA's "2˚C with CCS" transition scenario and the relevance of the Group's current and future metals to address the requirements of the energy and low carbon transition.

Outlook

In conclusion, Eramet's activity is necessary for the development of low carbon technologies and essential for developing and creating responsible metal sectors involving all critical energy transition stakeholders.

Outlook for the demand for metals produced by Eramet is favourable by 2030 in the IEA's 2˚C scenario.

6.2.5.2 Energy and climate governance

6.2.5.2.1 Reaffirmed policies

Eramet continues to implement its Climate Change and Energy policies, both in conducting its operations and in developing its strategy.

In the context of the 2019 edition of the French Business Climate Pledge, the Group reasserted its pro climate commitments and is part of the 99 companies that responded to the call launched by MEDEF to confirm and amplify their commitment momentum to invest in low carbon solutions and technologies.

6.2.5.2.2 Governance to address climate challenges

The Eramet Group takes climate issue to the highest level of its management bodies. Governance is organised at three levels:

- the Board of Directors which relies on the recommendations of its Strategy Committee and CSR. The latter specifically analyses the Group's progress in carbon emission reduction, e.g., the resilience and development of the sustainable business model. These climate change efforts are carried out in accordance with the recommendations issued by the *Institut français des administrateurs;*

- the Executive Committee is backed by the Energy and Climate Department created in 2018, which reports to the Director of Strategy, Innovation and Investor Relations, a member of the Group's Executive Committee. The Committee meets every month. Moreover, the topics of Energy & Climate are periodically reviewed during the Executive Committee's Business Review;
- the Energy & Climate Department which relies on operations conducted on a network of energy and climate specialists and on the Divisions and Business Units Departments, and reports on the progress of Group-wide action plans.

More generally, the Energy and Climate Department contributes to the Group's performance and ensures consistency between the three fields:

- economic by controlling energy purchases;
- energy by controlling and reducing energy use;
- climate by controlling and reducing carbon emissions.

6.2.5.2.3 A network of supporting site energy contacts

In order to reinforce and improve the reliability of the operational deployment of the Energy & Climate strategy, the Group has decided to establish an efficient method of operation between the sites and the Corporate functions. Three types of interlocutors have been defined:

- the Energy & Climate Department guarantees the coordination of the approach, ensuring the methodological contribution (the Group specialist is an AFNOR-certified ISO 50001 auditor and a member of the ISO 50001 expert committee), expertise on several of the Group's businesses, and regulatory and technological monitoring;
- site management, whose main role is to manage an energy management system based on the principles of the ISO 50001 standard and to allocate resources that are suited to the challenges of each site. Division management is also involved in providing support;
- the sites' energy correspondents network, locally in charge of coordinating the continuous improvement of energy and climate performances.

6.2.5.3 Strategy to address climate challenges

As such, Eramet's answer to climate change is based on the following focus points:

- the reduction of CO_2 emissions on the 1 & 2 scopes;
- helping customers (scope 3 emissions) to reduce their GHG emissions, by offering products and solutions that mainly contribute to reducing the carbon footprint. This is reflected in one of the three pillars of the Group's strategy: "to expand the portfolio of activities towards energy transition metals".

6.2.5.3.1 Reducing CO_2 emissions on the 1 & 2 scopes

In 2018, the Group conducted a review to define a target for reducing scopes 1 & 2 CO_2 emissions, based in particular on technical and organizational levers. These include the conversion of the Doniambo oil-fired power plant in New Caledonia to LNG (liquefied natural gas), as well as investments in solar panels at certain sites. In addition to these large-scale operations, many operational levers have been identified that contribute to the reduction in greenhouse gas emissions at each site. These include innovative technologies to control the natural gas-powered heating furnaces of the High Performance Alloys Division and innovative systems to manage the variable speed of electric motors, etc.

This work has led the Group to include in its CSR 2018-2023 roadmap a significant reduction carbon target for the generated tonnes of CO_2 per tonne, i.e. based on how carbon-intensive the Group's production activities are:

RSE 2023

Group Goal for 2023 vs. 2018	-26%	tCO_2/t outgoing product[(2)]
Impact of energy efficiency levers and decarbonisation of the energy consumed	-9.5%[(1)]	
Impact of the business mix effect related to the Group's strategic choice to develop its mining activity, which is lower in emissions than the Group's processing[(3)] activities	-16.5%	

(1) With the level of mining and processing activity in the year of reference (2018).
(2) Tonne of product leaving the sites: ingots, powder, ores, etc.
(3) Mining activity is about 80 times lower in emissions per tonne of outgoing product than the Group's other activities.

One of the major levers identified is the switch to LNG (liquefied natural gas) by SLN's oil-fired power plant. A delay in the implementation of this lever would lead to a 20% reduction in tonnes of CO_2 per tonne of outgoing product instead of the target of 26%.

Eramet continues to reflect on defining a longer-term science-based target, which implies transformations of processes that must necessarily be based on new R & D and Innovation levers.

To structure all these progress approaches, Eramet has set itself the objective of rolling out an ISO 50001 energy management system by 2020 across all sites using more than 200 GWh (~90% of the Group's total energy consumption).

6.2.5.3.2 Supporting customers through climate change

The Eramet Group makes a significant contribution to its customers' CO_2 emissions avoidance strategy by offering them innovative solutions that reduce emissions associated with the use of its products (scope 3).

This goes far beyond the production of metals essential for the energy and digital transition and relates in particular to the High Performance Alloys Division.

For example, by producing aluminium-lithium alloy forged parts for the aeronautics industry as well as titanium forged parts, the group makes a significant contribution to aircraft weight reduction, which has the direct consequence of reducing fuel consumption and associated emissions. A second example is the ML340 alloy, selected by customers for the turbine shaft of LEAP aircraft engines, and used in all new generations of single-aisle aircraft. This alloy significantly reduces fuel consumption compared to the current generation of aircraft. This result is linked, among other things, to the increase in combustion temperature that this innovative alloy enables.

The level of emissions avoided through these various activities has not been precisely quantified, but it is an order of magnitude of several hundred kt CO_2 per year.

Eramet is gradually developing scope 3 CO_2 emissions assessment tools that will enhance its ability to efficiently manage actions with a favourable impact on this scope.

6.2.5.3.3 Reducing emissions through the circular economy

Through its subsidiary EcoTitanium (France), the Eramet Group is committed to a circular economy and rational management of resources by recycling aviation-grade titanium off-cuts and shavings generated throughout the manufacturing process of the parts required by the major customers in the aeronautics industry. EcoTitanium, which was inaugurated in 2017, is Europe's first recycling facility for aviation-grade titanium alloys. A study conducted by an independent third party expert shows that EcoTitanium® avoids 26.4 tCO_2 per tonne of titanium produced by recycling compared to traditional methods. The volume of emissions avoided is expected to increase in the future as EcoTitanium® reaches its nominal production rate.

Another site of the Alloys Division, Erasteel Commentry (France), also recycles metalliferous waste materials and secondary materials as part of its activities. This mainly concerns the processing of used catalysts. The metals recycled in this way are mainly iron, molybdenum, nickel and cobalt. The contribution of these recycling operations is measured by the lower quantities of GHGs emitted per kg of recycled metal compared to the primary production chain. A study conducted by a third-party expert showed that around 2.8 kt of CO_2 were avoided in 2018.

6.2.5.4 Performance

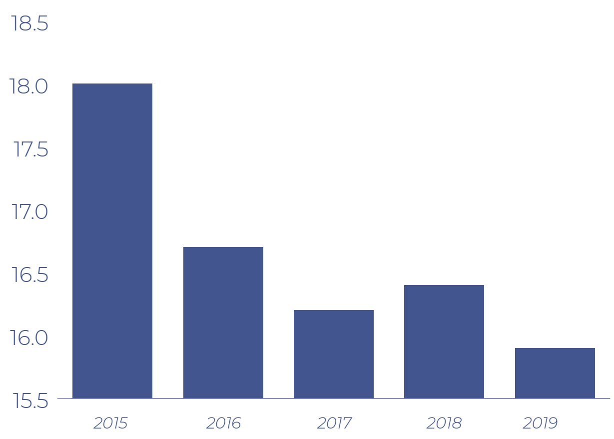
6.2.5.4.1 Energy consumption

Energy consumptions such as CO_2 emissions linked to the Group's activities are broken down by business category.

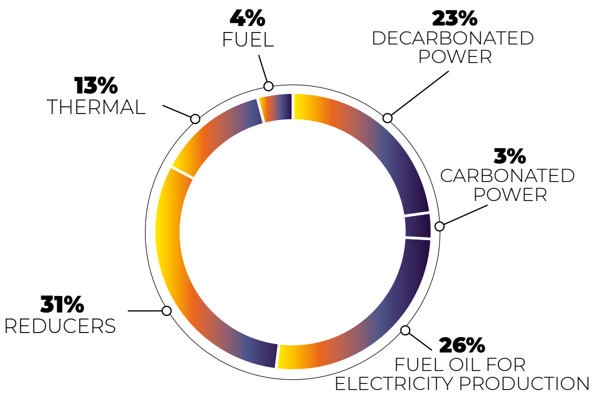
MINING	The energy consumed is mainly fuel for mining machinery and electricity for fixed installations. Consumption trends are particularly dependent on the structure of the deposit, its topology, the activity (volumes of ores produced) and especially stripping and preparatory work ratios (total volumes handled).
PYROMETALLURGY	Industrial installations are part of "extractive metallurgy" which consists of converting, through reduction reactions, the metallic oxides contained in the ores into metal alloys which are then marketed. These processes require an energy supply to reach the temperatures of the reduction or smelting reactions (around 1500°C), in the form of electrical energy and reducers that also contain carbonaceous energy. This consumption is directly dependent on the activity. Good process control also requires upstream monitoring of the water content of ores. The energy consumption for these uses is therefore also highly dependent on climatic conditions and varies depending on the season.
HYDROMETALLURGY	This industry consists of producing metal salts and is also part of extractive metallurgy. The types of energy consumed are mainly electricity, steam and natural gas. Consumption is mainly dependent on the activity and type of manufacturing process
INTERNAL LOGISTICS	It corresponds mainly to the Group internal rail transport between mines and ports. For Eramet, it therefore comes under scope 1 and is completely distinct from the logistics activities traditionally defined in scope 3. Energy consumption is mainly linked to the diesel locomotives operated in our mining territories.
ALLOY METALLURGY	The purpose of this industry is the production of alloys with high mechanical properties, their hot or cold processing and the associated heat treatments. These processes consume electricity and gas. Consumption is clearly dependent on the types of products delivered to customers and the complexity of the processes.
RECYCLING	This activity entails recycling metal waste by smelting it into alloys that can be used internally (concept of secondary mining) or directly by customers. The types of energy consumed are the same as for processing metallurgy.
RESEARCH & INNOVATION	Teams work upstream for all the Group's business lines.

Energy consumption in 2019 was 15.9 TWh, down 3.3% compared to 2018 and 3.5% compared to the average of the last three years (2016 to 2018). 86% of the Group's energy requirements are linked to the 14 pyrometallurgical plants.

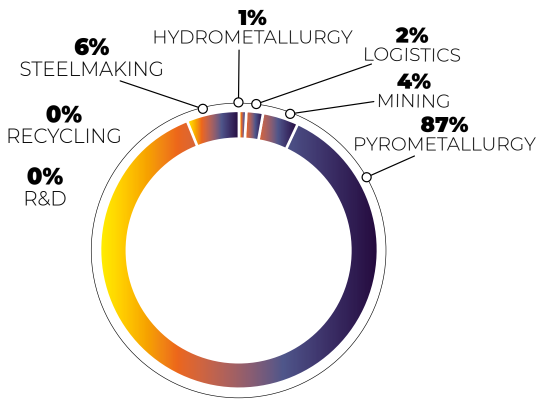
Annual consumption in TWh



Breakdown of consumption by use



Consumption by business lines



The energy purchased by the Group is used for the following purposes:

- Electricity (4.2 TWh): includes all of the energy required for furnaces, motive power (motors and electric machines), lighting and services. As far as possible, the Group supplies electricity from carbon-free sources (hydraulic, nuclear);
- Electricity generation (4.2 TWh): use of electricity generated by "proprietary" heavy fuel oil power plants;
- Reducers (4.8 TWh): chemical and thermal energy provided by reducers in fusion reduction operations. Their consumption is determined by the degree of oxidation of the ores and must therefore be constantly adapted;
- Thermal (2.0 TWh): uses including drying, heating and heat treatment operations, necessary to ensure the quality of products produced by alloy metallurgy and for pyrometallurgy inputs;
- Fuels (0.7 TWh): used for combustion engine powered machinery, mainly for mining operations.

Purchases of very low carbon electricity

87% of the electricity purchased by the Group is low carbon (65% hydroelectric and 22% nuclear).

6.2.5.4.2 Deployment of the ISO 50001 approach and energy efficiency

At the end of 2019, nine sites had already set up an ISO 50001 certified energy management system: the three sites -- Eramet Norway, Aubert & Duval Pamiers, Comilog Dunkerque -- in addition to the four sites certified in 2019 (two of the Comilog sites in Gabon, the SLN Doniambo plants and the Aubert & Duval sites of Les Ancizes).

The momentum continues and the Eramet Marietta, TiZir Grande Operation and the Moanda Industrial Complex are getting ready for certification in 2020.

Furthermore, Eramet participated in the ISO 50001 standard upgrade efforts with AFNOR experts and the Group is a member of the ENERGEST standardisation committee tasked with promoting and defining standards for energy efficiency practices.

The ISO 50001 approach, as with any continuous improvement approach, requires the implementation of relevant and efficient action plans. This year of work enabled in particular:

- deployment of a digital energy performance optimisation solution ("Brain Cube") at the Les Ancizes site. To date, 80% of the potentially affected installations are now monitored. It is gradually being deployed at the other sites of the High Performance Alloys Division;
- deployment at Gabon mines of a fleet management system which provides real-time monitoring and piloting of energy consumption and CO_2 emissions;

- deployment of a load management tool in Marietta enabling better performance of the national electrical network and, in turn, reduced use of fossil energies overall;
- the “Proof of Concept” validation of an artificial intelligence solution to optimise the electric mix control of SLN furnaces;
- control of energy consumption which leads to very rapid gains in numerous cases (SLN compressed air network: 50% gain this year, deployment of LEDs at the High Performance Alloys Division or Comilog Dunkerque, etc.).

6.2.5.4.3 Decarbonation of Eramet energy

The Energy & Climate Department and all Eramet players involved in the choice of energy sources necessary for the Group’s activity ensure that decisions are always optimised based on economic and climate interests.

Thus in 2019, the Eramet Group continued its efforts to decarbonate the energy mix by:

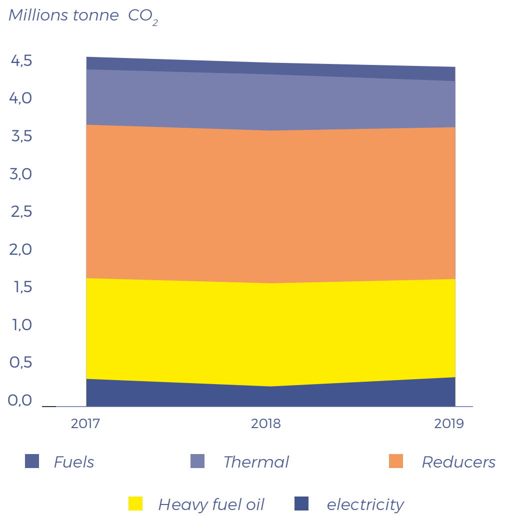
- modulating the power of SNL’s oil-fired power plant in order to absorb renewable electricity production peaks for New Caledonia;
- setting up solar panels at the Les Ancizes sites thereby contributing to the development of renewable energies.

6.2.5.4.4 Greenhouse gas (GHG)

Since 2018 Eramet reports its GHG emissions under the CDP.

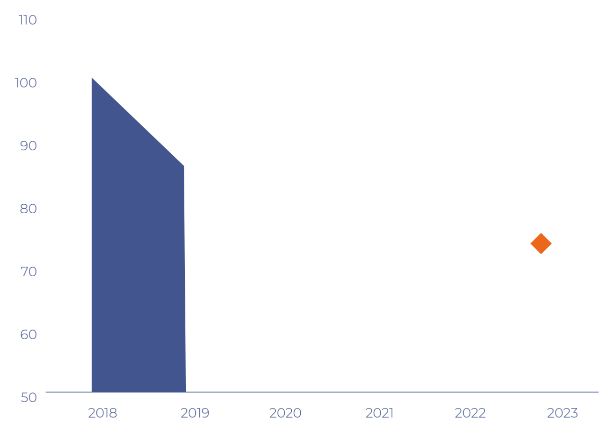
Change in emissions associated with Eramet activities – scopes 1 & 2

Change in CO_2 emissions by type



Change in the Group’s specific emissions

(base 100 in 2018 – goal -26% in 2023)



In 2019, Eramet issued 4.07 million tonnes of CO_2, (3.71 $MtCO_2$ of scope 1 and 0.36 of scope 2), despite activity having increased by 1.3 million tonnes of finished product. The effects of improved energy efficiency are slightly higher than those of the activity increase.

There is therefore a 14% gain in specific CO_2 emissions (expressed in tCO_2/t produced) compared to the 2018 reference and approximately one year ahead compared to the target curve. This result was obtained thanks to the general mobilisation of teams working on the issue, against a backdrop of increased nickel ore exports.

Scope 1 emissions are mainly due to:

- the processing of ores using pyrometallurgy (32%), for which there is currently no economically viable alternative technological solution. The main focus of emission control would be to develop a method of capturing process gases for storage or sale as a precursor chemical. The development of such technologies would require extensive R & I and would therefore only be a long-term solution, as the technology is not yet available;
- electricity generation (27%). Studies are currently being carried out on facilitating the generation of electricity using lower-emission technologies (LNG and solar power plants);
- for various heating requirements (13%).

Change in emissions associated with Eramet Group peripheral activities – scope 3

Since 2017 Eramet has gradually been setting up the tools necessary for evaluating this scope. This is an exercise involving the cooperation of players upstream and downstream of the Group's activities:

- the shipping companies chartered by the Group are encouraged to communicate their issues;
- Eramet Norway received the financial support of Enova for setting up an innovative system by 2021 to supply decarbonated power to moored ships. Furthermore, Eramet Norway teamed up with its main shipping company Arriva to transition to the electrification of ships;
- DAHP land transports are monitored by a new flow management software that can be used to obtain an estimate of associated emissions in real time.

Eramet activities (Extraction and basic processing) place the Group far upstream in the lifecycle of products. To date, information available to Eramet is not sufficient to fully cover the whole range of scope 3 downstream. This part of the scope will be specified in upcoming years as the Group's customers report advances in this field.

Scope 3 which has been assessed by Eramet since 2017 covers:

- **for the upstream:** raw material supplies, fuels and reducers (carbon contained for the extraction, transformation and routing);
- **for the downstream:** transport to the product-purchasing country and transport between Eramet sites when they are made with own resources.

Eramet scope 3 on this scope is assessed at 750 kt. Emissions associated with the extraction and transformation of raw materials used by the Group account of 475 kt and the emissions corresponding to imported or exported freight account for 275 kt.

6.2.6 Mining environment

This section looks at environmental protection actions deployed at the mining sites in operation (with the exception of measures concerning biodiversity, which are detailed in section 6.2.7). Provisions for developing mining projects are included in section 6.4.4 Governance of Industrial and Mining Projects.

The Group's mining operations do not include underground mines and do not use any chemical product.

In Gabon, the mine operated by Comilog on the Bangombé plateau is one of the richest manganese deposits in the world, covered by a layer of 4 to 5 metres of waste rock[1]. The properties of the deposit and the ore result in the production of very little mine waste.

SLN operates 15 nickel mines in New Caledonia; the seven largest are operated directly by SLN and the others are subcontracted to local operators. The mines are located in rugged terrain at altitudes between 250 and 1,000 metres. In this type of deposit, it is necessary to move about 7-9 tonnes of tailings to produce 1 tonne of ore that can be processed by the Doniambo plant. These ratios will improve in upcoming years with the introduction of the "4 million export tonnes" plan which will go hand-in-hand with improved mining efficiency. Storing these tailings under conditions that guarantee safety and protection of the environment is, therefore, a key issue.

In Senegal, the Grande Côte Operations (GCO) mineral sands mine in Senegal produces zircon, ilmenite, rutile and leucoxene. The deposit is located in the sand dunes near the coast to the north-east of Dakar. The extraction operations take place in an artificial mobile basin of 12 hectares and about 6 metres deep and follow a route which is optimised to exploit the deposit. The mining process involves a dredge with a capacity of 7,000 tonnes per hour, connected to a floating concentration plant, where minerals are separated from the sand by a grading and gravimetric process. After extracting the recoverable fractions (around 1.5% of the treated sand), the sand is directly put back at the rear of the facilities to reform the dune. The resulting heavy mineral concentrate is transferred to separation plants located on land, where the commercial products are obtained by separation. The low volumes of products extracted and not processed in this stage are reincorporated into the reconstituted dunes. The water needed to run operations is pumped from the deep aquifer (Maastrichtian) and recycled as much as possible

(1) Tailings is the material that remains after the ores are extracted from rocks mined with no or very little desired metal content

The following table summarises the main environmental issues and risks for the Group's mining sites.

TABLE SUMMARISING THE ENVIRONMENTAL ISSUES AND RISKS AT ERAMET'S MINING SITES

	SLN Mines (New Caledonia)	Mining Comilog (Gabon)	GCO Mine (Senegal)	Comments
Pressure on water resources (quantity)	*	*	*	The high levels of rainfall at the sites in New Caledonia and Gabon make the issue of water consumption relatively low in sensitivity. Conversely, in Senegal, the two aquifers used by the mine are important reserves for local residents and for the country. Measures are being taken to limit the quantities taken from these aquifers.
Erosion	****	**	**	The nature of the soils and rocks, the topography of the deposits and the presence of fragile receiver environments make erosion a very sensitive subject in New Caledonia. In Senegal, protecting the dunes reconstituted after dredging against wind and water erosion is an issue, but outside the freshly reconstituted areas this subject is of minor importance. In Gabon, the recent extension of the deposit into a sloping area has increased the acuity of the issue somewhat, but it remains low in significance for the rest of the mine.
Acid drainage	o	*	*	Generally, Eramet mining sites are little concerned by the risk of acid mine drainage. In Gabon, only a horizon of tailings located in the current extension of the deposit is likely to present this risk in a localised way. In Senegal, a sandy horizon containing intercalated peat lenses may be encountered during mining operations and may potentially generate low acidification.
Production of tailings	***	*	*	The tailings from the Moanda mine are mostly returned immediately to the mining area. In Senegal, the sand is returned directly to the environment after extracting the recoverable fraction, which represents only 2%. By contrast, in New Caledonia, the production of tailings is much larger. The methods of exploitation used by SLN (New Caledonia) are increasingly changing from stockpiles to filling pits with tailings.
Production of residues	*	**	*	Only the Comilog mine (Gabon) and the Tiébaghi and Népoui mining sites (New Caledonia) produce significant quantities of mine tailings resulting from concentration steps by mechanical means. These residues are chemically stable and are not hazardous to the environment. In New Caledonia, residues from processing plants are, moreover, commercially processed as mining by-products. The characteristics of the small quantities of residues produced in Senegal allow their return to the natural environment during the reconstitution of the dune.
Impact on biodiversity	****	****	**	The biodiversity of the New Caledonian sites is recognised as remarkable due, in particular, to its very high endemicity. The most recent studies conducted with regard to international standards in Gabon have shown that the Comilog mine is also located in an environment characterised by high biodiversity. The GCO mine (Senegal) does not have the same level of sensitivity. However, it should be noted that the Senegal mine is adjacent to major vegetable production areas.

Legend:
- * *Low.*
- ** *Moderate.*
- *** *Significant.*
- **** *Strong.*
- o *No acid drainage.*

6.2.6.1 Mining environment management structures

Teams dedicated to the consideration of the environment in mining are present at the sites and subsidiaries concerned in Gabon, Senegal and New Caledonia.

In the last few years, as part of its Sustainable Development policy, Eramet has strengthened the structuring, formalisation and international coordination of tools for environmental management at mines. As part of this, the following actions have been carried out:

- A community of mining environment experts has been set up and meets regularly. Its role is to formalise good practices guidelines applicable throughout the Group and to encourage the exchange of expertise between sites.
- Environmental Management Systems compatible with the requirements of ISO 14001 have been deployed by the mining subsidiaries. In 2016, SLN became the first mining and metallurgical company to obtain ISO 14001 certification in New Caledonia. The certificate covers the mining activities of the seven main mines, which are operated directly by SLN.
- For its part, Comilog has been certified ISO 14001 2004 Version since December 2012 and obtained the renewal in April 2016. Since December 2018, Comilog has been certified ISO 14001 2015 Version. In 2019, the certification scope evolved by incorporating the activities of the Moanda Metallurgy Complex (CMM). Now, the application field covers Manganese ore extraction, preparation, storage and loading operations (Rocky, Fine and Sinter), production of Silico-manganese, metal manganese and other derivatives of Manganese ore, sold in the metallurgical and chemical industries.
- In Senegal, significant improvements are under way with the implementation of an environmental management system aligned with the requirements of ISO 14001 throughout the various functional units of GCO in collaboration with the Group's environmental team. In addition, in 2017, GCO updated its Environment, Biodiversity, Safety, Ethics, Quality and Communities charters and committed to a process leading to ISO 14001 certification. In 2019, the new Environment policy was updated and communicated throughout sites.
- All SLN mining sites (New Caledonia) have updated their environmental impact assessments in recent years as part of the reform of the Mining Code of New Caledonia. This considerable work allows each site to have comprehensive studies on the environment and the ecosystems in which they are located, and effective environmental management plans adapted to their specific characteristics.
- At the same time in Gabon, for the Comilog mine, numerous environmental studies have been performed that they have considerably improved the level of awareness of the site's environmental characteristics. The most recent include:
  - the complete environmental and social impact study for the extension of the Bangombé plateau mining operation to the edges of the deposit (part of the sloping deposit located within the Comilog concession). This study was validated by the authorities in 2018;
  - the environmental and social study aligned with best international standards performed for the Okouma deposit mining project and the construction of a new washing plant. This study was validated by the authorities on 3 May 2019.
- In Senegal, the Grande Côte mining site, following the audit and updating of its Environmental Management and Social Plan (EMSP), received its environmental compliance certificate on 24 October 2016 from the supervisory authorities, and then, in 2017, the joint ministerial decision granting definitive authorisation for all its classified establishments. In 2019, the site began efforts to obtain ISO 14001 certification following its 100% consolidation into Eramet Group.

6.2.6.2 Responsible resource management

The recovery of mining resources is one of the Group's core businesses and a key component of the Group's contribution to the development of the circular economy. Indeed, maximum recovery of the mineral profile, i.e. the mining of ores at the lowest possible grade, or the recovery of materials previously considered to be waste rock or residue, makes it possible to improve the environmental efficiency of mining operations by increasing the quantity of metal resources produced for the same environmental footprint.

In this respect, in New Caledonia, SLN has developed techniques for recovering ores initially considered marginal, thus significantly extending the life of the deposits while reducing the final environmental impact. These results have been obtained with the construction of ore washing plants which allow the ore to be concentrated without adding any chemicals. Since mid-2010, SLN has been recovering by-products from the ore washing plants, as well as selectively stockpiled products (laterites and low-grade saprolites). Since 2010, 8.8 million tonnes of low-grade saprolites and by-products from ore washing plants were recovered. With the "4 Mth Export" project, the SLN will ultimately recover old flat-top piles and will develop the recovery of very low-grade metals.

Other examples in Senegal: since 2016, more than 70,000 tonnes of sand containing zircon (medium-grade zircon sand), initially considered as a residue, have been recovered by the GCO teams (Senegal).

RSE 2023

In 2018, the Group decided to strengthen this momentum to improve the recovery of mining resources by formalising a new circular economy action plan. The objective is, over the period 2019-2023, through a series of innovative actions, to recover more than 2 million tonnes of materials previously considered as residue or tailings. In 2019, five projects have been launched to contribute to this goal. One of them has already produced its first results, again in GCO (Senegal). A flow of ilmenites initially considered as waste can be recovered by creating a new commercial product known as ilmenite 56. 34,000 tonnes of this product were recovered in 2019.

6.2.6.3 Water management

At mining sites in New Caledonia, and to a lesser extent in Gabon, the major issue of water management is to prevent the entry of suspended solids (SS) into the receiving environment through run-off caused by erosion due to surface stripping.

To avoid this, SLN (New Caledonia) has long since equipped its sites with sedimentation basins that trap suspended solids in order to prevent their transport into the natural environment. Upstream of these works, many precautions are taken to minimise erosion: roofing of sites to prevent water entry, minimisation of open areas, conservation of natural embankments at the edges of stripping sites, organization of run-offs to reduce speed, implementation of hydraulic locks, etc. These measures are documented for each SLN mining site in a Water Management Plan that meets the regulatory requirements of New Caledonia. The implementation of these Water Management Plans as mining progressively evolves represents an ongoing commitment and considerable investment. Finally, monitoring of the proper functioning of the water management works is now carried out using drones. In total, investments dedicated to water management for these sites exceed €17.7 million over the last six years.

The special expertise of SLN on the topic of erosion prevention is compiled in a revised technical guide (the "Blue Guide"), which serves as an industry reference in New Caledonia and beyond for the Group.

In Gabon, the subject of erosion is less significant given the topography of the plateau deposit and the draining characteristics of the upper geological layers of the plateau. Nevertheless, operators are aware of the measures to be taken to limit erosion. Attention is still paid to the topic due to the ongoing extension of the deposit into the sloping part. A specific water management plan associated with the extension of the deposit has been developed. As part of this plan, in addition to the recommendations relating to the construction of safe slopes and the size of sedimentation basins, a specific environmental monitoring system has been put in place. This continuous monitoring confirms the effectiveness of the measures taken and makes it possible to verify that the very limited and localised phenomenon of acid mine drainage does not have a significant impact on the natural environment.

In addition, in recent years, major advances have been made at the Moanda site for the management of aqueous waste from the ore mill. Since 2010, discharges to the River Moulili were stopped with the installation of (ultra-fine) tailings ponds. These ponds were constructed in such a way as to be able to recover the overflow waters and redirect them to the concentration facility, thus eliminating any direct discharge into the river.

In Senegal, water management is a sensitive issue as the operation of the mine uses two aquifers, one of which is shallow and very important to local inhabitants (domestic consumption and irrigation) and the other deep, constituting the largest underground water reserve for drinking water supply to the inhabitants. Given this situation, every precaution is taken to ensure that the impact of the mine is controlled and minimised. GCO (Senegal) has an expert team dedicated to hydrogeology. In this respect, a doctoral thesis entitled "Updated knowledge of the North Coast water table and evaluation of potential impacts from Grande Côte Operations exploiting the mineral sands: hydrochemical, isotopic and hydrodynamic model approach -- SENEGAL" *[“Actualisation des connaissances sur la nappe du Littoral Nord et évaluation des impacts potentiels de l'exploitation des sables minéralisés par Grande Côte Operations: approche hydrochimique, isotopique et hydrodynamique par modèle – SENEGAL”]* was successfully defended at the Dakar Cheikh Anta Diop University (Senegal). In the context of the State/GCO partnership, the water ministry departments, in addition to their sovereign missions of monthly controls, contribute to the continuous improvement of underground water resources management process. As such GCO also pays the drainage tax levied on pumping water from the deep water table.

The water management system was designed by GCO and authorised by the competent department of the Senegalese Government to avoid additional pressure on the superficial water table used to supply water to local residents' agricultural crops. All mining installations are controlled to ensure minimal variations in the level of this water table. This aquifer is subject to twice-daily monitoring. More than 80% of the mine's net water consumption is used to ensure a constant water level in the basin in which the dredge and the facilities float. For this, the mine uses a deeper aquifer, for which limits on pumping rates have been set by the authorities and respected by GCO (Senegal) since the start of production. The water from this water table is recycled as much as possible (recycle rate of around 45%). In addition, this aquifer is also subject to continuous monitoring. To this end, three 500m deep piezometers are used to control the deep (Maastrichtian) aquifer.

“Water policing” and monitoring operations are carried out internally on an ongoing basis by the Environment Department of GCO (Senegal). Monthly reports on this matter are sent to the relevant authorities. Since the start of the operations, monitoring has demonstrated the effectiveness of the measures taken and the absence of damaging consequences on water resources.

6.2.6.4 Tailings and mine waste management

Mine waste

Given the considerable volume of tailings being handled at SLN operations (New Caledonia), the storage of tailings in appropriate structures and their revegetation is a vital environmental task in order to minimise erosion and the impacts on the ecosystem and landscape.

Thanks to its extensive experience, SLN (in New Caledonia) has developed effective techniques that have been validated by the authorities, one of which is to create tailings stockpiles. The works are carried out according to professional standards and their stability is guaranteed in the long term, even during exceptionally heavy rains. These tailings stockpiles are subject to continuous internal monitoring and regular audits by an external third party. In relation to water management techniques, SLN has published a technical guide, updated in 2012, which explains the construction methods of tailings stockpiles and their design rules. This guide applies to all SLN mining sites operated directly or by outsourcing. Moreover, in order to minimise land clearing and promote site rehabilitation, SLN prioritises the creation of flat-top piles in old mining pits, when the environmental conditions are favourable.

In Gabon, the problem is less sensitive since, on the one hand, the volumes of tailings being handled are much less, and on the other hand because the technique of exploiting by the successive opening/closing of “compartments” allows the majority of tailings to be placed directly into the “compartments” after extraction.

The Senegal mine is not at all affected by this problem, since the sand dune is reconstituted after passing the dredge and extracting the recoverable part.

Mining waste

One of the three Eramet mining subsidiaries uses tailing dams: SLN mining operations in New Caledonia and GCO in Senegal are not concerned by this type of structure.

In Gabon, mine wastes are clay ore fractions, obtained by a physical separation process by water scrubbing, without the addition of chemical products. This waste is stockpiled in 11 basins, consisting of closed dams with a maximum height of 16 metres, and a volume between 1 and 1.5 million m^3.

These structures are not raised: a new structure is built every 18 to 24 months. Leaching tests showed that these are inert waste.

The CIM dam is used to stock two types of non-hazardous waste associated with the CIM beneficiation plant: sand (particle size matter between 1 and 20 mm) and finer ore particles (< 1 mm) in the form of sludge. The rough particles are used to raise the structure while continuously consolidating its external walls (downstream method). The structure is 30m high and contains 3.6 million m^3 of sludge. The width of the dam is now 100m.

Even if the size of these structures is limited compared to those existing elsewhere in the world, Eramet is committed to operating these structures in accordance with best practices to guarantee the security of its employees and neighbouring communities.

The structures are continuously monitored and operated in accordance with specific guidelines. Annual reviews are performed by an external engineering team. In addition, in 2016, in the framework of its risk prevention initiative, the Group commissioned an audit of its structures by the Group’s geotechnical and environmental experts. In 2019, a new audit was conducted by an external firm, by referring to the report on the best available techniques for the management of mining waste established in 2018 by the European Commission and the ICOLD (International Commission on Large Dams). These audits concluded at a good risk management level, while providing recommendations to better improve the safety level.

Eramet also participated in initiatives aimed at strengthening the safety of waste management by the mining industry, as those launched by The Church of England Pension Board aimed at improving the transparency of reporting on this sensitive subject. Follow the link below to read Eramet’s statement on the issue in French: http://www.eramet.com/fr/rse/environnement/gestion-responsable-des-residus-miniers-et-steriles.

The GCO plant (Senegal) produces a very small amount of residues. The residual products have characteristics that allow their return to the natural environment when the dune is reconstituted.

6.2.6.5 Rehabilitation of mining sites

All mining sites are continuously rehabilitated.

In New Caledonia

The work includes land reshaping and revegetation operations, the methods and results of which are described in section 6.2.7 “Preservation of biodiversity”.

As part of the implementation of the environmental management system for mines, over the past few years SLN has carried out a comprehensive review of its internal procedures and rehabilitation instructions and a formalisation of the expertise developed over the past ten years or so. The objective is to share best practices, ensuring greater consistency between sites, as well as better integration of rehabilitation operations in mine planning in the short and medium term. In this context, two Technical Guide references were published by SLN, one dedicated to the optimal management of topsoil (2015) and the other devoted to principles and techniques of mining redevelopment in 2016.

Of SLN's five mining centres, four have a formal rehabilitation master plan in place, and the plan for the fifth site is partially completed.

In recent years, major redevelopment work, allowing for definitive rehabilitation, has been carried out, continued or completed. In addition to the revegetation work carried out on a recurring basis (hydraulic sowing and planting, excluding topsoil spreading), other major redevelopment projects are also being undertaken by SLN. Some examples are:

- the massive project to redevelop the SM2E tailings stockpile on the Thio Plateau, which was completed in 2018;
- there are plans to launch in 2020 another remodelling worksite for the former "Sillon Nord" landfill, on the Plateau mine, which should represent some 400,000 m^3 of materials to be remodelled;
- the redevelopment of the Rachel tailings stockpile in Népoui, which is the subject of administrative winding-up proceedings, and on which SLN is developing a seed field and seed orchard (80,000 plants on 3 hectares), in order to develop a site with easy access to seed for its future revegetation work.

In terms of remediation of liabilities, over-silted waterways are also the subject of clean-up operations by SLN. In 2019, the interventions focused on the Thio and Houaïlou region in partnership with local companies.

In Gabon

Revegetation is much easier than in the New Caledonian environment because vegetation recolonisation occurs naturally. The challenge of redeveloping the sites is also landscaping with the need to remodel the tailings stockpiles of a few metres in size created by exploitation:

- Since 2010, the mining procedure has been revised to incorporate land remodelling as it evolves. An effort to remodel the areas disturbed before this date was undertaken in parallel and is subject to an annual target in the mine's environmental management system. The results are detailed in section 6.2.7 "Preservation of biodiversity". Beyond these concrete actions, preliminary studies for the definition of a comprehensive rehabilitation strategy of the Bangombé mine plateau have been continued.
- In addition, operations to rehabilitate the River Moulili by extracting the ultra-fine deposits downstream from the mine's ore washing plant have continued since 2010. At the end of 2019, approximately 15 million tons of manganiferous sediments were excavated. These operations are carried out in strict compliance with the Environmental Management and Social Plan prepared after the impact assessment of this work. In a spirit of transparency and dialogue, Comilog also organised, in June 2014, a seminar dedicated to the rehabilitation of the downstream segment of the river. The seminar brought together all relevant stakeholders (government, civil society, NGOs, scientists, etc.). It helped define a consensus and recommendations for the downstream segment, which were then proposed to the supervisory authorities. Such a consultation process was a first in Gabon.
- In the context of the rehabilitation of the downstream section of the Moulili river, 1,500 linear metres were excavated with the help of specialised equipment (amphibious hydraulic excavator).

In Senegal

The particular exploitation mode of this mine, with an enrichment plant moving progressively along the deposit, involves the clearing of vegetation consisting of grasses and thinly distributed trees in the area. The revegetation of the reconstituted dunes at the rear of the mobile mining facilities is a strong expectation of the resident populations, and also a challenge in the context of rainfall limited to a short rainy season.

After consulting the relevant authorities, local populations and their representatives, a participatory rehabilitation strategy with strong involvement of communities and local authorities was formalised in late 2013. The implementation of rehabilitation is accompanied by the creation of income-generating activities for the host populations participating in the emergence of a local entrepreneurial culture. Rehabilitation work is regularly monitored as part of a dedicated formal consultation framework set up in 2015 by the *sous-préfet* of Méouane, and consultations with local residents on their expectations regarding rehabilitation were renewed in 2016.

The success of the rehabilitation operations and the rigorous application of the rehabilitation strategy have been confirmed by regular audits by the Water and Forest Inspectorate as well as during the recent visit of the Minister of the Environment and Sustainable Development. Rehabilitation techniques are constantly being improved. With the implementation of a supplementary irrigation system in 2017, rehabilitation is now carried out continuously throughout the year, thus making it possible to cover increasingly large areas. Maintenance of the new plantations with the supplementary irrigation system has resulted in very high survival rates (over 90%) and faster plant growth. The dynamics of natural resources (soil, flora, fauna, etc.) in the sites being rehabilitated are good. A doctoral thesis entitled "Contributing to environmental monitoring and sustainable rehabilitation of mining sites: Case study for the exploitation of mineral sands in Senegal's Grande Côte" *[Contribution au suivi environnemental et à la réhabilitation durable de sites miniers: Cas de l'exploitation de sables minéralisés dans la Grande Côte du Sénégal"]* was successfully defended at the University of Thiès (Senegal). Rehabilitation results are detailed in the following section 6.2.7 "Biodiversity".

6.2.7 Preservation of biodiversity

The locations of Eramet's various mining and metallurgical activities have enabled it to acquire solid experience in relation to biodiversity and to build a network of internal specialists. Based on this experience, Eramet decided to formalise its actions with the adoption of a Biodiversity Policy common to all mining and industrial sites, which was rolled out and communicated to Group employees in 2015.

The principles are to be adapted at sites in a manner proportionate to local issues. The full text of this Policy is directly accessible on the Eramet website at the following address: http://www.Eramet.com/sites/default/files/Eramet_politique_biodiversite_fr.pdf.

In application of this Policy, for several years now the Group has been committed to:

- participating in *ad hoc* discussions at local, national and international levels;
- developing skills within Eramet;
- developing methodological tools for coordinated management of biodiversity across Group sites.

The Group strives to reduce the impact of its activities on biodiversity on a daily basis.

RSE 2023

In the context of its CSR Roadmap, Eramet is committed to preserving water resources and accelerating the rehabilitation of its sites by promoting biodiversity.

The Group seeks to achieve a ratio of rehabilitated areas to cleared areas ≥ 1 over the period 2019-2023 (long-term infrastructures excluded). This goal corresponds to continued progress on this indicator which was:

- 0.5 from 2011 to 2013;
- 0.85 from 2014 to 2018.

2019 results stood at 1.2.

The contributions of each subsidiary to this overall result are detailed in the following paragraphs.

6.2.7.1 The challenges of biodiversity

Eramet, through its mining and metallurgical activities, may impact ecosystem species, habitats and services, which may be ordinary or remarkable biodiversity, depending on the location. As illustrated in the table below, the Group's most important biodiversity issues currently relate to New Caledonia, Gabon and Indonesia. Despite a moderate sensitivity to biodiversity at the operations site, Senegal is also the subject of specific focus given the significant rehabilitation and revegetation issues.

On the sites	New Caledonia	Gabon	Other
Number of species (flora and fauna) classified as CR(1) on the IUCN Red List(2)	4	1	0
Number of species (flora and fauna) classified as EN(3) on the IUCN Red List	24	8*	0

* *These species may potentially be present, but they have not been observed on the Comilog and Setrag sites.*

(1) CR: IUCN classification for Critically Endangered Species.

(2) IUCN: International Union for the Conservation of Nature.

(3) EN: IUCN classification for Endangered Species.

The Group does not have any mining or metallurgical site in operation in a protected area. It should be mentioned, however, that the Setrag railway track crosses the Ramsar[1] site of Bas-Ogooué (for 56 km), the Ramsar site of the Mboungou Badouma and Doume rapids (for 30 km) as well as the National Park of Lopé (62 km), a UNESCO[2] World Heritage Site. The Ramsar sites and the National Park were created between 2007 and 2009, that is to say, 30 years after the construction of the Trans-Gabon railway. Setrag is also engaged with the Gabonese Ministry of Water and Forests and the National Agency of National Parks in the fight against poaching by raising awareness among its staff and through its policy prohibiting the transportation of bush meat. The protocol agreement was renewed in 2018.

Number of sites within 10 km of a protected area	21
Average distance of these sites from the protected areas	2 km
Types of protected area	Nature Reserve, National Parks, ZNIEFF[1], ZICO[2], Natura 2000[3] area, Ramsar area, UNESCO World Heritage

(1) ZNIEFF: Natural area of ecological, faunistic and floristic interest.

(2) ZICO: Important area for the conservation of birds.

(3) The Natura 2000 network is a European ecological network made up of Special Protection Areas and Special Conservation Areas designated by the Member States.

6.2.7.2 In New Caledonia

Société Le Nickel (SLN) operates nickel deposits on various sites in the heart of a region renowned for its rich biodiversity and a high rate of endemism among its flora and fauna species.

Since the 1980s, SLN has developed reliable and environmentally friendly rehabilitation methods. The naturally low fertility of the soils, rich in metals and poor in organic elements, as well as the extreme rainfall conditions, make it difficult to see the results of this work in the short term because of the very slow growth.

In the field, revegetation can take different forms. It is carried out by spreading topsoil, planting or hydraulic sowing, having most of the time enriched the soil beforehand. The species used for revegetation are all local species, including some endemic species.

The revegetation effort has been maintained consistently since 2015 with about 30 hectares covered per year.

New Caledonia

At the same time, SLN is highly involved in terms of biodiversity preservation. It is working on the reintroduction of rare and threatened plant species through inventories of mining centres, as well as phenological monitoring to better control their reproduction. A partnership with the Institut agronomique néo-calédonien has enabled SLN to produce around ten production sheets that are now available for nurseries. The work and methods are also shared and pooled in an *ad hoc* working group established within the Union of New Caledonia Mining Industries (SIM).

Finally, SLN continues to actively participate in the ongoing reflections on the territory, and relating to the compensation and implementation tools, with the SIM and the North and South Provinces, as well as the specialised firms that support them.

(1) The Ramsar List refers to wetlands of international importance.
(2) UNESCO: The United Nations Educational, Scientific and Cultural Organization

6.2.7.3 In Gabon

The Ogooué Mining Company (Comilog) has been exploiting manganese ore on the Bangombé Plateau in Moanda, Gabon for more than 50 years.

Although the manganese reserves of this plateau are still considerable and make it possible to envisage more than 10 or even 20 years of exploitation, part of the plateau has already been rehabilitated. The mining procedure has been revised to incorporate a remodelling step and the progressive upgrading of the topsoil. Since 2010, the gradual reshaping of historically disturbed surfaces has also been completed.

In 2014, a mining Environment brigade was created, which contributed to the significant increase in rehabilitated areas: In 2019, members of this brigade joined the mining operation teams for better coordinated gradual rehabilitation. The original brigade is now focused on historic rehabilitation. Nearly 730 hectares were rehabilitated in six years.

Gabon

At the same time, Comilog continues to improve its rehabilitation strategy, taking into account the results of the latest environmental studies developed for the Bangombé plateau and the plan to expand the Moanda mine, as well as the recommendations and good practices of other Eramet mining sites. In June 2019, Comilog hosted the first part of an internal seminar fully dedicated to rehabilitation and biodiversity.

In addition to the mining activities, Lékédi Park (a subsidiary of Comilog), located 5 km from Bakoumba in the south-east of the Gabonese Republic, covers 14,000 hectares of savannahs, gallery forests, and bodies of water.

The park is dedicated to the preservation of protected species, the observation of animals and the reception of young orphans of poaching (mainly primates). It also conducts research on biodiversity and combating poaching in partnership with Gabonese and international scientists and organizations.

The park is mainly a rehabilitation centre for monkeys and primates; it is accredited by the Pan African Sanctuary Alliance (PASA – https://www.pasaprimates.org). Gabon's orphaned chimpanzees and gorillas are collected and raised in their natural environment.

Different groups of mandrill have also been introduced to the park and live in total freedom. They have been studied since 2012 by an international team of researchers: the Mandrillus Project. The aim is to answer fundamental questions about evolutionary ecology, anthropology, food ecology, animal communication (etc.), as well as more applied conservation and epidemiological questions.

A programme to reintroduce chimpanzees, gorillas and mandrills to the Batékés Plateaux National Park started in 2018 with the release of three gorillas in partnership with the Aspinall Foundation. Pending additional studies that will be used to validate the relevance of reintroducing chimpanzees into the National Park, a group of seven chimpanzees has been trained and will shortly be transferred to an island in the Lékédi Park for an initial re-acclimatisation phase. The plan to reintroduce mandrills in the Batékés Plateaux National Park was abandoned given the lack of certainty about whether or not this species is present in the area concerned. The group trained for this operation has already joined one of the two groups in the Lékédi park.

In addition, since 2013, the Park has also been involved with the Haut-Ogooué Regional Water and Forest Administration to carry out mutual awareness-raising and anti-poaching campaigns. In 2019, six major anti-poaching operations were carried out. A large scale region-wide operation allowed the seizing of about a dozen guns and nearly a hundred cartridges and the destruction of some twenty game animals. The different missions around and in the Park helped to destroy some ten or more illegal camps. Five illegal gold diggers were apprehended and handed over to the police. Four awareness raising missions aimed at people living near the Park were carried out with the collaboration of the Water and Forestry authorities. Awareness-raising and consultation missions were launched in 2019 to resolve conflicts between mandrills used to the Park and the village residents whose crops can be damaged. An ambitious capacity building and crop protection programme was launched at the end of 2019.

Since December 2019, the Park has welcomed a group of wild dogs from a European zoo as part of a Mega Wildlife restoration project for the Batékés Plateaux. Preliminary studies will be carried out regarding the abilities of this particularly endangered species – which had disappeared from Gabon more than 50 years – ago to re-adapt to living in the wild. In 2020, this operation is expected to continue with the arrival of cobes defassa in the Lékédi Park and the transfer of buffaloes and bush pigs to the Plateaux Batékés national park.

6.2.7.4 In Senegal

In Senegal, the Grande Côte Operations began in 2014. The exploitation of mineral sands involves the clearing of vegetation as a floating dredge moves along the deposit.

Biodiversity is of medium sensitivity in the currently exploited areas. However, the mine is in an area where there is still significant plant and animal diversity despite the strong human impact. The three herbaceous species endemic in Senegal and identified in the mining pass of the five coming years have been studied thoroughly by researchers from the plant Biology department of UCAD on behalf of GCO. This study shows that out of the three species assumed to be endemic:

- two (2) in this case *Crotalaria sphaerocarpa Perr.* ex DC. *subsp. polycarpea* and *Spermacoce stachydea* var. *phyllocephala* are species reported as endemic to Senegal, but do not seem to be threatened (Noba K. *et alii*, 2019); furthermore, *Crotalaria sphaerocarpa* is identified in the sites under rehabilitation (study on site dynamics, in progress);
- one (1) *Polycarpaea linearifolia* (DC.) var. *linearifolia* (DC.) DC has not been reported as endemic to Senegal (Noba K. *et alii*, 2019).

As such, the issues are mainly related to the rehabilitation and revegetation of large areas, as and when the exploited sites are made available, as well as to the participative and inclusive management of biodiversity through an approach based on Avoiding-Reducing-Compensating sequence. It must be noted that the Senegal mine is also adjacent to very large vegetable production areas.

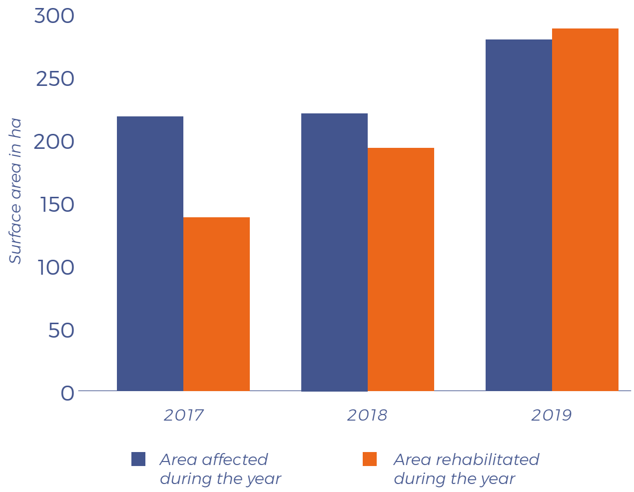
To best reflect the original landscape (dunes), rehabilitation will begin with the reshaping of the slag heaps. Then, nets will be installed to fight against wind erosion, and the soil will be improved with manure and revegetation.

The revegetation and soil improvement methods implemented in the field since 2014 are convincing. They include:

- the planting of woody species produced in the nursery;
- planting herbaceous seedlings from seeds harvested on site;
- the use of sheep and goat manure for soil improvement and indirect seed supply. Initially the soil was improved with additional topsoil, but this practice proved to be less effective than spreading manure during field tests.

Since 2016, GCO has put in place an additional irrigation system to allow the continuity of revegetation operations during the nine months of the dry season. The area planted in 2017 was thus increased by 50% compared to 2016, and it was further increased by 40% in 2018. In 2019, replanted areas increased threefold compared to 2016. Indeed, cleared surfaces totalled 279 hectares and rehabilitated areas 288 hectares, i.e., a factor of 1.03.

Senegal



GCO is also considering the services and products that the site will be able to offer after closure. A compendium of local biodiversity management practices is being developed in collaboration with the University of Dakar.

6.2.8 Responsibility for chemicals

6.2.8.1 Issues and risks

The Eramet Group is characterised by its dual role as a user and producer of chemical substances and mixtures.

Eramet is one of the world's leading producers of alloys, superalloys and high-performance steels. Some implemented processes generate a series of chemicals: hydrometallurgical, pyrometallurgical or recycling processes.

At the same time, the production of alloys requires the use of ores, minerals, recycled secondary materials and a series of metal inputs to adjust the right compositions of the desired grades. The use of chemicals as "commodities" (acids, bases, salts, etc.) is also significant. It is also necessary to manage the numerous products used at the laboratory level, as well as in maintenance of installations and for other specific purposes such as water treatment or the capture of vapours and aerial particles.

The Group pays particular attention to the management of the chemical substances and mixtures it uses or produces in order to substitute as far as possible the most dangerous substances and to ensure a high level of risk control, protection of human health and the environment.

The principles that guide the Group's action in this regard are as follows:

- characterise and be familiar with the products used;
- translate regulatory or normative constraints on the monitoring of occupational exposures and chemical risk assessment into a global approach for continuous improvement.

6.2.8.2 Improving technical and scientific knowledge of Group products

The complexity and diversity of Eramet's activities and products has led to the centralisation of the Group's toxicological and ecotoxicological expertise. This structure makes it possible to capitalise on the knowledge accumulated in the various business lines (nickel, cobalt, manganese, titanium, etc.) to improve the quality of available knowledge and reduce the investments and time spent on tests in order to obtain it. This knowledge is essential for defining appropriate and proportionate risk prevention measures.

Eramet is taking a proactive stance by pursuing research partnerships with Norwegian universities and official bodies to improve its knowledge of dust exposure in manganese alloy activities. Eramet also supports the scientific initiative by the Nickel Producers Environmental Research Association (NIPERA) in Europe and the US to establish methodological standards for linking the toxicity of a metal or alloy to its surface and solubility properties in biological liquids. The toxicity of an alloy does not simply result from the sum of the toxicities of its components. This last point was considered in 2018 by ECHA (European Chemical Agency), which appointed a group of experts to review the method for deriving a safe dose for a metallic carcinogen. Discussions continued in 2019 and the Eramet teams participated in the publication of scientific results in the "Regulatory toxicology and pharmacology" journal, under an article entitled "Bioaccessibility of nickel and cobalt in synthetic gastric and lung fluids and its potential use in alloy classification". K. E. Heim, R. Danzeisen, V. Verougstraete, F. Gaidou, T. Brouwers, A. R. Oller.

Knowing the products used also means having access to information quickly and clearly. Databases have been used – one for each site – which will include information from the Safety Data Sheets (SDS) and use a Group internal hazard scale. This makes it possible to group the classification according to five main categories and to simplify the identification of the product's hazard.

This continual support for the operational sites also applies to the traceability of the products used, from the receipt of raw materials to the delivery of the finished product to the customer. Being able to trace upstream products makes it possible to guarantee the source of supply of raw materials and anticipate possible regulatory changes, which could potentially impact the REACh registrations of our suppliers and supply deadlines.

6.2.8.3 Harmonising chemical risk management methods

Eramet Group production sites are found on five continents, and they must, therefore, follow and respect various regulations concerning hygiene and controls of chemical exposures in the workplace. In this area of regulation, there may be significant differences from one country to another for the same substance. Harmonisation and communication between sites is therefore important for exchanging, explaining and implementing practices and references, ensuring a level of protection that is greater than or equal to the regulations in force in the relevant country.

This harmonisation and synthesis action is based in particular on a Group document repository, which includes:

- a Group procedure for chemical risk prevention;
- a methodological guide for measuring exposure;
- 10 standard toxicological data sheets for the Group's main substances;
- a common chemical risk assessment method that allows each site to develop an improvement action plan, which can then be consolidated at Group level, to define common priorities.

At the end of 2019, this Group standardisation was deployed across 80% of the sites and was accompanied by more than 180 hours of training for HSE and occupational medicine teams. This standardisation approach was completed in 2019, with the construction of a group audit repository used to verify the application of best practices according to seven pillars: Identification of risks, performance monitoring, organization and training, operating control, replacement and management of modifications, special control of the most hazardous substances, leadership and looping.

The goals for 2020 include deploying the standards and applying the Group audit repository over 100% of sites.

As a result, the Group now has a centralised inventory of 3,500 chemicals used within the deployment area. 70% of the Group's sites have a synthetic statistical analysis of the exposure measurements carried out over the last three years, and nearly 650 biological measurements have been made by occupational medicine departments.

6.3 SOCIAL AND SOCIETAL COMMITMENTS OF THE GROUP

6.3.1 Commitment to Human Rights

6.3.1.1 Human Rights risk assessment

In 2017, Eramet formalised its mapping of the risks of violations of Human Rights and Fundamental Freedoms, with the support of external expertise.

A risk universe was established by matching the impacts of the Group's activities with the list of rights contained in the UN Universal Declaration of Human Rights of 1948, the two UN International Covenants of 1966 (International Covenant on Civil and Political Rights; International Covenant on Economic, Social and Cultural Rights), as well as the European Convention on Human Rights of 1950. Sector benchmarks on the identification and management of risks of Human Rights violations were taken into account. The criteria for assessing these risks, in terms of severity of harm and probability of occurrence, were also defined. They involve an assessment of the severity of the impact, not directly for the Group, but for the potentially affected third party(ies) (employees, local residents or other people).

The assessment of the level of severity and probability of occurrence of these risks was carried out by a representative panel of the different Corporate functions and Group entities across all geographical areas.

The risk universe of Human Rights violations defined during this exercise for the Eramet Group can be broken down into the following three broad categories, and the main risks were assessed for each of them:

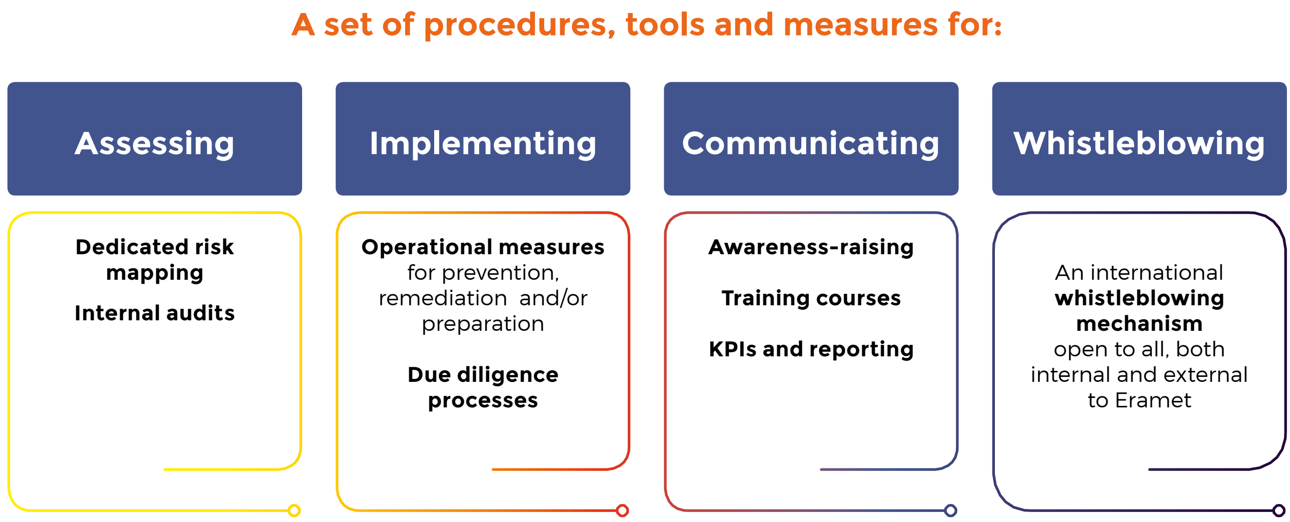
- the risks for Group employees, mainly those related to health, safety and security at work, and to a lesser extent those related to discrimination and harassment;
- risks for local communities related to potential impacts associated with the activities of Group entities;
- the risks generated by contributors to the supply chain, such as, for example, non-compliance with the fundamental conventions of the International Labour Organization.

This assessment, which is integrated into Eramet's risk management, will be updated every three years. Assessments of the situation of the sites and entities with regard to these risks also allow regular monitoring between each update. These assessments are updated based on Human Rights audits, four of which took place in 2019. Carried out by the Risk Management, Internal Control and Audit Department, they are administered on the basis of a dedicated internal audit framework, based on the Quick Check published by the Danish Institute for Human Rights.

6.3.1.2 Organization of the Human Rights approach

Eramet has decided to strengthen its commitment in Human rights by including this concern in its CSR roadmap, through its eighth goal. Eramet aims to become by 2023, a benchmark in Human Rights compliance in its sphere of activity and measures this development through its application of the United Nation's guiding principles. The Group measures its maturity on the subject by using the Reporting Framework in line with the United Nations Guiding Principles which was developed by Human Rights Reporting and Assurance Frameworks Initiative – RAFI (Shift Project – Mazars), and it aims for a mature level of reporting by 2023. The deployment of the Human Rights approach is monitored on a regular basis within the CSR Committee.

The Eramet Human Rights approach



In order to support the implementation of this new approach, Eramet adopted and published its Human Rights policy in April 2019. Through this specific declaration, Eramet reaffirms the essential place of this topic in its managerial and operational approach, as well as in its relations with both internal and external stakeholders.

It covers internationally recognised human rights and breaks down more accurately the commitments made by the Group on its salient issues, identified through the risk assessment exercises carried out by Eramet and classified into three areas:

- respecting the Human Rights of employees, in order to guarantee a safe, healthy and respectful work environment;
- respecting the Human Rights of commercial partners (customers, suppliers, subcontractors and partners), in order to develop a responsible value chain;
- respecting the Human Rights of communities, by reducing impacts and striving to make a positive contribution.

This commitment complements the Human Rights commitments already included in other Group universal reference documents and charters, such as the Ethics Charter and the Sustainable Development Policy. The policy is supported at the highest echelon of the Company and has been signed by General Management and by all members of the Group's Executive Committee. After the policy was adopted, Eramet launched an internal communication campaign on its websites, its social media pages and distributed an explanatory medium to roll out this new Group commitment in all the countries where it operates. Training and awareness-raising programmes will be gradually rolled out in 2020.

One of the key elements for preparing this commitment was the development of a partnership approach, the first of this kind at Eramet. The consultation had the dual purpose of sharing Eramet's vision on Human Rights and gathering the observations of the internal and external stakeholders.

This collaborative approach, implemented until March 2019, consisted of consulting top managers, talking to employee representative bodies and distributing a special questionnaire to employees. As such, more than 600 people have helped to build the Group's Human Rights commitment. To measure the expectations of civil society with regard to the Group's commitments, the opinion of external Human Rights specialists was also taken into account during the consultation.

6.3.1.3 Risk management and implementation measures

The Eramet Group's risks of Human Rights violations may be broken down into three main categories of salient issues, specified during the risk assessment. The risk management measures and opportunities developed for each of these categories are extensively explained and presented separately in the Non-Financial Performance Statement.

The approach to managing risks related to employees' Human Rights (including in particular safety, health, security and non-discrimination) is explained in detail in section 6.3.2 "Commitments to employees", which also contains the Group's main social data.

Section 6.3.3 "Commitments to communities" details the measures implemented to manage the impact of the Group's activities on local communities, as well as the development of opportunities for them, in accordance with Eramet Group's approach to positively contribute to local areas.

Section 6.4.2 "Responsible value chain" presents in particular the risk management approach relating to the supply chain, and the due diligence measures developed by the Group.

6.3.2 Social commitments to employees

Eramet considers its employees as the first pillar of its performance.

RSE 2023

The first four objectives of the CSR Roadmap are thus dedicated to employees, focusing in particular on health and safety, professional development and employee engagement, as well as on diversity within the Group. The Group's progress on these priority themes is the subject of this section, which will focus on Social Commitments to Employees.

Focus area	Objective	KPI 2023
COMMITMENT TO PEOPLE	1 – Ensure the Health and Safety of employees and subcontractors	Zero fatalities Workplace accident frequency rate with and without work stoppage **FR2 <4**
	2 – Build skills and promote talent and career development	**100% of employees participate in at least one training course per year**
	3 – Strengthen employee engagement	**Group employee engagement rate >75%** (barometer)
	4 – Integrate and foster the richness of diversity	**30% of managers are women**

The interim results for these targets at the end of 2019 are detailed in the rest of the document.

Having created jobs in twenty or more countries, Eramet and its 13,000 employees contribute directly to the achievement of the UN's 8th Sustainable Development Goal "Promote sustained inclusive and sustainable economic growth, full and productive employment and decent work for all". This goal also covers all the actions undertaken by Eramet to ensure the safety of its employees, which is a priority for the Group and set out in target 8.8.

Eramet's actions to promote SDG 3 "Good Health and Well-being" include its prevention actions to protect the health of the Group's employees and users of its products, the workplace health programmes rolled out by the Group in the different countries where it operates, and health-specific community investments.

Lastly, the initiatives implemented to promote diversity, gender balance and gender equality on the one hand, but also the inclusion of the elderly, young people and people with disabilities on the other hand, contribute to the achievement of SDG 5 "Gender Equality" and SDG 10 "Reduced Inequalities".

6.3.2.1 Employee safety

6.3.2.1.1 Main safety issues and risks

Methodology

The prevention of risks of work-related accidents is based primarily on the Workplace Risks Assessment conducted inside plants. This highly operational analysis makes it possible to secure a specific operation by identifying all the risks to which the operators are exposed, and the means of control implemented to manage them.

These local analyses are compiled in the risk register of each site (known as the "single risk assessment document" for French sites). These risks are assessed according to a scale based on the Frequency x Gravity pair (FxG), taking into account the protection measures in place. This methodology makes it possible to identify the most critical risks and thus feed the site's Safety Improvement Plan. Risk registers make it possible to group the risks by standard activities specific to each site. For example, they include mechanical handling, machine driving, walking, etc.

At Group level, the risk analysis is based on this segmentation by type of activity.

Risk segmentation

The Group's risk analysis of workplace accidents allowed the risks identified to be grouped into three distinct categories:

- **Technological risks** associated with processes and facilities present the greatest potential severity: an explosion, a toxic gas leak, or equipment failure can impact several people in a single incident. The frequency of occurrence of this type of event is the lowest in our history.
- **Critical activities** are dangerous tasks that are carried out on a daily basis as part of the operation of our facilities. They include machine work, height work, vehicle traffic, working in confined spaces, working with liquid metal, etc. Failure to control these risks can lead to serious accidents. In 60% of cases, the consequence of lack of control of these critical activities is work stoppage and, in a little over 10% of cases, serious injury.
- Finally, the Group's operations involve many routine activities, such as walking, lifting and moving objects and using hand tools. About two-thirds of the Group's accidents involve these activities, but the severity of the accidents associated with them is statistically less serious than for critical activities. For these mundane activities, the serious accident rate is less than 3% (versus more than 10% for critical activities). Eramet groups these activities which are difficult to categorise under the heading **"non-standardised activities".**

6.3.2.1.2 Safety governance

The issues around Group employee safety are elevated to the highest level by the Group's Executive Committee.

Since October 2019, the Safety and Prevention Director reports to the Group's Chairman and Chief Executive Officer. He/she establishes and proposes the Group's Safety policy and guidelines to the Executive Committee (COMEX). Once validated, these guidelines are broken down in the Divisions by the Deputy CEOs, assisted by Safety Coordinators, and then by the Site Managers, who are themselves assisted by a site Safety Coordinator.

The prevention of accidents is at the heart of the system, and it concerns both Eramet employees and subcontractors who work on the sites. It is based on the analysis of risks in the workplace, which determines the actions and preventive measures to be implemented.

In relation to Safety, actions at Group level are coordinated within the framework of the "Group Safety Committee", which includes the Human Resources Director, the Deputy CEOs, the Safety and Prevention Director, and the Safety Coordinators of the Divisions.

RSE 2023

The effectiveness of accident prevention is monitored on a monthly basis by measuring accident frequency rates (FR). The Group has established a reporting system that is used to monitor frequency rates on a monthly basis (FR1: frequency rate of fatal accidents and with work stoppage, FR2: frequency rate of fatal accidents, accidents with and without work stoppage, FR3: frequency rate of accidents with first aid), and to react in the event of deviation or non-achievement of objectives. Results and serious accidents are reviewed monthly by the Executive Committee.

In the event of serious accident, the Director of the site where the accident occurred presents to the Executive Committee, within weeks following the accident, the circumstances and the corrective and preventive actions. The Executive Committee validates them and requests that actions be deployed throughout the Group through Feedback.

6.3.2.1.3 Risk prevention strategy

The Eramet Group recognises that accident prevention tools must be adjusted to the types of risks: tripping is not prevented with the same tools used to prevent the rupture of a furnace in an industrial unit.

The **prevention of technological risks** is based on the implementation of barriers (technical, organizational and human) as a result of industrial risk analysis and hazard studies. The effectiveness of prevention depends greatly on the technical expertise of the teams that has been acquired over years of operations and their ability to identify and respond to weak signals.

The risks associated with **critical activities** are too important to leave the choice of method of operation to the stakeholders; these activities are also strongly governed by rules. Eramet has compiled a set of minimum essential rules – "Essential Safety Requirements" – that are required to be implemented by all sites.

Finally, **non-standardised activities** cannot reasonably be governed by simple rules. It is not practical to write rules on how to use a hammer or adjust one's pace depending on the condition of the ground. For these work situations, Eramet develops the situational intelligence of its teams so that the stakeholders learn to make safety-related decisions.

These prevention tools must be part of a broader safety management system, based on an internal reference system that was revised in 2018. Largely based on international standards (OHSAS 18001 and ISO 45000), it includes requirements that cover the following elements:

- regulatory compliance;
- risk analysis;
- action plans and progress loops;
- reception at the workstation and training of staff;
- monitoring, audits and inspections of field activities;
- the handling of safety events;
- and finally, leadership, objectives and safety management.

Roadmap – Safety objective

In 2019, the Group continued the roadmap established in 2018 to improve safety risk management with the objective of reducing the frequency rate of fatal accidents with and without work stoppage (FR2) to less than 6 in 2020. The following areas have been defined:

- make the barriers robust following the review of technological risks at all sites. The Group is implementing a programme to support the sites in reviewing the "hazard studies", which will allow them to formalise the barriers and identify their criticality. Each site will then be able to set up barrier monitoring actions;
- comply with the Essential Requirements for critical activities: the Group requires each site to implement a plan to comply with the Essential Requirements for the critical activities it has selected, with the objective of achieving 100% compliance by the end of the plan. The Group aims to achieve at least 80% overall compliance with the applicable Essential Requirements by 2021;
- work towards safe behaviour through coherent and repeated feedback, especially by using "safety interactions": this activity consists of observing a worker in a work situation, giving him/her feedback on his/her conscious or unconscious choices that impact his/her safety (positively or negatively) and finally, after listening to understand the reason for a dangerous choice, engaging in discussion with the worker to find another way to make it less dangerous. A "safety fundamentals" training course teaches this activity in a practical way to the Group's managers;
- address risks at their sources by updating risk analyses so that they match real-life situations on the production shops and by training employees to "Take 5" (think before action), a simple technique simple to implement before any intervention;
- implement "consequence management" in relation to safety. In addition to feedback from the field during interactions, the control and the willingness to apply the Group's prevention strategies must be an assessment and development factor both for operators and managers. The Group affirms that involvement in safety matters will have an impact on career development at Eramet.

Review of 2019 actions

Deployment of Essential Requirements

In 2019, each Group site self-assessed its compliance with all the Essential Requirements using Group-wide grids. This global overview makes it possible to improve the understanding and deployment of the requirements with cross-functional actions that are common to all these requirements.

45 Group audits (up 50% compared to 2018) were carried out to accompany the sites as they familiarised themselves with the requirements. Conducted by one or two Senior Auditors, whose adequate training was strengthened, these audits also allow exchanges between sites and internal benchmarks.

On all of the Group's sites, the average compliance rate with the Essential Requirements is close to 70%.

Among the Essential Requirements, those linked to lightweight vehicles, liquid metal work, train backflows, present the best assessments, with an average compliance rate above 85%. However, requirements linked to the consignment of equipment and external companies require more attention, with scores around 55% of compliance.

Implementation of interactions

Training on safety interactions continued to be rolled out in 2019. In total, since 2016, more than 2,500 supervisors have attended the one-day training at an industrial site with theoretical presentations and the practical application of safety interactions.

Once trained, managers must carry out these interactions between a manager and an operator within their site, according to an annual objective.

Formalisation and deployment of consequence management

The Group has formalised the classification of risk behaviours and clarified the violations that need to be penalised and the errors that need to be treated in a non-punitive manner. The behaviour of stakeholders cannot be analysed without simultaneously observing the behaviour of management. This systematic approach is implemented across the entire Group through the training of site management committees. In this respect, the Group has relaunched the level based "Safety Awards" (Bronze, Silver, Gold) to reward sites that reach two years, 0.5 or 1 million hours worked without any accident.

World Safety Day at Work

Since 2018, Eramet takes part in the World Safety Day at Work. This year, Eramet supported the World Safety Day at Work on 25 April on its sites by organising safety workshops, equipment demonstrations and awards for the best performers.

The topic adopted by the Group in 2019 was focused around Risk Analysis.

More than 9,000 employees will have actively participated in these events.

6.3.2.1.4 Safety performance

Three fatal accidents were sadly reported in 2019, leading to the death of four people, three at Setrag in Gabon and one at GCO in Senegal.

In May, two Setrag agents (a train driver and a driver's assistant) died after a head-on collision between two goods trains on the track between Libreville and Franceville.

In August, a female employee, passenger of a vehicle, died from the wounds sustained from a road accident in Owendo.

In November, a delivery truck driver on the GCO site was seriously injured in the legs when his truck crashed into the back of the truck ahead of it. He died at the hospital in December 2019.

The Group was profoundly shocked by these accidents, to the extent that one minute of silence was observed in all its entities worldwide.

Beyond these dramatic events, the Group measures its safety performance through the frequency rate and number of serious accidents performance indicators, which are defined as follows:

- FR2: workplace accident frequency rate of Eramet employees, temporary staff and sub-contractors. The accidents taken into account correspond to accidents where at least the victim receives treatment from a health professional (doctor) that is more than first aid (e.g. closing a wound with stitches, prescribing regulated drugs, applying splints, etc.). FR2 is expressed as the number of accidents per million hours worked;
- number of serious accidents: a serious accident (SA) at Eramet is generally defined as an event that led to death, permanent disability, or temporary inability to work with major complications (e.g.: any form of amputation, serious fractures, second- or third-degree burns requiring transplants, etc.).

The following tables show the trends of these indicators:

FR2*	2016	2017	2018	2019
ERAMET GROUP	**12.8**	**10.3**	**8.3**	**5.4**
Mining and Metals Division	10.5	7.4	6.3	4.7
High Performance Alloys Division	20.2	17.7	13.3	7.5
Eramet Holding	4.9	0.8	8.6	1.2

* *Data on the Eramet scope + Temp staff + External contractors.*

Serious accidents*	2016	2017	2018	2019
ERAMET GROUP	**15**	**11**	**15**	**12**
Mining and Metals Division	9	7	6	10
High Performance Alloys Division	6	4	9	2
Eramet Holding	0	0	0	0

* *Data on the Eramet scope + Temp staff + External contractors.*

RSE 2023

The Group's FR2 fell to 5.4 in 2019, representing a 35% decrease over one year, and nearly 58% in four years. This significant decrease is the result of the progress made in the different Divisions but remains not quite satisfactory considering the recurrence of serious accidents, and in particular the fatal accidents in the Mining and Metals Division.

The Seriousness Rate (Eramet and Temp staff scope) improved, dropping to 0.23, a 28% decrease compared to 2018.

Control of critical activities measured by the frequency rate of these activities improved by 21% compared to 2018, while accidents linked to non-standardised activities dropped by 42%. Accidents related to critical activities represent only 28% of total personal injuries. Maintenance and mechanical handling activities are the main causes of accidents linked to critical activities but remain lower than accidents linked to walking and access to workstations (falls, slips, bumps and fingers jammed in doors) for non-standardised activities.

Finally, accidents related to technological risks are stable with frequency rates slightly below 0.2.

6.3.2.2 Employee health

6.3.2.2.1 Main health issues and risks

Methodology

The prevention of health risks is based on workplace risk analyses conducted by the health and safety teams.

Health professionals use the documents identifying these risks to build their action plans for the individual medical monitoring of employees and actions to improve working conditions.

The Group's Medical Advisor coordinates these actions and organises the network of health professionals.

Risk segmentation

Based on the analysis of workstations and safety risks, occupational health professionals identify risks that may have a lasting or deferred impact on the health of employees.

These risks are:

- either physical (noise, vibrations, awkward postures, repetitive movements, night or alternating work, electromagnetic fields, extreme temperatures, exposure to dangerous chemical agents, including asbestos);
- or have a risk of impact on psychological health (workload, organization of work, social support in the workplace, autonomy).

Deferred risks are risks of occupational diseases, which are reported separately based on reports sent to the employer or which result in investigations by internal or regulatory prevention services. In France, a Table of Occupational Diseases is regularly updated (Social Security Code).

In the other countries where the Group operates, there are regulations specific to each state.

The health risks of local populations are assessed by mapping the health risks of employees and the results of their assessment.

These risks may give rise to specific health risk surveys published to the various stakeholders: example of the Moanda epidemiological survey distributed to the Gabonese Ministry of Public Health and the local cooperation group.

6.3.2.2.2 Health governance

The Group Medical Advisor reports directly to the Human Resources Director. He/she establishes and proposes to the Executive Committee the Group's health policy and guidelines. Once validated, these guidelines are defined in the Divisions by the Deputy General Managers, assisted by Health and Safety coordinators, and then by the Site Managers, who are themselves assisted by a site Health and Safety coordinator.

Employee health is monitored by Occupational Health professionals. The Group's main French sites (Les Ancizes, Pamiers, Commentry, Interforge, Issoire, La Pardieu, Clermont and Gennevilliers) for Aubert & Duval, Eramet Sandouville, Comilog Dunkerque, all employees of 10 Grenelle (Paris), Eramet Ideas (Trappes) are now grouped together under the autonomous Occupational Health service, whose certification by DIRECCTE IDF was renewed for five years on 3 July 2019. This service consists of three centres:

- North Centre: one Occupational Doctor and two Occupational Health Nurses;
- Auvergne Centre: three Occupational Doctors and six Occupational Health Nurses;
- South Centre: one Occupational Doctor and two Occupational Health Nurses.

The Doniambo sites for SLN (New Caledonia), Moanda (Gabon) for Comilog and Owendo (Gabon) for Setrag have an Occupational Health Service with one or more occupational doctors and nurses.

Eramet's Gabonese subsidiary (Comilog) manages a level 2 hospital structure (according to the classification of the Gabonese Ministry of Public Health): Marcel-Abéké Hospital (HMA).

This facility provides first-level care (general medicine – general surgery – paediatrics – maternity) for all employees and their dependants and has a public service mission by treating external persons by agreement with Gabon's *"Caisse nationale d'assurance maladie et de garantie sociale"* (CNAMGS).

Various specialists provide care at the HMA: ophthalmology, cardiology, gynaecology.

6.3.2.2.3 Risk prevention strategy

Health strategy and prevention actions

The health prevention strategy is based on the Group's health policy, presented to the Executive Committee in August 2017.

The actions developed and measured in 2019 include:

- reducing and managing the effects and impacts of the Group's activities on the health of employees and local residents:

The Group has established eight standard sheets for products that constitute a health risk, and which are handled by Group employees (manganese – nickel – oil mist – polycyclic aromatic hydrocarbons – chromium 6 – carbon monoxide – crystalline silica – cobalt). The application of these standards has been audited since 2018 in the sites concerned and continued in 2019;

- continued employment for all employees during their working life, including when affected by poor health:

  Occupational doctors periodically monitor employees with a health problem with the departments and HR services. The indicators concerned are the number of visits made by doctors and nurses, the number of posts adapted after a health event, the number of posts permanently adapted and the number of occupational diseases.

Management of asbestos risk

For the Group, the asbestos risk is divided into environmental asbestos at nickel mines and also the management of asbestos products at industrial sites.

In New Caledonia, specific operating procedures exist to control veins of asbestos-containing ores in the event that the mining activity uncovers them. The operators are trained in the precautions to be taken, and special medical monitoring has been set up, in consultation with the authorities, social partners and other mining operators.

None of the Group's industrial sites has ever produced or processed asbestos, nor marketed composite materials made up entirely or partially of asbestos. This material has never been used as a raw material by Eramet but rather only as a component of certain materials of thermal protection equipment. As an example, refractory materials containing asbestos, used in the past at the Les Ancizes site, represented less than 1% of all refractory materials used at the site.

In accordance with applicable regulations, particularly in France, the Group has carried out asbestos technical diagnostics (DTA) on its industrial sites, by authorised firms, the conclusions and recommendations of which are then translated into detailed action plans.

The monitoring indicators for these actions are conveyed on a quarterly basis and analysed at the level of the General Management responsible for Health. These indicators specifically include declared and recognised occupational diseases (OD). In France, ODs are classified the form of tables. There are currently 99 of them. Each table has three criteria, namely:

- designation of pathology;
- care time limit (maximum time between the cessation of risk exposure and the first medical diagnosis of the disease);
- indicative or restrictive list (according to the table) of work likely to cause the disease.

Excluding exceptions, occupational disease is recognised by the CPAM when the three criteria are met.

In 2019 for the Group sites based in France, ten Occupational Diseases (ODs) were recognised by the CPAM and three Occupational Diseases were under investigation:

- **recognised ODs:** five tables 30 and 30 *bis* (Asbestos) and three tables 57 (musculo-skeletal disorders) and two tables 42 (noise);
- **ODs under investigation:** two tables 30 (Asbestos), one table 98.

6.3.2.2.4 Health performance

The indicators are included in the 2018 Registration Document. The analysis performed in 2019 is as follows:

	Q1	Q2	Q3	Q4	Total
Clinical examinations	2,495	2,040	2,013	1,787	8,335
Information and prevention visits	110	205	187	127	629
Aptitude restrictions >3 months	98	35	78	67	278
Definitive reclassifications	12	17	11	9	49
Recognised Occupational Diseases					10

The measurement of the indicator on the application of standards on products that are toxic to health showed a compliance rate of 85% for the sites concerned; the target set for 2019 was 80%.

The Joint Monitoring Committee for the Occupational Health Service for sites based in France met twice in 2019 to review the actions of the Occupational Health Service in terms of administrative organization and budget.

The other actions implemented in 2019 concern the Marcel-Abéké hospital in Moanda, Gabon.

Continued improvement in care processes and activity management continued in 2018:

- refurbishing of the medical analyses laboratory;
- implementation of a teleconsultation booth for specialised consultations requiring an opinion in a hospital centre in Libreville; the booth was installed at the Marcel Abéké Hospital in late December 2019; the implementation process with specialists in Libreville is currently being tested and deployment should be operational in the first quarter of 2020.

The teleconsultation booth will also be used for remote Workplace Health consultations between Libreville and Moanda (Setrag employees);

- implementation of the computerised management of activities and a monthly dashboard;
- continued improvement of technical services:
  - waste management process for healthcare activities,
  - sterilisation process,
  - hospital drug procurement process,
  - consultation and emergency reception process.

Under the Gamma programme, whose objective is setting up HIV-AIDS prevention and screening actions, more than 200 employees or beneficiaries continued to receive treatment in 2019. Other activities included the coordination of Awareness Day within Comilog and Setrag on 1 December with presentations by Doctors and Nurses from the Marcel-Abéké Hospital to deliver educational messages on the prevention of STDs and encourage people to get tested.

6.3.2.3 Employee security

6.3.2.3.1 Main issues and risks

The Eramet Group's mining, industrial and commercial activities take place in many countries on all five continents. Some of these countries may at times experience unstable political, security or climatic situations, even if only temporary in nature. The Group's Security approach is centred around the protection of people, installations, information and business intelligence to support the Group's development and economic efficiency.

6.3.2.3.2 Security governance

The Group's security policy seeks to achieve three main goals:

- a strategic objective that assesses the nature of the threats and measures the risks to the Group's people and assets;
- an operational objective that puts in place the resources and means necessary to prevent and protect;
- an educational objective that informs and raises awareness among Eramet Group employees about the reality of the risks, the means implemented to address them, and the behaviours to adopt.

This policy is supported by the Group's Security function which assists the Executive Committee and operational managers in the execution of their mission to protect:

- the physical assets;
- the intellectual assets and sensitive information, as well as relating to business intelligence;
- facilities held under the Group's responsibility;
- the Group's employees, whether on business travel, foreign residents or local residents.

The Group Security Director, who reports to the Group Human Resources Director, is therefore responsible for:

- proposing the Group's security policies to the Executive Committee;
- leading and coordinating the network responsible for their implementation, in conjunction with the Group's Divisions;
- reporting to the Executive Committee on the application and effectiveness of this implementation;
- ensuring the application of the Group's regulatory and contractual security obligations;
- sharing feedback and best practices within the Group;
- acting as an interface with the competent authorities to define the policies in this area in France, in the countries where the Group operates and with international institutions.

The Security function is an integral part of the development of the risk management approach in the countries where the Group operates mining activities, as well as in the countries in which it develops, processes and/or markets its products and services.

The Security Department is one of the main contributors to the Country Risk Committee (CRP), created to manage and limit Eramet's exposure to "Country and Geostrategy" risk in the countries in which the Group operates as well as in those where it would like to develop activities.

6.3.2.3.3 Risk prevention strategy

The protection measures put in place by the Security Department are the result of analysis and monitoring of the security situation and the assessment of the threat. They also depend on the nature of the activities carried out by the Group's units in the region and the effectiveness of the public institutions in the countries concerned.

A security manager has been appointed in all the countries or regions where the security situation and Eramet's activities require such a position (Gabon, New Caledonia, Senegal and South Africa). Acting as a local correspondent, he/she oversees the implementation of Eramet's security policy in coordination with the Group Security Department.

Various media are used to communicate and help memorise the safety instructions set up by Eramet, as detailed below:

- country sheets and/or assessments of current situation: written in English and/or French and regularly updated, these provide general information, advice on behaviour, and even instructions and directives. They are available on request from the Security Department and are communicated to the employees directly concerned once they are recorded in the travel register;
- security alerts: sent by email to managers, and then forwarded to all staff, these alerts provide rapid information in case of emergency as well as instructions and recommendations (attempted fraud or scams by telephone, etc.), or when a situation suddenly deteriorates in a country (demonstrations, attacks, specific threats, etc.);
- a Security/Health booklet: distributed on request or during on-site awareness sessions, it contains advice on how to behave in different situations;

- awareness sessions: individual or group sessions, organised in particular before departure abroad, they are supplemented by the protection coordinator (where available) in the country of destination;
- an interactive E-learning divided into several chapters, each one dealing with specific topics to prevent and manage risks, and to handle emergency situations regardless of the geographical context.

Before each trip abroad, employees must register online in a travel register. They then receive, based on the security analysis of the country concerned, information and advice for their upcoming trip.

A smartphone application was also rolled out in the Group to all employees on assignment to "geolocalise" their position in case of an emergency.

6.3.2.4 Promotion and development of employees

6.3.2.4.1 Main social risks and general governance

6.3.2.4.1.1 Main risks

The main social risks identified are risks related to attracting and retaining talent, social relations and discrimination/harassment.

Risks related to attracting and retaining talent and social relations are included in the Group risk map and risks related to discrimination/harassment are included in the Human Rights map.

6.3.2.4.1.2 The Group's Human Resources Policy

The Eramet Group considers that the women and men who make up its community are the main drivers of its performance. Dependent upon them is the quality of customer relations which are at the heart of the Group's business plan. Dependent upon them are future developments based on enhanced technical leadership and the fullest possible expression of their managerial and technical skills. Dependent upon them is the proficiency of management and the operational excellence of each of their fields.

The Eramet Group's Human Resources strategy is a reflection of the Group's strategy to meet the challenges facing the Group. It aims to strengthen the commitment of the Group's employees and is structured around six strong strategic areas:

1. identify, attract, retain and develop talent, which translates into the desire to attract the best talent, diversify our talent pool in order to make it more international, with a better representation of women at the managerial level, develop local talent, anticipate skills needs, develop cross-functionality, versatility and mobility to staff our projects and absorb cycles, prepare the leaders of tomorrow, develop and transmit skills;
2. develop and recognise value-creating performance by ensuring the implementation and management of the performance cycle, accompanying employee performance and strengthening the link between compensation and performance: basic, variable and long-term remuneration;
3. strengthen managerial skills, define and promote the role of managers, by associating them and training them to manage their teams;
4. participate in the implementation of a work environment that is respectful of employees and of the Group's values by aiming at 'zero accidents', through the promotion of well-being at work illustrated by fairness, transparency and exemplary management, ethics and respect for the Group's values, active management of Occupational Health issues, application of national regulations and ILO directives at all Group sites, while ensuring to all of our employees social protection to cover the major risks while preserving our competitiveness;
5. develop and promote a constructive relationship with our social partners by ensuring the implementation of a decentralised but coordinated approach, anchored in the economic realities of companies and sites, by facilitating a transparent and continuous dialogue, by ensuring that structures and organizations evolve and are exemplary in their social treatment;
6. develop the operational excellence of the HR function, by acquiring efficient and adapted tools, as part of the Group's digital transformation, by demonstrating a clear and readable organization serving its internal customers, putting the HR function at the heart of strategic and business challenges.

The Eramet Group, while having a very strong international dimension (approximately 60% of the Group's workforce works outside Metropolitan France), also relies on subsidiary companies that have significant local presence and awareness. The Group's human resources management must take this into account, while relying on unifying principles and tools common to all of the Group's companies and sites.

6.3.2.4.2 Attracting and retaining talent

6.3.2.4.2.1 Employees involved in the Group's transformation

In line with the extensive NeWays transformation programme launched in 2017, aimed at unlocking the Group's performance potential and creating a change in mindset and corporate culture to achieve profitable and sustainable performance, in September 2018 the Group launched a vast engagement survey among all its employees worldwide to enable them to express themselves in relation to 12 key areas: work and decision-making processes, organizational transformation, relationship with their direct supervisor, agility and innovation, etc. More than 6,700 employees took advantage of this opportunity and responded to the survey.

RSE 2023

The engagement rate measured in 2018 for the Group as a whole was 67%. Around 400 team managers received personalised results for their area and have been developing action plans since December 2018 in collaboration with their teams. Those plans were rolled out throughout 2019.

The Group's main strengths highlighted by the survey are employees' understanding of the role of their job in achieving their company's objectives (91% favourable score), respectful treatment by managers (83% favourable score) and finally employee motivation to go beyond expected performance levels to help their company succeed (82% favourable score).

A new survey, planned for 2020, will measure progress in each of the areas.

6.3.2.4.2.2 A fair and competitive remuneration policy

The skills and level of responsibility of the employees are remunerated by a fixed salary in line with the experience gained and the practices observed for each trade on the market. The Group's remuneration policy aims to be fair and competitive but also tailored to the specific local factors of host countries.

One out of two managers benefits from individual variable remuneration schemes based on quantitative and qualitative annual objectives. Since 1 January 2018, the Group deployed a new variable compensation system common to all eligible managers worldwide: it is based on collective objectives (safety and financial indicators) for 60% and on individual objectives for 40%. The Group makes available a common framework for setting and assessing annual objectives. This system has been gradually extended to all Group executives and managers.

Collective performance remuneration schemes may exist in certain countries, be they mandatory legal schemes (profit-sharing in France, etc.) or schemes voluntarily implemented by the Group in accordance with local practices (profit-sharing calculated in the light of the Company's results, collective savings plans). The profit-sharing plans are often based on negotiated criteria related to safety, environment and the activity of the Company. Depending on the arrangements in force, these bonuses may be invested in savings schemes on advantageous terms.

We conduct pay scale analyses every year to ensure our remuneration packages are competitive relative to practices in other companies operating in the same sectors. New compensation surveys were carried out in 2019 to evaluate the competitiveness of the compensation policy with respect to the market: blue & white collar workers, technicians, supervisors and young graduates in France, Senegal.

In each country in which the Group operates, the remuneration policy implemented aims to reward individual and collective performance, while adapting to the local context.

In response to the expectations expressed in the commitment survey in 2019, the Group further rolled out in 2019 an e-BSI (individualised social assessment) which allows all employees of the companies in metropolitan France to access a dedicated website that presents and explains each of the components of the compensation package: salary, contributions, employee benefits and fringe benefits. This system will be gradually extended internationally.

Personnel costs – social security contributions

Salaries represent the largest component of staff remuneration.

In 2019, personnel costs for the Eramet Group amounted to €723 million, compared to €702 million in 2018.

More than 8,500 employees, or 65% of the workforce, benefited from a revaluation of their fixed salary in 2019, whether through a general increase or an individual merit-based increase.

Social benefits

As part of its human resources policy, the Human Resources, Health, and Security Department seeks the most appropriate solutions for its international activities on the personal insurance market, and subscribes to insurance schemes able to guarantee the best social protection against the major risks (health, welfare, professional assignments) to which employees are exposed when carrying out their duties.

In line with the Group's agreements relating to the provision of insurance against major risks and the uncertainties of life, the Eramet Group wanted all of its employees in Metropolitan France to benefit from additional health insurance. In France, a new collective agreement was signed in December 2016 by all the organizations representing staff. This agreement ensures that social protection is brought into line with legislation on responsible contracts, but also improves the reimbursement of certain costs, such as pharmacy, dental implants, alternative medicine and laser eye surgery.

In the area of pension insurance, a new agreement was signed for France in June 2016. It includes an improvement of death covers, the introduction of a "Help for helpers" cover, allowing the employees concerned access to a solution where they can talk to professionals and receive help and advice as appropriate.

Provisions are set aside for retirement benefits, severance payments, medical coverage, pension plans and other commitments for active or retired employees in accordance with the conventions in force in each country.

The portion not covered by insurance companies or pension funds, in particular for US and Norwegian companies, is also provisioned (defined benefit plans in general). The specific commitments for these schemes are in the United States, Norway, New Caledonia and France. Other plans are defined contribution plans where employer contributions are recognised as an expense in the period to which they relate. The main quantitative assumptions used to calculate these commitments are detailed in the consolidated financial statements.

Employees in the metropolitan France scope benefit since 1 July 2019 from a complementary retirement scheme (PERO), fully funded by the employer, which allows them to save towards supplementary retirement throughout their career.

Finally, an additional pension plan (Article 39) for a group of managers is also fully funded. The estimated actuarial value of the plan for active beneficiaries was €40 million as at 31 December 2019. Pursuant to the French PACTE law, the scheme stopped accepting new beneficiaries on 31 December 2019 and the rights of the existing beneficiaries became fixed and unchangeable.

Employee stock ownership plan

In order to build Group membership in all areas of the world where it operates, and share the created value, the Eramet Group has opted, since 2009, for the deployment of global bonus share plans. This programme, called Erashare, originally consisted of allocating 5 bonus shares to each of the Group's employees, regardless of the country of activity, Division, occupation or level of responsibility.

Since July 2011 in France and Italy, and since July 2013 in other countries, employees have benefited from all the rights attached to the Eramet shares: voting and dividend rights. An information leaflet on Erashare was also prepared in the nine languages used within the Group to support the worldwide implementation of the plan.

Ten new bonus share plans were implemented from 2010 to 2019 with the same scope and allowed the allocation of two additional shares each year to more than 12,000employees.

Employee incentive plans

In Metropolitan France and New Caledonia, profit-sharing agreements are regularly negotiated and signed with the social partners. They complement, where they exist, the regulations governing participation. The incentive is paid to members of staff with more than three months of service as at 31 December in an amount that is partly uniform and partly dependent on gross annual remuneration. In 2014, the Group's Human Resources management specified, in a framework memorandum, the three components that the Eramet Group wishes to find in the new agreements renewed from 2014 onwards:

- Group financial result, with a criterion common to all entities in France;
- financial result of the entity;
- operational criteria specific to the entity (safety criterion, service rate, reject rate, variation in WCR, etc.).

In 2019, Group companies in mainland France paid profit-sharing for the year 2018. A gross amount of €10 million was paid to the beneficiaries concerned (gross value). In addition to this amount, more than €2.9 million was paid out in profit sharing by the SLN in New Caledonia to the employees concerned.

Employee savings plan

In Metropolitan France and New Caledonia, Eramet Group employees can sign up to a Company Savings Plan to build up their savings. The Savings Plan may receive the incentive bonus, profit sharing, as well as voluntary payments made monthly or on a one-off basis by the employees. Group companies participate in the savings plan through a system of matching the sums paid by employees (the methods for paying the matching contribution vary from company to company).

A range of diversified corporate mutual funds (*fonds communs de placement d'entreprise* or FCPE) is offered to Group employees. A collective retirement scheme also exists in the form of a PERCO (Collective Retirement Savings Plan), into which the payments are paid.

As at 31 December 2019, 6,727 employees and former employees of Eramet in mainland France were signed up for an Employee Savings Plan, with total assets representing roughly €93 million, or €13,885 per saver. Total assets are divided between the FCPE of the PEE/PEG (84% of the assets) and the PERCO (16%). In 2019, the Group's French companies paid approximately €3.2 million in contributions (gross value) to the Group Savings Plan (PEG) and the PERCO, or €608 per employee on average.

6.3.2.4.2.3 Employee development and career management

6.3.2.4.2.3.1 Career management process

One of the Group's key values and a structural theme of its HR Strategy is to ensure the personal growth of its employees.

The Group's Career and Mobility Development Charter defines the roles and responsibilities of each person (employee, manager and HR) so that the development and career paths of the Group's men and women can be promoted and encouraged within a clear, defined and shared framework, and with the help of tools and processes.

It places particular emphasis on promoting the initiative and the proactivity of the employee in his or her own career development.

In order to optimally implement these career developments, management processes are set up and run throughout the year.

The Annual Appraisal Interviews make it possible to identify mobility objectives and to take them into account both at monthly HRD network meetingsand during People Reviews. These Talent reviews are organised at site, Business Unit, entity and even country level. They allow the identification of people to be developed, their potential, etc.

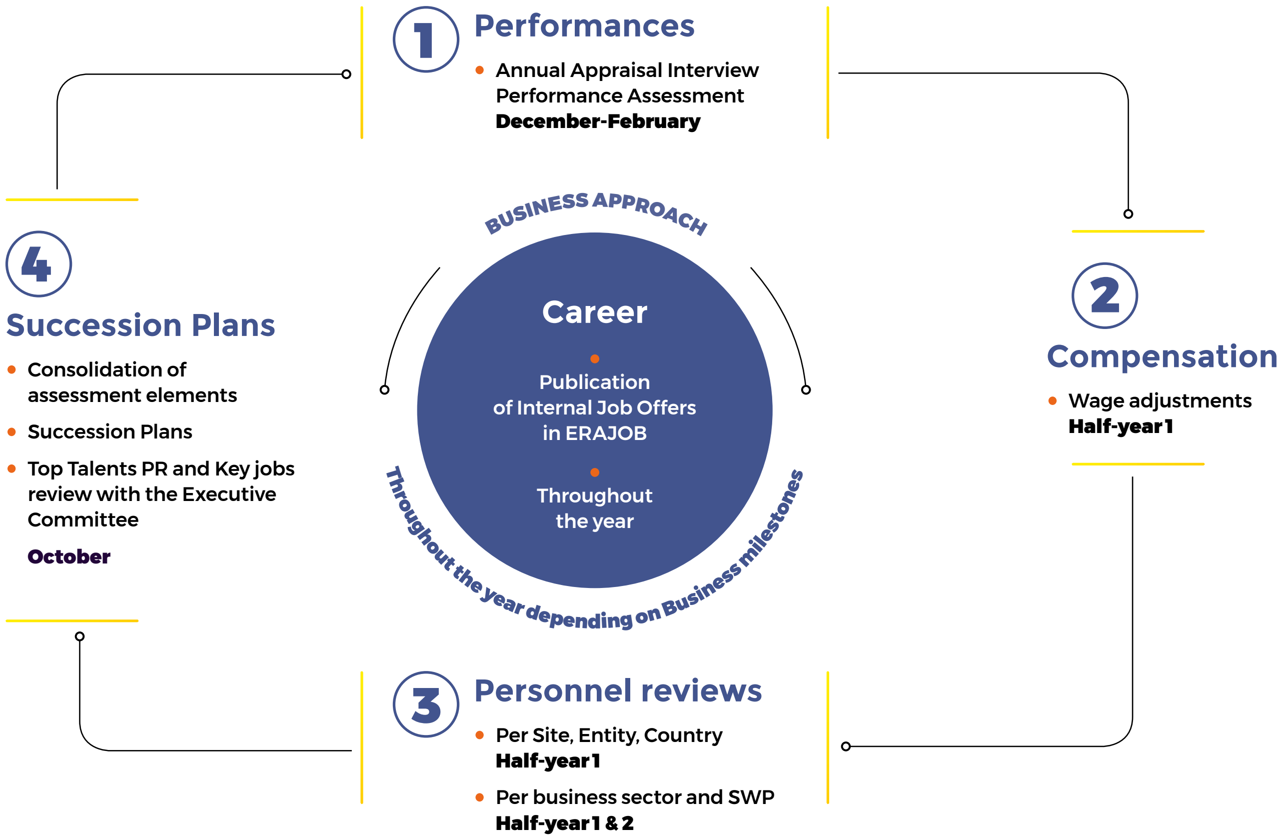
Other meetings are organised by business line according to the needs expressed by operational staff, making it possible to review these development needs in a cross-functional manner, and to assess medium-term needs and available business resources by business line.

These exchanges are consolidated at the Division level during the reviews of Division management, thus making it possible to approach the Annual Appraisal Interviews with concrete development elements to be submitted.

A review of senior executives and holders of key Group positionsis performed regularly with the Executive Committee.

A review of succession plans for key positions in the organization is carried out on the occasion of the Selection Committee or Remuneration Committee of the Boards of Directors of Eramet or its subsidiaries.

An annual cycle



Furthermore, a pilot programme concerning the implementation of an SWP (Strategic Workforce Planning) process was conducted in 2019 on mining businesses. This process was applied to the Maintenance segment and will be extended to the other Group businesses. The full potential of this process will be optimised during the implementation of a single Group Jobs and Skills Repository on all its Business segments and which will be rolled out under the plan to overhaul the HR information systems, Atlas (SIRH global Group).

Lastly, the Professional Interview (set up in the framework of the application of the Act of 5 March 2014 on vocational training, employment and social democracy – Article L. 6315-1 of the Labour Code) for all employees in Metropolitan France has been deployed since 2015. It is devoted to the prospects for professional development, in particular, in terms of qualification and employment. It focuses on the employee's career path, career development, and training needs.

6.3.2.4.2.3.2 Performance evaluation

Successful mobility or career development involves the combination of three elements:

- performance;
- existence of an opportunity;
- willingness to demonstrate functional and/or geographical mobility.

As the cornerstone of operational improvement plans, performance is assessed individually in the context of Annual Appraisals based on objective evidence, with each assessment based on factual evidence.

In 2019, 7,269 employees (including managers as well as non-managers) benefited from an Annual Appraisal Interview. Many sites have extended the benefit of this scheme to non-management staff.

The supporting material for the Annual Appraisal Interview has been modified to take into account performance appraisal in the context of the responsibilities of a position, and the assessment of professional behavioural competencies.

Following the need to improve performance tracking and assessment, the new format developed in 2019 for the 2019-2020 assessment campaign now includes the functional manager in the assessment process.

The Talent@Work tool of the Objectives module in which the Annual Appraisal Interview is recorded allows the manager to create goals throughout the year for new entrants recruited from outside or inside the Company and to adjust the goals during the year if necessary. Goals may be adjusted to reflect a change in employee priorities or to complete the results and highlights, or even the achievement rate throughout the year in order to facilitate the assessment at the next annual interview.

The now widespread use of the Annual Appraisal Interview form in Talent@Work means a significant improvement in access to information on expressed mobility wishes, better consideration of them in the career management and people review, and an optimised follow-up.

6.3.2.4.2.3.3 Employer Brand

A study was conducted in 2018 which involved the Group's employees and intended to define the Group's Employer brand.

This important work carried out in collaboration between the HRd and the Communications Department has been used to characterise what currently represents the missions offered by Eramet as well as the "employer" contract proposed (what the Group expects from its employees and what they can expect from the Group by joining it). Illustrated by visuals representing the Group's employees and a signature, *"Laissez votre talent battre plus fort"* (Allow your talent to shine), this campaign began early December. A new booth at the Schools forums attended by the Group promotes the intensity of the missions proposed at Eramet.

The Talents page of the Group's website has been redesigned to emphasise the strengths of the Employer brand. The site's recruitment space has also been redesigned to reflect the key messages of the Employer brand.

6.3.2.4.2.3.4 Recruitment and Onboarding

The Recruitment module, developed in the HRIS, enables HR and managers responsible for recruitment, through internal or external mobility, to be able to track the progress of the process, from job description to filling the position.

To support managers in their role as career managers, a training module on recruitment and mobilityis available as part of the training courses offered by the Group.

This module enables managers and HR staff to be trained in the same selection interview tools, to make their choices in an objective and transparent manner, to ensure high-quality feedback to internal and external candidates, and to educate their participants on the subject of non-discrimination.

Moreover, the use of a personality test by appropriately trained and authorised personnel within the HR teams makes it possible to complete candidate evaluations in the context of recruitments or certain mobilities.

In order to facilitate the integration of employees into the Group, the Eramet Group developed an Onboarding module integrated into the Group HRIS, which is currently being deployed at Group level. The Onboarding module is a platform which is accessible to external employees as soon as they are recruited, making it possible to create a privileged link between the future employee and his or her future working environment (information on the Group and its business lines, welcome message from the manager, introduction to future colleagues, schedule of integration programme, etc.).

6.3.2.4.2.3.5 Vocational training

The Group designs training courses for Group employees:

- to facilitate their integration by giving them the keys to understanding the organization and management processes of the Group;
- to develop their skills by giving them access to business and management programmes;
- to promote exchanges of best practices among participants;
- to build development paths.

Integrate, improve know-how, raise awareness of specific risks, share experience and best practices, develop cross-functionality at Group level, foster the deployment of managerial methods, further strengthen the Group's expertise and technical leadership; these are the points of the training programmes and of the training effort initiated by the Group, each year, at all its sites and locations.

In relation to vocational training for its employees, the Eramet Group also prioritises safety training and business skills development, which are aimed in particular at ensuring better control of processes and their environment (project management, communication, change management, continuous improvement of performance, etc.).

The Mining and Metals Division has extended a significant managerial training programme (Leadercoach) to people in key positions based on an initiative that was successfully deployed at SLN.

The High Performance Alloys Division has built a significant programme known as *"Manager Autonome"* (Self-reliant manager) intended for all supervisors to accompany the deployment of WCM (World Class Manufacturing) practices on its industrial operations.

A Mentoring Programme was launched in 2018. It has enabled 14 managers with key positions in the Group, selected by the Executive Committee and monitored over a one-year period to support and facilitate the transition to their new responsibilities, to develop and support potential young talents, to improve the relationship between these managers and Executive Committee members, and to support the NeWays transformation. A second group will begin in early 2020.

In November 2019, the Eramet Leaders Program (ELP) brought together 23 Group managers for a week for its 15th year, bringing the number of executives who have participated in this programme since 2006 to 311, enabling them to build a network, improve their knowledge of the Group, exchange with managers on strategic development themes etc.

The development programme for the Group's executive managers (EDP – Executive Development Program), which began in 2015, continued in 2019 with a new format that will be offered for the programme's fourth year. This programme takes place over several months and is designed to strengthen the leadership of participants and prepare them for their advancement within the Group.

The digitalisation of the training offer also continues.

Several e-learning programmes were rolled out in 2019 on the topics of safety, CSR or again the DPGR and others are being rolled out.

A new impetus was given to the Eramet Group Ethics awareness-raising training through a continuous education programme that was proposed during the year to 2,419 employees.

In 2019, there were 10,629 registrations for e-learning training programmes that were taken for a completion rate of 55% and nearly 9,650 on-line training hours.

RSE 2023

Overall, in 2019, Eramet employees received more than 410,474 training hours, approximately 37 hours per employee for the year. Almost 11,064 employees, or 84% of the total workforce, benefited from training in 2019 (compared to 472,000 hours in 2018, which corresponded to 37 hours per employee, with almost 9,000 employees trained last year).

6.3.2.4.3 Social dialogue close to field realities

The Eramet Group's social policy is based on complementarity between central and local bodies, close to the realities of our jobs and our activities and the geographic zones in which the Group is located.

It is based on the clearly announced policy to:

- strongly involve the Group's management (e-learning to raise social dialogue awareness, information seminars and exchanges, development, mobility and career growth within and between Divisions);
- connect employees with the life of their site and the Group through clear and regular information (Group intranet, online films and videos, regular company and site newspapers, induction days for new recruitments);
- to communicate with social partners, both formally (remuneration policy, training, health and social protection, employment management, quality of life at work) and on a daily basis at the sites.

6.3.2.4.3.1 Social implications of Eramet's strategy

2019 was socially marked by numerous transformative projects, such as the implementation of new representative bodies, which have strengthened the quality of social relations, an essential factor in competitiveness.

The majority of Eramet Group companies have employee representatives who are mostly elected. The Group takes account of the diversity of the legislations in force with respect to social dialogue everywhere it is located. Multiple in-depth and didactic exchanges on strategic issues with the social partners in the organizations and countries concerned made it possible to explain the technical and strategic choices and their organizational impacts.

In addition, the two annual meetings of the European Works Council and the Group Works Council provided opportunities for General Management and social partners to exchange information and views on the social and financial situation, as well as on issues related to the Company's social responsibility and on the Group's research and investment guidelines. Furthermore, interim meetings with the executives of these two bodies allow regular exchanges on the Group's current affairs.

6.3.2.4.3.2 The deployment of the new organization of work at the SLN

At SLN (New Caledonia), management and trade unions worked together to set up target organizations which have been effective since March 2019, with a repositioning of supervisory personnel on the new positions.

Following the signing of the agreement on the organization of work at 147 hours at the end of 2018, mining centres have changed their work rhythm. An agreement was also signed in April 2019 on the transition to four teams starting from May 2019 on the Doniambo Plant, and since September 2019 for the Népoui washing plant.

The 2020 social roadmap will mainly concern continued training to accompany employees on the operation of these new organizations and the negotiation of agreements on career paths and compensations etc.

6.3.2.4.3.3 Dynamic social dialogue

As in 2018, 2019 was rife with labour-related events in France with in particular the signature in February of the agreement on social dialogue and the collective negotiation by all CGT, FO, CFE-CGC and CFDT unions, which proposes methods of operation that go above and beyond the legal framework, such as training management in social dialogue and supporting future elected officials in their new responsibilities; social dialogue on the ground with local representatives; the establishment of health, safety and working conditions committees at all industrial sites; and other measures adapted to the Group's context and enabling quality social dialogue.

Professional elections took place on each of the sites and the new bodies began to gradually organise themselves.

At the level of each of the subsidiaries, management and staff representatives have initiated discussions and even negotiations on recently emerged topics such as: Gender equality – Women, Quality of life at work, Teleworking etc.

More than 70 agreements were signed in 2019. These mainly concern remuneration, profit sharing and participation, and working time.

6.3.2.4.4 Equal opportunities – measures to foster non-discrimination and diversity

For Eramet, diversity is a performance and transformation driver and source of personal growth for all employees. In this way, the Group wishes to offer a work environment based on respect for differences and better community living.

The promotion of diversity is based on a deep-seated conviction: stereotypes are at the root of all forms of discriminations. It is therefore our duty to fight them to enable everyone, regardless of their gender, age, disability, sexual orientation or religious belief, social or ethnic background, to thrive in the Group's different businesses.

Conscious of the fact that diversity and inclusion are long-term ambitions, the Group developed it first roadmap in 2019 with actions that will continue over several years. Actions already initiated include the integration of diversity in recruitment processes or talent management with neutral offers, "non-discriminatory hiring" training for management, awareness-training for recruitment firms etc.

6.3.2.4.4.1 Encouraging the feminisation of managers and respecting equal pay between women and men

Women now account for 17% of the total workforce of the Group, specifically: 8% of operators, 26% of supervisors, technicians and employees, and 23.8% of management.

Eramet encourages the feminisation of business sectors, that are traditionally masculine, and wants to guarantee women equivalent job conditions as men. Efforts are thus being made locally to promote gender balance inside teams and in particular technical professions, presentations to middle and secondary school pupils and students, adapting facilities to accommodate female staff and promoting the provisions set out in the collective agreements for gender equality signed on numerous sites in metropolitan France.

RSE 2023

The goal to increase the proportion of women in supervisory positions integrated in the Group's CSR roadmap is applied worldwide. The goal is to change from 22% of female managers in 2018 to 30% by 2023. The target set for 2019, 24% was reached at the end of the year with 23.8% of female managers.

Female representation on the Executive Committee is 38%.

% OF WOMEN IN THE TOTAL WORKFORCE	17%
% of women in management	23.8%
% of women among new permanent contract recruitments in 2019	26%
% of women among new management permanent contract recruitments in 2019	30%
% of women on the Executive Committee	38%

Since October 2018, the "WoMen@Eramet" network has been working to promote gender balance in the Company, and in particular more women in the workforce. In 2019, the network was organised with the appointment of a governing body and commissions in charge of proposing actions and mechanisms, organising events and exchanging with other networks. The early works have already resulted in the onboarding booklet, the special web page on the Group intranet, onsite breakfast briefs, etc. A study has also been conducted with a sample of key managers to bring them around the project, determine with them the key success factors and the needs they might have to contribute to them.

In the context of the 5 September 2018 law and the resulting application decree of 8 January 2019 aimed at eliminating the pay gap between men and women, Eramet published in 2019 the gender equality index for its two companies in metropolitan France which employ more than 250 employees: Aubert & Duval(1) and Erasteel SAS(2). Following the results, dedicated action plans were put in place.

6.3.2.4.4.2 Work/life balance

Attention is paid during the Annual Appraisal Interview to the prevention of psychosocial risks. Indeed, part of the exchange between the employee and his/her chain of command is devoted, at this important annual meeting, to the organization of work, the workload and work-life balance.

(1) Interforge is included in Aubert & Duval, since an existing UES with AD and Interforge are integrated in all Aubert & Duval negotiations. Index published on 1 March 2019

(2) Erasteel SAS includes the Paris, Chalon and Commentry establishments.

In this area too, the Group promotes a number of local initiatives of a different nature but intended to promote this necessary balance: a listening service provided by an occupational psychologist, sabbatical leave was granted to employees wishing to devote time to a personal project, teleworking systems and agreements have been deployed in several entities, measures favouring parenthood: organization of working time, allocation of CESU cheques (Cheques for Universal Employment Services) for the employment of domestic help (child care, tutoring, housework, etc.), inter-company nursery, concierge services, and workshops on the theme of quality of life at work, led by professionals (nutrition, sleep, sophrology, etc.) have also been implemented at some sites.

6.3.2.4.4.3 Employment and integration of persons with disabilities

The Eramet Group is paying attention to the employment and integration of people with disabilities.

The Group has 279 employees with disabilities (data from the CSR survey). This count is probably underestimated, as the regulations of certain countries do not permit the accounting of employees with disabilities.

At most Group sites, various actions are regularly undertaken to promote the employment of people with disabilities: adapting premises, access ways and workstations, awareness campaigns, financing of hearing aids, and contributing to organizations or associations dedicated to helping people with disabilities, participating in forums etc.

Subcontracting activities are also carried out by work centres or associations employing persons with disabilities. The accessibility of the premises is also a topic discussed at many of the Group's sites.

6.3.2.4.4.4 Youth, Seniors and Intergenerational

One of our priorities, highlighted in our Human Resources policy, is to participate in preparing young people for working life through all the school/company programmes: internships, apprenticeship contracts, work-study agreements, International Volunteers in Business programme (VIE), theses, etc. In this context, in 2019, we welcomed 1,600 young people, i.e. nearly 12% of the Group's workforce. The commitment and actions taken across all sites contributed to this significant increase.

Since 2013, Eramet has been involved with numerous major groups, and within the framework of the AFEP (French Association of Private Enterprises), for the employment of young people. The Group is a signatory to an initiative called *"Jeunes et Entreprises"* ("Young People and Companies").

With a strong commitment from the Trappes research centre (Eramet Ideas) and its teams, Eramet participates in numerous forums for schools in metropolitan France or in the countries in which it operates. This is an opportunity to introduce the Group and its businesses, to exchange ideas with young people and to advise them on their career directions. Many of the Group's employees also volunteer, for the most part in teaching courses, to present the Company or to deliver specialised technical courses. Some of these experts are also involved in school guidance councils or their board of governors. Scientific exchanges are also carried out on certain projects with the laboratories of major schools or universities, and teachers.

The Group is also very involved in partnering with major schools through the payment of grants (graduation trips, etc.), the apprenticeship tax, in particular, to the National Chemical Engineering Institute in Paris (Chimie ParisTech), the National School of Geology (ENSG), the National School of Mines in Ales, the University of Montpellier (Geology), the Mines ParisTech (ENSMP Soil and subsoil specialisation), the Central School Supélec (Energy specialisation), etc.

SLN engages in a partnership with the preparatory classes of the Jules Garnier secondary school in Noumea. The SLN competitive exam proves valuable for the young New Caledonians who end up continuing their scientific studies in Metropolitan France.

With regard to the employment of seniors, across the Group as a whole, 35 people aged 10 years younger than the statutory retirement age were recruited on a permanent or fixed-term contract.

6.3.2.4.4.5 Employees and compliance with ILO fundamental conventions

Eramet complies with the applicable regulations in the countries where the Group operates.

As the Group points out in its Ethics Charter and its Human Rights policy, Eramet respects the international standards of the International Labour Organization and, more generally, complies with the principles of international law relating to human rights. In particular, the Group refrains from using any form of forced labour or child labour, either directly or through its suppliers or partners, and respects the right of association.

The Group also ensures fair treatment of all its employees in terms of professional equality by fighting against discrimination at work, ensures the integrity of those present at each site, and respects the moral integrity of each employee. The Group ensures the quality of human relations within work teams. In particular, it engages in the fight against all forms of violence and helps promote respect for others and fellowship in working relations.

During the annual collection of feedback from the Group's sites on non-financial matters, the Group's various sites are asked whether they comply with the provisions relating to the fundamental ILO Conventions (freedom of association or the right to collective bargaining, the abolition of child labour, the fight against illegal work, the elimination of discrimination at work) and it is important to note the excellent feedback (96% positive replies out of 51 sites surveyed in 2019) demonstrating the attention paid to this subject.

The Group wants to make an even greater commitment to respect for Human Rights, setting the objective of becoming a benchmark company in terms of respect for Human Rights in our field of activity by 2023. The elements concerning this Group approach are presented in section 6.3.1 "Commitment to Human Rights".

6.3.2.5 Social indicators

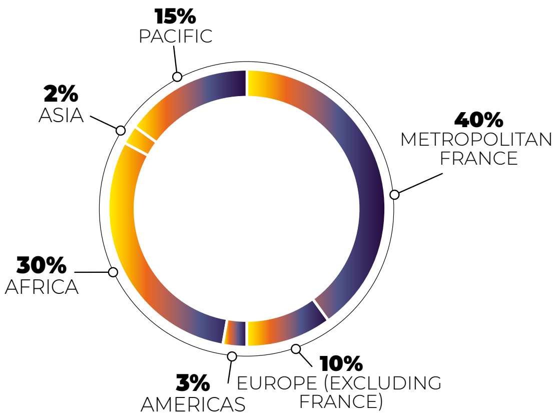
6.3.2.5.1 Total workforce and breakdown by geographical area

As at 31 December 2019, the Group employed 13,097 employees in 20 countries, compared to 12,705 employees at 31 December of the previous year. The Group's HR reporting in force concerns the consolidated workforce and the managed workforce.

NUMBER OF EMPLOYEES AS AT 31 DECEMBER (PERMANENT AND FIXED-TERM CONTRACTS)

	2017	2018	2019	2019 breakdown
Metropolitan France	5,049	5,089	5.278	40%
Europe (excluding France)	1,218	1,221	1.279	10%
Americas	250	265	342	3%
Africa	3,746	3,801	3.925	30%
Asia	298	381	262	2%.
Pacific	2,029	1,948	2.011	15%
TOTAL	**12,590**	**12,705**	**13,097**	**100%**

Workforce registered in 2019 by geographical area



6.3.2.5.2 Breakdown of total workforce by Division and BU

The registered workforce increased by 2.7% between 2018 and 2019: it increased for the Holding company (+19.3%) and for the Mining and Metals (+2.1%), and for the High Performance Alloys Division (+1.7%). The increase in the number of employees is largely due to the increase in the number of employees with permanent contracts in the support and reorganization functions, and in the Lithium BU.

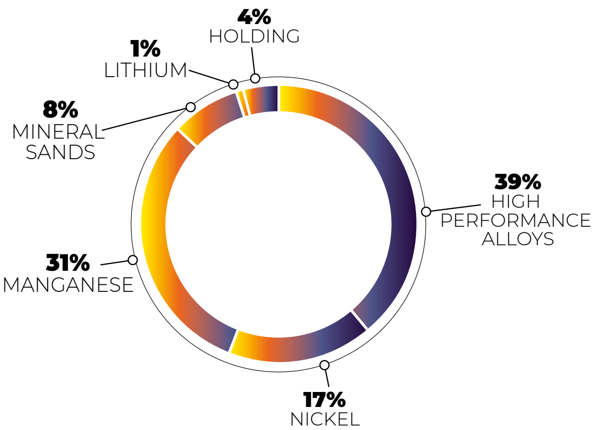
	2017 restated[3]	2018	2019 breakdown	
Holding[1]	**386**	**420**	**521**	**4.0%**
High performance alloys	**5,021**	**5,092**	**5,178**	**39.5%**
Aubert & Duval	3,942	3,984	4,141	31.6%
Erasteel	966	987	946	7.2%
Other[2]	113	121	91	0.7%
Mining and metals	**7,183**	**7,193**	**7,398**	**56.5%**
Nickel	2,320	2,282	2,225	17.0%
Manganese	3,909	3,923	4,038	30.8%
Mineral sands	900	921	995	7.6%
Lithium	54	67	140	1.1%
TOTAL	**12,590**	**12,705**	**13,097**	

(1) Holding: Eramet SA, Eramet Services, Eramet Ideas, Eramet International.

(2)Other: Forges de Monplaisir and Brown Europe.

(3)According to the new organization.

Breakdown of the 2019 workforce by Division and BU



6.3.2.5.3 Breakdown of total workforce by contract type

As at 31 December 2019, 95% of Group employees had permanent employment contracts.

The technical nature of the mining and metallurgy professions requires a long professional training period, and the use of short-term employment contracts remains very minor.

Employees on fixed-term contracts within the Group have the same rights and benefits (pension systems, healthcare costs, profit share, etc.) as employees on permanent contracts.

WORKFORCE BY CONTRACT TYPE

	2017	2018	2019	2019 breakdown
Permanent	12,113	12,098	12,393	95%
Fixed-term	477	607	704	5%
TOTAL	**12,590**	**12,705**	**13,097**	**100%**
Temporary workers *(in full time equivalent)*	900	930	841	

6.3.2.5.4 Breakdown of total workforce by socio-professional category

Eramet extended the French notion of socio-professional category (SPC) to all its entities, which share the following definitions:

- Workers: workers (blue collars);
- Supervisory staff: clerks, technicians, foremen (white collars);
- Management: executives, managers, post-graduate staff, civil engineers (white collars).

BREAKDOWN OF WORKFORCE BY SOCIO-PROFESSIONAL CATEGORY

	2017	2018	2019
Workers	53%	52%	51%
Supervisory staff	33%	33%	33%
Management	14%	15%	15%

6.3.2.5.5 Average age and age distribution

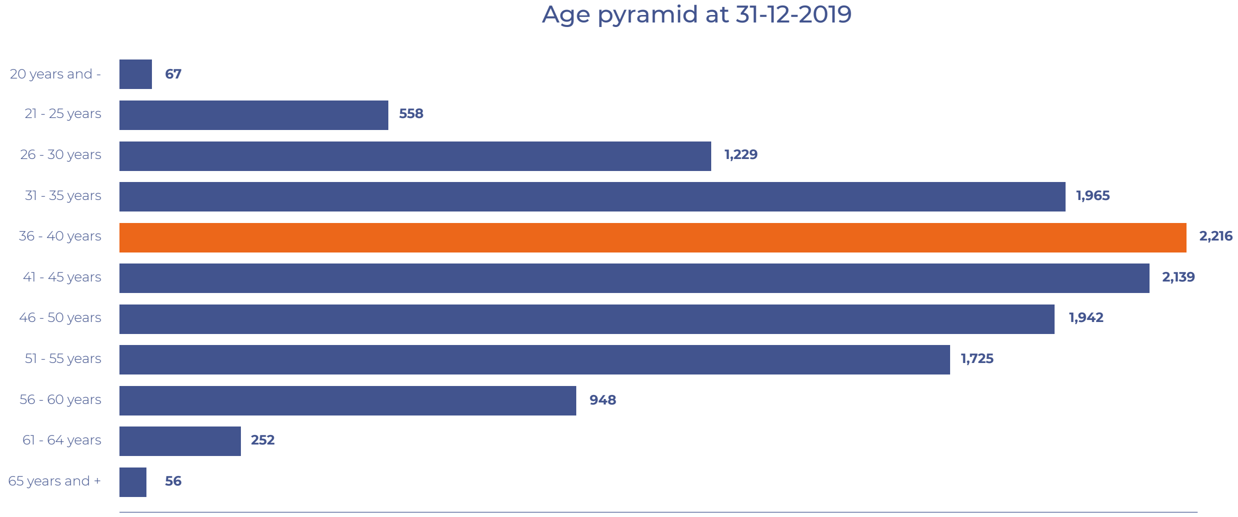
The average age of Group employees was 41.9years as at 31 December 2019.

Workers	Administrative, Technical and Supervisory staff	Management
40.8	42.9	43.4

Employees aged 50 and over represent 25% of the total workforce; those aged 30 and under represent 14% of the total workforce.

Eramet carefully monitors the evolution of the age distribution of its managerial staff, particularly in order to anticipate the retirement of its key employees. Since the implementation of the People Review process at the local, Division and Group level, Eramet has succession plans updated every year for all its key positions.

Age pyramid of the Group



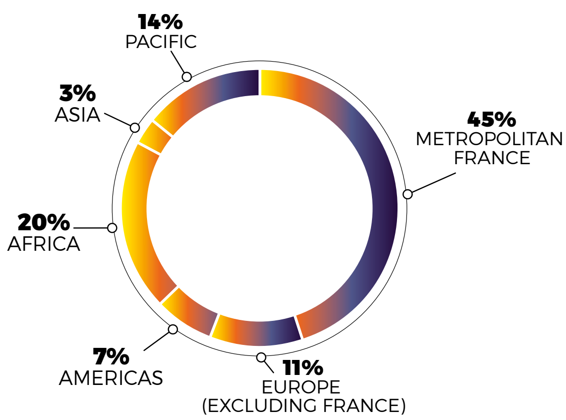
6.3.2.5.6 Recruitment

Group companies recruited, excluding transfers between Group companies, 1,529 employees in 2019, up 22% compared to 2018.

NEW RECRUITS BY REGION (EXCLUDING TRANSFERS WITHIN THE GROUP)

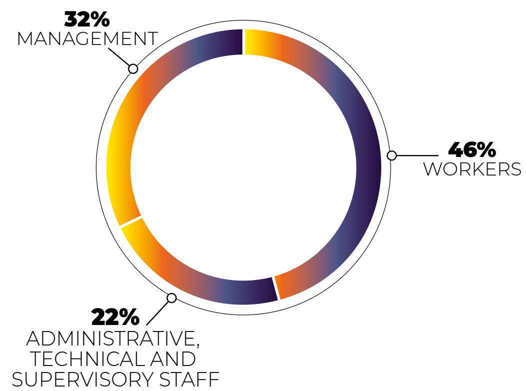
	2017	2018	2019
Metropolitan France	544	579	715
Europe (excluding France)	135	114	123
Americas	67	42	105
Africa	166	305	318
Asia	23	171	53
Pacific	19	44	215
TOTAL	**954**	**1,255**	**1,579**

New recruits 2019 excluding transfers



The external recruitment of 885 permanent employees is divided into the following professional categories:

Permanent contract recruitments 2019 excluding transfers



Since 1 January 2013, Eramet has prioritised the recruitment of permanent employees under the age of 30 and over 55.

	Permanent contract recruitments 2019	
	< 30 years	> 55 years
TOTAL	**292**	**35**
% of total permanent contract recruitments	*33%*	*4%*

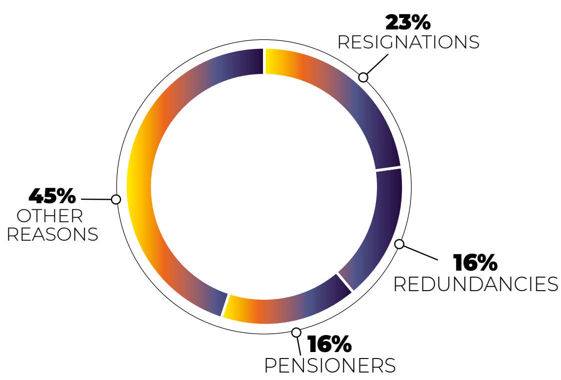
6.3.2.5.7 Departures

In 2019, the total number of departures (this concept includes resignations, redundancies, retirements and terminated contracts, but does not include Group transfers) was 1,186, of which 278 were resignations (23% of departures), 194 were redundancies (16% of departures) and 185 were retirements (16% of departures). The other reasons for leaving (45% of departures) mainly consisted of end of fixed-term contracts.

DEPARTURES BY REGION (EXCLUDING TRANSFERS WITHIN THE GROUP)

	2017	2018	2019
Metropolitan France	592	514	660
Europe (excluding France)	85	109	113
Americas	140	32	32
Africa	208	244	201
Asia	29	85	34
Pacific	102	123	146
TOTAL	**1,156**	**1,107**	**1,186**

BREAKDOWN OF DEPARTURES (EXCLUDING TRANSFERS) BY REASON IN 2019



6.3.2.5.8 Labour organization

Working time

The organization of working time depends on the companies, the nature of their activities and their location and is defined in order to best meet the requirements of the activity and the wishes of the employees. Wherever it operates, the Eramet Group complies with legislation on working time regulations. As an indication, the working hours are:

- in Metropolitan France: 35 hours per week;
- in Norway: 37.5 hours per week;
- in New Caledonia: 38 hours per week;
- in China, Gabon, the United States and Sweden: 40 hours per week over five days;
- in Senegal: 40 hours per week;

Part-time workers

Part-time employment contracts exist in many countries where the Group operates. The number of staff concerned by this arrangement represents 1.6% of the total number of staff.

As at 31 December 2019, 203 people were part-time, two thirds of whom were women.

80% of part-time employees, or 162 people, work in France and they account for 3% of the total workforce in Metropolitan France.

Organization of work

In 2019, **57%** of employees worked fixed days, while 43% worked shifts.

Absenteeism (data from the CSR survey)

The reasons for absence taken into account here are random and unplanned absences, such as sickness, maternity, accidents at work, commuting and unjustified absences.

The average absenteeism rate for the Group was 2.8% in 2019. The average absenteeism rate in metropolitan France is 3.8%. For the rest of Europe, the average rate is 2.8%. The Americas has a rate close to 1.6%. Africa has an average rate of 1.3%, Asia 1.6%. Finally, the average rate recorded in the Pacific zone is 3.2%.

6.3.3 Commitments to host communities

6.3.3.1 Objectives, organization and instruments

Eramet places its social commitment at the heart of its vision, especially its contribution to local populations. While the Group has previously focused on limiting and compensating the impacts of its activities and ensuring societal acceptability, it is now seeking to build a partnership relationship, a move which is appreciated by local residents.

RSE 2023

This challenge is addressed by objective 5 of the Roadmap, "Be a valued and contributing partner of our host communities". A five-year programme in respect of host communities is implemented by the Divisions for this purpose. The achievement of the objective will be measured against two targets by 2023:

- 100% of sites have established a mechanism for dialogue with local stakeholders;
- 100% of sites have implemented an investment programme to contribute to local development, with a focus on actions in favour of young people.

In this perspective, the Group formalised in 2019 the three pillars and six fundamentals of Eramet's community relations, modelled on the standards and good practices of the International Finance Corporation (IFC, World Bank Group). These internationally recognised and proven standards adopt a proportionality approach according to which the required measures must be designed to match the challenges of the sites. An internal procedure that combines all the requirements applicable to the sites has also been developed. It will be rolled out in 2020 to supplement the Eramet management system.

For Eramet, a contributive and partnership relationship with communities has to be built on three pillars:

1. **management of risks and impacts on communities:** Risk prevention and management of the impacts inherent in mining and metallurgy activities is a fundamental aspect of the relations maintained with local populations. These risks and impacts are identified and covered by containment measures in accordance with the "mitigation hierarchy" which entails avoiding, reducing and compensating these impacts. Complaints handling mechanisms available to local populations ensure that any incident or concern can immediately be brought to the attention of the entity. These incidents are then handled through corrective actions and used as feedback for the continuous improvement of the management system;
2. **dialogue with local stakeholders:** Whether it concerns the roll-out of operations, risk management measures or again local development support programmes, Eramet and its subsidiaries make sure they continuously inform and consult nearby populations. This is done through various ways: organising public information meetings or open days at facilities, setting up joint committees, holding public consultations, distributing written publications etc. For sites developing new activities, dialogue is essential for presenting the characteristics of projects and involving communities in the definition of measures to contain the impacts affecting them. In all cases, the subsidiaries focus on ensuring that the dialogue is culturally appropriate and also inclusive; they also make sure that the vulnerable people are identified and included in the exchanges;
3. **contribution to local development priorities:** Eramet aims to make the Group's activities a source of net benefits for local populations. Through employment, local sourcing and subcontracting, the Group's subsidiaries constantly strive to increase their contribution to the economy of the territories where they are based. Above all, the Group's sites develop community investment or sponsorship programmes aimed at supporting local development priorities. In a partnership approach, these priorities are identified and monitored collectively: support to economic activities, actions to promote education, health, sport, culture and the environment or construction of infrastructures.

Relations with host communities: Eramet fundamentals

3 pillars and 6 fundamentals of community relations of the Eramet group

1 CONTROL risks and societal impacts

Initial state / assessments / control of societal impacts
Grievance mechanism

2 DIALOGUING with communities

Mapping of local stakeholders
Dialogue mechanisms

3 CONTRIBUTING to local development priorities

Employment, purchases, local subcontracting
Community investment/sponsorship

On large industrial sites, this issue is most often addressed by Health, Safety and Environment managers, as the impacts on local residents are mainly related to environmental issues.

In the case of mining activities, the management of community relations covers much broader themes. For this reason, the Group's mining sites have resources dedicated to these societal issues, which are essential for the development of responsible mining operations. These professionals are part of a network managed by the Group's Communication and Sustainable Development Department. This network populates a platform to exchange good practices in order to increase the Group’s internal expertise on community relations.

6.3.3.2 Control of impacts and risk prevention for local communities

6.3.3.2.1 Risks for the safety and security of local populations

The presence of industrial or mining facilities may constitute a source of risks for nearby populations. As Eramet pays particular attention to preventing these risks as early as possible in its industrial or mining projects, an industrial risk prevention approach is continuously implemented by the Group, as detailed in section 6.2.1.4. The sites concerned control access to the sites, set up barriers and information signs, and some sites also use security guards.

Information on risks for the safety of nearby residents is also presented through dialogue with populations. In 2019, as in every year, Setrag (Gabon) organised large-scale communication campaigns to raise awareness of the risks of collisions between trains and people due to non-compliance with safety instructions. More than 30,000 people were given awareness training in primary schools, secondary and middle schools located in a radius of 400 km of railway tracks. A comic strip containing illustrations of accident scenarios was produced and distributed. Setrag also made significant investments aimed at improving the safety of people living near railway tracks, by building over four kilometres of protective walls around two train stations and erecting five pedestrian bridges for safe crossing of the railway tracks.

Security measures protecting the physical integrity of employees and infrastructure, such as security guards, are governed by the Security Policy adopted by Eramet. This is in accordance with international law, French law and the law of the countries in which Eramet operates. As part of this policy, the prevention of security risks first requires dialogue and a relationship of mutual respect with local residents. Training and rules governing the use of force and the equipment of the security personnel are decided, designed and controlled by a Site Security Officer, who acts within the framework defined by the Group Security Director. The use of force is strictly limited to cases of extreme necessity and must be proportional to the threat.

6.3.3.2.2 Land purchases and population displacements

The activities of certain Group mining sites require the acquisition of land from communities that reside or carry out economic activities (agricultural or commercial) in the area. These operations may present risks of Human Rights violations (property rights or the right to an adequate standard of living of these communities). The sites concerned have therefore set up dedicated teams on the relevant sites, to assess, talk to the locals and keep potential impacts under control. Displacement activities are carried out in accordance with the principles set out in the Performance Standard of the International Finance Corporation (World Bank Group) relating to these rehousing activities, with in particular the introduction of resettlement action plans and attention paid to restoring the livelihoods of the displaced populations.

This is the case of Grande Côte Operations in Senegal, which performs mobile mining activities as part of the mining concession granted by the State. Due to the particular issues of this site, the Environment and Communities department of this site has a specialised team, in charge of defining, in collaboration with communities, methods of displacement (compensations, relocation sites, configuration of welcome infrastructures etc.) In 2019, nearly 630 people in the village of Foth were rehoused. Located in the neighbourhood of a first rehousing village that had become home to the people displaced by GCO in 2016, this second village welcomed 78 new families in July. The village is equipped with infrastructures selected with the local people: homes with access to water and solar lighting, place of worship, water well equipped with a water tower to provide water to the village and a household waste management system. The school on the first resettlement site has been extended to welcome new pupils. GCO also helps to restore the livelihoods of the displaced people through capacity-building programmes or the purchase of seeds and the construction of a community market. The entire process was managed by the Resettlement Commission chaired by the Prefect and consisting of the departmental services and community representatives. It ensures the involvement of the concerned parties throughout the process.

In Gabon, as part of Setrag's project to restore the Trans-Gabon railway line, work is planned on the different points of railway from Libreville to guarantee the safety of the track and local residents. Some of this work resulted in the displacement of shops, homes or farms occupying the area surrounding the railway line, which is non-transferable State property. A resettlement unit is in charge of supervising the implementation of resettlement action plans and livelihood restoration plans in accordance with international standards. In 2019, inventories were carried out with communities to identify the affected trades and farms.

Comilog has maintained long-term dialogue with communities on the subject of displacements linked to its projects. As part of the mining operations on the edges of the Bangombé plateau, Comilog has conducted socio-economic surveys and drawn up an inventory of farm plots, shops and homes that will have to be displaced. A resettlement plan developed in 2019, which specifies in particular the planning of the relocation site, is being discussed with the stakeholders. For the mining extension plan, which affects crops on the edges of the Okuomo plateau, a livelihood restoration plan has been developed in consultation with the 190 people concerned. They mainly participated in the selection of different locations for the replacement plots proposed by the project. In this context, compensation for farms is still ongoing, and actions have been initiated to support the restoration of livelihoods.

6.3.3.2.3 Risks and impacts on the environment of communities

Some sites also present environmental impact risks that may affect local residents. The Group is deploying all necessary means to reduce its environmental footprint, both at its operating sites and in the context of its development projects. The measures implemented to mitigate environmental and industrial risks (section 6.2. Environmental conservation) also aim to limit disturbances to local communities and avoid pollution risks and those related to a reduction in their access to natural resources.

Nearly half of the Group's sites have special relations with local public or community organizations regarding environmental issues. These mainly consist of direct discussions organised by the sites or meetings within the framework of regular meetings organised by local authorities.

Going even further, some entities have also developed partnerships with specialised organizations. This is particularly the case for Eramet Norway's sites, which for several years now have been working with the NGO Bellona on environmental issues. In New Caledonia, SLN, which is also a member of Scalair, provides its financial support to the Environmental Observatory *(L'Œil)*, performing an environmental follow-up of the marine environment and air quality. In 2019, SLN also decided to support the Reprise project, supported by the municipal authority of Houailou (near the Porto SLN site) in collaboration if an NGO, Conservation International. The aim of this programme is to restore the forests in this municipality, particularly through reforestation and regulation of invasive species. Winner of ADEME's call for projects "pilot sites for reconquering biodiversity", under the *"Investissement d'Avenir"* programme, this project is based on a very close collaboration with local ethnic groups. Although the area concerned is not a former SLN mining site, this action is in line with the Company's environmental conservation commitment in New Caledonia.

In Argentina, as part of the preparatory work for the Lithium treatment project in the region of Salta, in 2019, the Group's teams trained the first group of "environmental monitors". These are volunteer local residents who will help to monitor samples as part of efforts to control the environmental impacts of the project. This partnership approach aims to encourage local populations to take an active role in managing the environmental risks associated with the project and to create the conditions for a trusting relationship, based on transparency. In Gabon, in addition to its collaboration with the *Agence nationale des parcs nationaux*, Setrag signed in 2019 a partnership with the Conservation and Justice NGO, which actively fights the poaching of protected species.

6.3.3.2.4 Local complaint management mechanisms

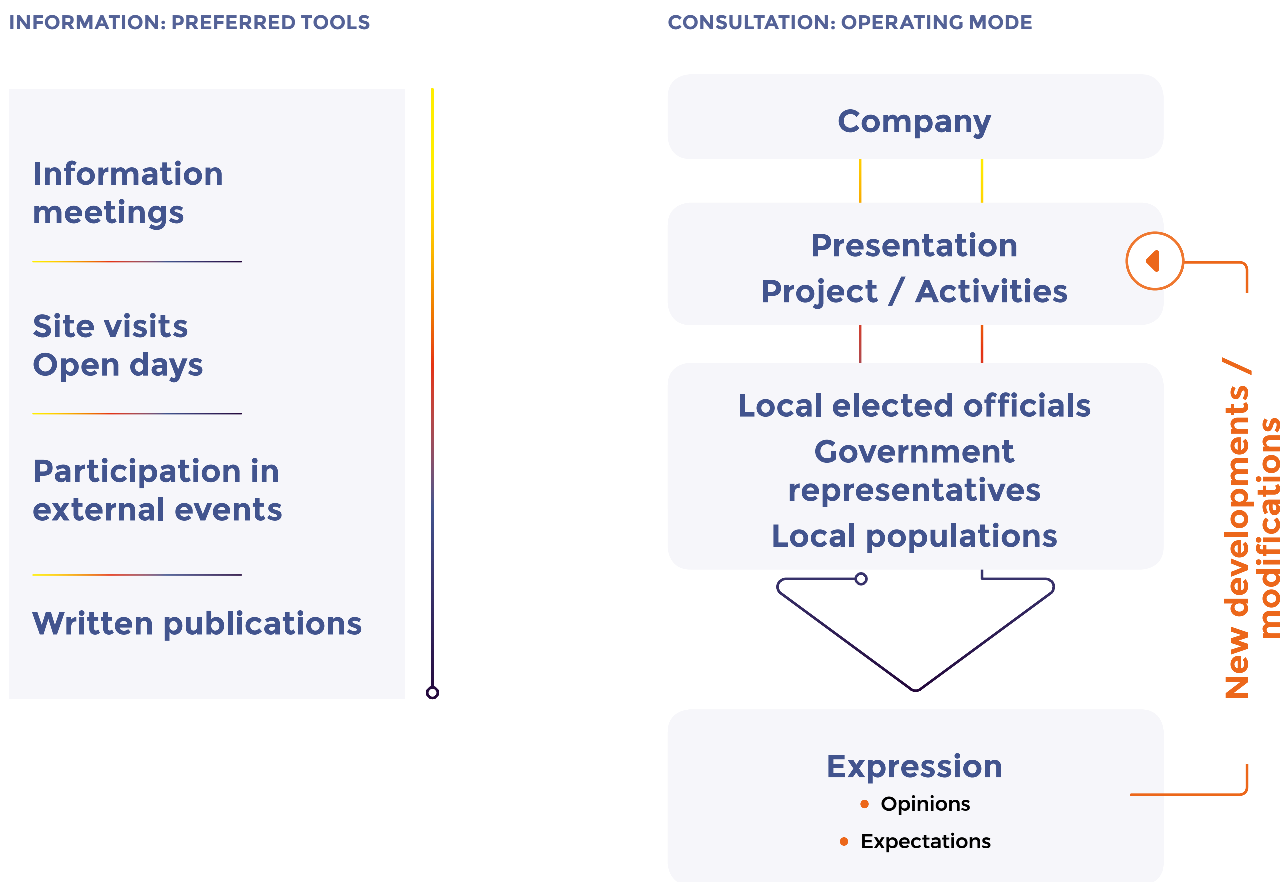
More than half of the Group's sites, including the mining sites in Gabon, Senegal and the project in Argentina, are developing their own mechanisms to receive and handle complaints from local communities. The procedures for the receipt and processing of complaints are managed directly by the sites. Like the management of community relations, for industrial sites, complaints are received and handled by local managers in charge of health, safety and the environment. On the mining sites, this function is performed by teams in charge of commercial relations. Complaint tracking updates are most often presented to the site's Management Committee, thus receiving the attention of top management.

6.3.3.3 Dialogue with local communities

Sites that may have an impact on the environment and local residents carry out information and consultation actions with them, whether due to regulatory obligations or voluntary initiatives. Knowing the local populations and establishing dialogue with them anticipates and prevents the potential impact of activities. This universal approach is adapted by each entity according to its specific challenges.

In 2018, more that 50% of the sites – including 100% of the mining sites and projects – developed a dialogue with the communities, in an informative or consultative manner.

Dialogue modes



Informing neighbourhood residents about industrial and mining activities

Information meetings are the preferred way for sites to communicate with local populations. The information shared encompasses the site's activities and also the environmental and/or societal impact.

For projects or sites developing new activities, these information meetings are essential to explain their characteristics and present the measures implemented to control the impacts. For example, in addition to maintaining its permanent contacts with the communities, GCO in Senegal organises periodic information and awareness meetings with local populations in their respective villages or in town halls. In 2019, more than 2,000 people were informed of GCO's activities in their neighbourhood. In Gabon, Comilog brought together more than 1,000 people in 2019 to provide them with information about the C2020 project in particular.

The sites in operation also have the opportunity to regularly inform their local residents. In France, because of their Seveso "High Threshold" status or their ICPE (Installation Classified for the Protection of the Environment) status, two sites participate in "Site Monitoring Committees", composed of representatives of the national government, local authorities, local residents, farmers and employees. These committees constitute a framework for the exchange and monitoring of site activities. In addition to regulatory obligations, some sites organise voluntary information meetings, such as Eramet Norway's sites.

In 2019, nearly two thirds of the Group's sites, including Eramine, SLN or again Eramet Norway, welcomed the external stakeholders, on the occasion of the open day, visits from schools or elected officials, or special events. This openness, which is appreciated by the various welcomed groups, offers a tour of the facilities and consequently, better understanding of the activities and challenges of the sites.

In New Caledonia, the SLN opened an office of community relations in June in Koné, the administrative capital of the Northern province, to enhance the quality and frequency of exchanges with these populations. Furthermore, the SLN's facilities welcomed 800 visitors in 2019, 200 of whom were at the Doniambo plant. The mines – and in particular the Thio facility, which hosts monthly visits in partnership with the Tourist Office – account for the largest number of visitors.

RSE 2023

The presence of sites at external events organised locally, such as fairs or exhibitions, also allows them to communicate about their activities and their social commitments to various audiences. This type of communication is mainly appreciated by the industrial sites, such as the Aubert & Duval (France) entities, which notably participated in the *"Ailes et Volcans"* aeronautical event in Issoire France in 2019.

Consultation/collaboration with local residents

Consultation is a more engaging form of dialogue with the communities that is practical for gathering the opinions, expectations or concerns of local residents. Apart from consultations linked to resettlements on GCO, Comilog and Setrag sites, and detailed in section 6.3.3.2.2, the main consultation activities are presented below.

At GCO, Senegal, the different joint committees, which involve local community representatives in the monitoring of mining and industrial activities, met regularly during the year. Among them, the *"Cadre de concertation sur l'environnement et la gestion des ressources naturelles dans la concession minière"* (Consultation framework on the Environment and Management of Natural resources in mining concessions) comprises representatives of Government technical services, local authorities, local populations and GCO.

In Argentina, the project team continued its public assemblies ritual in 2019. It held three sessions during the year which were used to inform populations about the advancement of the project, to understand and address their concerns.

In Gabon, under the Trans-Gabon railway rehabilitation project, Setrag began the construction of walls along railway tracks in the neighbourhood of train stations and of secure pedestrian bridges. These work sites were preceded and accompanied by public consultations and local committee meetings, enabling in 2019, 200 neighbourhood residents to be involved right from the start and throughout the construction period.

To prepare its future investment strategy for local populations, in 2019, Comilog conducted consultations in 14 neighbourhoods in the city of Moanda and 12 villages in the department. These meetings, attended by nearly 500 people, provided an opportunity to clearly understand the priorities of these populations, and what they expect from Comilog. This information was directly incorporated into the ongoing preparation work regarding the investment strategy and the dialogue mechanisms with populations.

In New Caledonia, the SLN continued its proactive dialogue programme with local stakeholders aimed at recreating lasting trust, especially after the blockades at the Kouaoua site in 2018. The CSR team has been strengthened and now includes ten people. The new SLN model and its new CSR approach were presented at the meeting rituals held in 2019 with municipal teams, traditional authorities, young people and associations (in Poum, Poro, Kouaoua, Koumac in particular). These meetings also provided the opportunity to collectively identify and build SLN's new contributive actions together as partners.

6.3.3.4 Contribution to the development priorities of communities

As a corporate citizen, Eramet aims to become a company that contributes to public interest issues in the territories where it operates, dedicating one of the objectives of its CSR Roadmap to this topic. Specifically in its relations with local communities, the Group is working on transitioning from an approach focused on reducing and offsetting the impacts of its activities to a partnership-based approach.

For the Group's entities, this entails seeking a positive contribution for local populations, by helping to improve their situation, depending on their priorities and their aspirations. This is all the more true for the Group's mining activities, for which the development of good relations between all stakeholders in the region is essential for the creation of shared value in the long term.

Developing a positive footprint primarily entails the creation of direct and indirect local jobs, by using subcontracting and local sourcing, supporting the UN's 8th Sustainable Development Goal of Decent Employment and Economic Growth. The supported training programmes and apprenticeship mechanisms contribute more directly to the achievement of target 8.6 "Substantially reduce the proportion of youth not in employment, education or training".

The community investment programs set up by the Group's entities are tailored to the needs of the beneficiary communities. These programmes mainly contribute to SDG 11 "Sustainable cities and communities", SDG 3 "Good health and well-being" and SDG 4 "Quality education", with the construction of infrastructures for populations and support programmes for health and education. Specific examples given below illustrate the achievements of Eramet entities in 2019.

6.3.3.4.1 Job creation and local sub-contracting

The major subsidiaries of the Group contribute significantly to job creation in the areas in which they operate, recruiting the vast majority of their teams locally. The Eramet Group, through its subsidiaries Comilog and Setrag, directly employs more than 3,000 people in Gabon. 98% of the positions created are occupied by Gabonese citizens, making the Group Gabon's second largest private employer. SLN, New Caledonia's biggest private employer, provides more than 2,000 direct jobs. The Auvergne-Rhône-Alpes region accounts for more than half of the jobs created by the Group in metropolitan France.

In Senegal, Grande Côte Operations (GCO), which represents more than 700 direct jobs, created a recruitment committee with the municipal authorities in order to foster the dynamism of a local employment pool.

In addition, many sites are working to develop local skills over the long term in order to develop employability in the regions.

In Argentina, 65% of 140 employees of the Lithium Project come from the province of Salta, of whom 13% come from a few settlements and villages closest to the site (ten or more kilometres away). In anticipation of the construction phase, the collective agreement signed in 2019 by Eramine and the main construction union, contains a special clause to its relations with local communities. In particular, partners undertake to maximise job opportunities for these communities. Against this background and in collaboration with the local stakeholders, local candidates interested by a job in the project have been identified, and in 2019, 35 people already received training in safety and basic construction skills.

In Gabon, Comilog continued its contribution to the Moanda School of Mines and Metallurgy (E3MG, which opened in 2016), the result of a public-private partnership between the Gabonese State and Eramet Group. This school, which aims to train young Gabonese people in the fields of geoscience, process engineering, mining research and exploration, celebrated in 2019, the graduation ceremony for specialised engineers or professional mining and metallurgy graduates in the presence of the Mining, Energy and Hydraulic Resources Minister. The 25 students of the School's second graduation class, six technicians and two engineers were then inducted into the Comilog workforce.

Setrag has developed a partnership with a Gabonese public institution, the National Employment Office, with the aim of creating apprenticeship contracts for young people. 260 young people were trained in 2019.

Aubert & Duval (France) has also made learning assistance and support one of its long-term commitments. It supports the activity of local structures that offer mobility and accommodation solutions for work/study students in Auvergne, such as Sira and Corum Saint Jean.

In 2019, more than two thirds of Group sites welcomed and trained trainees, apprentices or PhD students, ranging from a few weeks to several months. This represents several hundred students or apprentices each year.

The Eramet Group also contributes to the development of economic activities on the territories where it operates through its purchasing and subcontracting practices. The activities of the Group's sites may, indeed, require subcontracting, which encourages the establishment of local companies. This is particularly the case with SLN in New Caledonia, whose mines, plant and support services subcontract activities and draw from the base of local businesses.

6.3.3.4.2 Community investment and sponsoring

The Eramet Group is involved at various levels in actions in favour of the communities surrounding the sites, aiming to develop local life through a partnership approach. Work to formalise community investment strategies continues on mining sites, to strengthen the positive impact of numerous actions already implemented. Comilog, with the help of external experts, has devoted in particular two workshops, involving part of the Management Committee, with the update of its strategy. This work, which is expected to end in 2020 on the validation of a new strategy, relied on the results of the exchanges conducted with part of the neighbourhoods of the city of Moanda and neighbouring villages. Pursuant to the 2023 horizon CSR Roadmap, all of the Group's entities are expected to have by 2023, a community investment plan deployed around strategic pillars and formal decision-making processes.

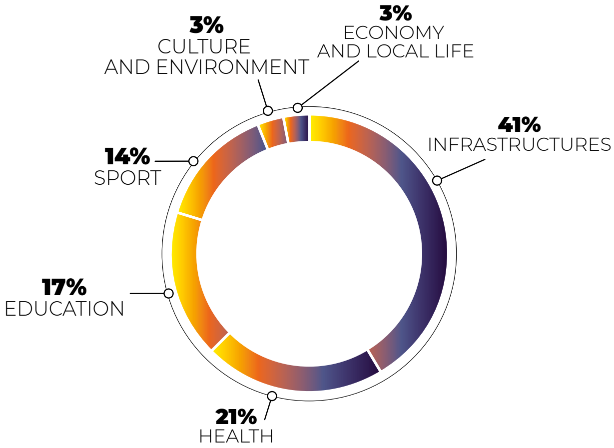
In 2019, Group entities devoted more than €15 million to community investment and to sponsoring. This represents an increase over spending in 2018, which amounted to €10.4 million. This increase is due to the enhancement of SLN programmes (in particular in the context of multipartite agreements signed in the municipalities around our mining sites), and an increase in Comilog's expenditure under its three-year CSR plan.

In addition to these expenditures, Comilog also made an exceptional contribution to funding the rehabilitation work on the Moanda railway tracks, identified in 2018 as a local priority, in collaboration with stakeholders.

In total, €20.2 million has been allocated to actions that are beneficial to the communities living near our sites.

As in the previous year, Eramet's sponsoring and community investment action in 2019 mainly focused on **local infrastructures, health, education and sports.**

Breakdown of sponsoring and community investment expenditure by area



Construction and rehabilitation of local infrastructure

In 2019, the Group's mining sites continued to participate in the construction and rehabilitation of local infrastructure, promoting the communal and economic development of the areas in which they operate.

In New Caledonia, SLN contributes to the implementation of municipal facilities through multipartite agreements with mining municipalities, Provinces and communities. In 2019 for instance, the Company helped to fund a Cultural and Sports Complex for the city of Houailou, in Poro, inaugurated in November in the presence of Christel Bories, Chairman and CEO of the Eramet Group, the Managing Director of SLN and the Mayor of Houailou. This inauguration was also the opportunity to introduce a formal multi-year economic, social and environmental development partnership in the region, between the municipal authority, SLN and Eramet.

GCO has established a social mining programme with the Senegalese Government, which commits the Company to making annual investments in local communities. These expenses are managed by the Company, which decided to create a tripartite committee for this purpose. This committee, which includes mayors and representatives of GCO, local residents and civil society, is responsible for allocating the funds for the actions to be taken. The area covered by this programme, which includes several villages, is quite extensive. A system of rotating allocations has been established, allowing a concentration of funds per municipality each year, and therefore more substantial investments.

In Gabon, Comilog and Setrag are heavily involved in the development of the surrounding areas. The main achievements include the rehabilitation of the main trunk road from Moanda and the city's secondary roads by Comilog. These works which contribute to road safety and to the opening up of certain neighbourhoods, are substantially underway and are expected to be completed by the beginning of 2020.

Health-related actions

The Group's entities in Gabon are particularly active in developing local residents' access to health infrastructures. The Marcel-Abéké hospital in Moanda, is open to the entire population and reduced the prices of its services in 2018 to make treatments more affordable. A branch office of the *Caisse nationale d'assurance maladie et garantie sociale* has been opened in the hospital to make it easier for patients to sign up for the national health insurance scheme.

The Gamma programme which consists in setting up Aids HIV screening and prevention actions has enabled the Group to continue its action (see details in section 6.3.2.2.4).

In Senegal, vaccination is the subject of a specific commitment by GCO. As a long-term partner of AFRIVAC, the Company supports the foundation's projects, which include the implementation of campaigns to vaccinate children in Senegal and raise parents' awareness on the subject.

Supporting quality education for all

The Group is committed to a policy of active support for education for local communities, and young people in particular. This support is provided in several ways on Group sites and projects, in particular through financial or in-kind donations, and also through actions aimed at schoolchildren.

The main achievements in this field in 2019 include Comilog's funding for the renovation of 95 classrooms in seven primary and secondary schools in Moanda, each of these secondary schools now have a multimedia room with broadband internet. Since 2009, more than 8,000 pupils have been able to study under better conditions. In 2019, Setrag continued to support school transport for about 400 middle school and secondary school pupils of the four districts around some of its train stations.

Many sites and subsidiaries maintain close relations with educational structures. This is reflected in site visits organised for classes at all levels to promote Eramet's business lines and industrial and mining challenges – in 2019 half of the Group's entities ran such activities.

There are also collaborative actions with educational institutions, in the form of interventions by employees in institutions or skill-based sponsorship, as carried out by employees of more than a quarter of the sites in 2019. Representatives of the sites or of the Group contribute as experts to specialised training courses, such as the *École des mines de Moanda* in Gabon, the CFTMC *(Centre de formation aux techniques de la mine et carrières)* in Poro in New Caledonia, or vocational secondary schools at the request of the Regional Chambers of Commerce in France. In a memorandum of agreement with the Environmental Sciences Institute, GCO received at the end of 2019, the first class of graduates in the Environment and mining waste management Master's programme from the Cheikh Anta Diop University in Dakar, Senegal.

Sports-related actions

The Group's involvement in sports is universally shared by its entities. This commitment pursues several objectives, including supporting local associations, often aimed at young people, and developing the attractiveness of the region for employees. More than a dozen sites directly support local sports associations, particularly in Auvergne-Rhône-Alpes, but also in New Caledonia, the Scandinavian countries of Eramet Norway and Erasteel Kloster (Sweden), and in Gabon.

For Comilog (Gabon), the main contributor to AS Mangasport, the active support of several Moanda sports associations is a key element of its commitment to young people, enabling more than 800 registered members to achieve fulfilment through sport, in addition to its actions in favour of education. In 2019, the young Manga basketball team, mostly made up of local youth, won the Gabon Cup, while the AS Mangasport football team, won the first edition of the Gabon League Cup.

Economic diversification

Some sites support local micro-entrepreneurship. In 2019, Setrag (Gabon) helped women to sell their local products at the Libreville fair. In New Caledonia, SLN continued to provide financial support to ADIE *(Association pour le Développement de l'Initiative Économique)*, a partnership that dates back to some twenty years, and which proposes assistant services to micro-entrepreneurs. Through its contribution to the association Initiatives Nouvelle-Calédonie, SLN participates in the creation and development of sustainable companies based in New Caledonia that generate added value and employment, including projects developed by SLN employees, subcontracting projects and projects by inhabitants of the municipalities in which the Company is located. In Argentina, the local teams supported the creation in 2019 of the Quewar farm cooperative aimed at bringing together the most active people in the production of Quinoa, a crop that was reintroduced with the support of Eramine.

Aubert & Duval Foundation

In accordance with Eramet's CSR strategy and priority focuses, the Aubert & Duval Foundation seeks to introduce activities in the territories near its sites in the Auvergne-Rhône-Alpes, Bourgogne-Franche-Comté and Occitanie regions in France.

The Aubert & Duval Foundation has been supporting non-profit sponsoring initiatives since 2010 and is a key partner in public outreach projects that bring life and energy to territories and help women and men to thrive in their local environment. The Aubert & Duval Foundation pays attention to the expectations of the stakeholders living near its facilities and accordingly contributes to several neighbourhood development programmes. In 2019, it supported and assisted 30 programmes that reflect its corporate history and values, in the following areas:

- culture and heritage, with the support of music schools or charities that facilitate access to culture and art in rural areas, and others involved in the renovation of heritage buildings and transmission of local know-how;
- the environment, by assisting charities that develop biodiversity conservation programmes (educational ecosystem rehabilitation projects useful for regulating waterways and managing embankments) and sustainable mobility (Urban travel mapping projects with the prototyping of new forms of green mobility such as solar-powered bicycles);
- sports and health, through support for charities involved in providing sports activities on a regular basis in rural territories or proposing new sports disciplines that create social ties;
- education and solidarity, by participating in the funding of projects that foster intergenerational ties and uphold the values of solidarity, exchanges and sharing.

6.4 BUSINESS ETHICS

This section covers the actions taken by the Group to promote and implement good practices in business ethics and corporate responsibility. Understandably, this pertains to the Group's direct employees, but also applies within its field of activity, to its external stakeholders (suppliers, customers, institutional partners, public- or private-sector partners, and so forth). In pursuing these objectives, the Group is contributing materially to the sustainable development directives (ODD) 9 – Industry, Innovation and Infrastructure, and 16 – Peace, Justice and Effective Institutions; in particular, objective 16.5: To significantly reduce all forms of corruption and bribery.

6.4.1 Ethics, Compliance and Anti-Corruption

The Group undertakes to conduct its activities, in the countries in which it operates, in compliance with the laws and regulations applicable to it. Rigour, transparency and sincerity are the values that form the basis of Eramet's ethical conduct.

In order to safeguard the integrity of its business and carry out its activities according to the highest of ethical standards, the Group has an Ethics Charter – the text on which the Compliance Programme is founded.

This document has been translated into the Group's 12 main languages (French, English, Italian, Spanish, Portuguese, Japanese, Korean, Chinese, German, Swedish, Norwegian and Indonesian) and can be viewed directly on the Group's website.

The Ethics Charter states that the fight against corruption is an absolute priority for the Group, recalling the principle of compliance with the OECD Convention and local laws.

The members of the Executive Board commit, alongside the Group's employees, to disseminate these values by means of repeated messages from the General Management highlighting the importance of Ethics, the need to act in full compliance, and the fight against corruption.

As such, the members of the Executive Board have signed the Anti-Corruption Policy, which stipulates a zero-tolerance policy and full involvement on the part of the Group's top managers.

RSE 2023

The matter is also dealt with in the Group's CSR roadmap, under the ninth objective: "To be a leading ethical partner". Hence, the advancement of this goal is regularly monitored by various committees, even in the highest echelons of the Group. This objective is broken down, annually, into benchmarks with different targets. The ultimate goal is, by 2023, to achieve 100% training of the sales and purchasing teams in anti-corruption measures each year.

6.4.1.1 Main risks

In 2017, the Group – in addition to the existing Group risk mapping, and in accordance with the Sapin 2 Act – produced a map of its Corruption and Influence Peddling risks, relying on a qualified external contractor to ensure transparency and independence of the exercise.

In accordance with a proven methodology for analysing the criticality of the risk of Corruption and Influence Peddling, depending on its impact and probability of occurrence by business sector and/or geographical area, the "Eramet risk universe" was assessed through interviews, workshops and a self-assessment questionnaire involving the Group's key functions – i.e. more than 151 people in all the geographical regions in which Eramet operates.

In 2019, the "Corruption" risk mapping was continuously monitored by the Ethics Department teams, in close collaboration with the Audit, Risk and Internal Oversight Departments. Thus, the risk universe evaluated in 2017 was specifically monitored in certain regions, based on local current affairs and geopolitical situation (Gabon/Argentina).

The Corruption risk mapping will be updated in 2020, in accordance with the three-year update policy for Group maps. The panel of service providers has already been inaugurated and will carry out a review during the first half of 2020.

6.4.1.2 Ethical governance

In 2019, the Group continued with its new approach, strengthening its ethical governance apparatus, which is organised as follows:

- an Ethics and Compliance Department, headed by the Group's Chief Compliance Officer, reporting to General Management. The department's ranks have been swollen by the addition of a Compliance Officer also serving as Data Protection Officer, and a new resource (work-study agreement);
- the Executive Board meets for a Compliance session, at least once a year. At these meetings, the Board reviews files and reports (confidentially and in full respect of the whistle-blowers' rights), besides the monthly review meetings between the Chairman and CEO and the Group's Chief Compliance Officer;
- the "Ethics Compliance" Steering Committee, made up of members of the departments of Human Resources, Social Relations and Legal Affairs, notably, and chaired by the Group's Chief Compliance Officer. The steering committee meets when called, at least once every two months. Its purpose is to:
  - monitor ongoing actions to improve under the Compliance Programme,
  - reflect on the main actions to promote a culture of ethics within the Group,
  - disseminate the Ethics Charter widely, and ensure that its principles are put into practice,
  - make recommendations on Ethical Compliance, and particularly on procedures;
- an Ethics Compliance network consisting of:
  - 17 "Ethics Compliance Officers" (ECOs), appointed by the Executive Committee and covering the entire Group, a key element of the system, local and operational representatives of the Ethics and Compliance Department. The mission of the ECOs is to ensure the

local implementation of and compliance with Group procedures, ensure communication with employees, and implement the necessary training programmes. As part of the Group's whistleblowing procedure, the ECOs can be contacted by employees directly.

To this end, in full respect of the rights of whistle-blowers, they will ensure full confidentiality and immediately communicate the alert to the Group's Chief Compliance Officer. At the express, prior delegation of the CCO, ECOs may conduct enquiries on the ground.

In 2019, The CSR Network was improved considerably; all the regional legal officers have been appointed to CSR roles, where possible,

- 55 "Ethics Compliance Ambassadors" (ECAs), appointed by the Area/Division Ethics Compliance Officer. To provide support at a local level on these issues in 2019, the Group has continued its drive to improve by appointing new ambassadors.

  The ECAs' duties consist of supporting the Ethics Compliance Officer locally in promoting, communicating, raising awareness and training Group employees. To achieve this end, the Group's Chief Compliance Officer distributes a compliance pack to the ambassadors, who familiarise themselves with the subject, and take concrete actions on the ground.

  This Ethics Compliance Network is regularly informed by the Group's Chief Compliance Officer of ongoing actions – in particular, through access to an Ethics SharePoint where all Group procedures are posted, a regularly updated communication framework (infographic), and the reports of the "Ethics Compliance" Steering Committee. In 2019, specific training sessions for this Network, on Corruption and Influence Peddling issues, was again offered specifically by the Group's Chief Compliance Officer, by videoconference or, for certain areas, through on-site training sessions (Gabon, Argentina, France, Norway and China).

The Group's Chief Compliance Officer regularly interacts with the Ethics Compliance Network and promotes close collaboration through regular travel to the different areas.

Finally, the Group's Chief Compliance Officer regularly sits on the Audit, Risks and Ethics Committee.

Organization

This dedicated governance arrangement contains the fundamental elements of Eramet's Compliance Programme – namely:

- a clear message from the top management regarding a zero-tolerance policy;
- an anti-corruption guide which defines the different types of behaviours which are unacceptable because they are indicative of corruption and influence peddling;
- risk mapping on corruption;
- a system for assessing third parties (customers, suppliers, etc.), including prevention measures and awareness-raising tools (audits, due diligence, signing of the Responsible Purchasing And Sales Charter);
- accounting checks built into the Group's internal oversight protocols to prevent and detect corruption and fraud;
- an employee training system, which is updated by the Group's Chief Compliance Officer after each and every site visit. A situation report is drawn up, and dedicated plans of action are implemented;
- a professional whistleblowing system, which is open to employees and to all external stakeholders, on issues falling within the scope of the Sapin 2 Act and the law on the Duty of Vigilance.

6.4.1.3 Risk prevention strategy

An action plan has been adopted by the Executive Committee to ensure that all the risks identified by the risk mapping exercise relating to Corruption and Influence Peddling are covered by procedures and controls. A real risk prevention strategy, both internally and externally, has thus been defined. The main categories of risks identified have been addressed by dedicated action plans and are monitored at the highest level of the Group in close collaboration with the Audit, Risks and Ethics Committee, which every year will assess the need to update the risk map to reflect changes in the Group's business activities.

Reference frameworks and procedures

A reference framework, supported by the Ethics Charter, provides all Group employees with information and guidance on the main ethical issues, including the fight against corruption. It is made up as follows:

- an Ethics Charter, which was revised in 2019 to include new subjects and clarify certain points that were already in place;
- an Anti-Corruption Policy, signed by the members of the COMEX, and rolled out across the whole group;
- an Anti-Corruption behavioural guide, which was disseminated in December 2019, as part of a global communication plan: the "International Anti-Corruption Day". This guide is available in all of the Group's 12 languages;
- specific procedures on "Gifts and Invitations" and "Managing conflicts of interest", which will be subject to an improvement plan in 2020, including the implement of a computerised management tool.

Training

Training and awareness-raising programmes are regularly carried out, both across the Group as a whole and at local level.

Eramet is greatly committed to regular training of all its workers on these important issues, by face-to-face training sessions led by the Group's Chief Compliance Officer and the Ethical Compliance Network.

An e-learning course, raising awareness of the Ethics Charter, made available two years ago and compulsory for all new recruits to the Group, must be completed by all employees.

In 2019, 3,268 learners signed up for this course (new recruits and veteran employees wanting a refresher). To date, 62% have passed it.

Thus, since the e-learning course went live, 7,373 people have enrolled and 4,546 have passed it. The e-learning course and the plan of action continue to be put into practice.

Priority is constantly given to improving the information systems, with the support of the Group-wide Information Systems Department, to give online access to all our workers who have a computer.

Where this is not possible, in certain countries, free-to-use computer workstations have been made available for the rest of the Group's employees. Such is the case, in particular, at certain sites in the High Performance Alloys Division and in certain regions where Ethics Compliance Ambassadors, working alongside the Group's Chief Compliance Officer, dispense training locally.

In parallel, regular campaigns to raise awareness and train were carried out in 2019 at various Group sites (in Gabon, Argentina, China and Norway). Further to this, there are training sessions for hundreds of employees including ethics-related content as part of an approach specific to the High Performance Alloys Division.

In addition, the Group's Chief Compliance Officer regularly attends Division seminars (sales conferences, purchasing seminars, strategy meetings, internal audit meetings), and meetings of the Division Management Committees and support functions in order to constantly raise awareness about these issues among all Group employees.

Over 600 employees attended face-to-face training and awareness-raising sessions in 2019.

At the International Anti-Corruption Day, awareness-raising actions and training were delivered in 2019 by the Ethics Compliance Network (ECO and the ECAs). For this purpose, an invitation to attend training, accompanied by a message from the Chairman and CEO, and local training sessions, were disseminated in all regions.

The Group continues to actively participate in the meetings of professional associations dedicated to business ethics (Transparency International, *Cercle éthique des affaires*, *Cercle de la compliance*, European Business Ethics Forum).

Whistleblowing system

The professional whistleblowing system set up in 2017 has been considerably improved, as has the whistle-blower report management procedure attached to it. This system allows each employee to alert the Group's highest authorities about unethical behaviour and/or violation of Group rules. Several whistle-blowing channels are available to employees: the Group Chief Compliance Officer, the Ethics Compliance Officer (ECO) of the employee's entity, or the IT system deployed, namely: a dedicated, secure and confidential e-mail address and a telephone alert number. In 2020, the Group plans to roll out a new, external whistleblowing system globally, certified as compliant with the GDPR.

Any employee or stakeholder anywhere in the world can notify the Company of anything that might violate the principles and commitments of the Ethics Charter and the laws or rules relating to ethics applicable to our business activities.

The Group allows its employees and external stakeholders to blow the whistle on the following unethical behaviour:

- corruption;
- fraud;
- theft;
- embezzling;
- forgery of any documents;
- conflicts of interest;
- anticompetitive practices;
- discrimination, unfair treatment, bullying or sexual harassment at work;
- conduct contrary to the Group's policies and standards in relation to health, hygiene, safety at work and protection of the environment;
- serious violations (or risk of serious violations) of the Human Rights of the Group's employees or of third parties affected by the Company's activity;
- and generally, any crime or misdemeanour, gross and manifest breach of the law or regulation, and any threat or serious harm to the general interest.

These alerts can be submitted anonymously where permitted by local regulations.

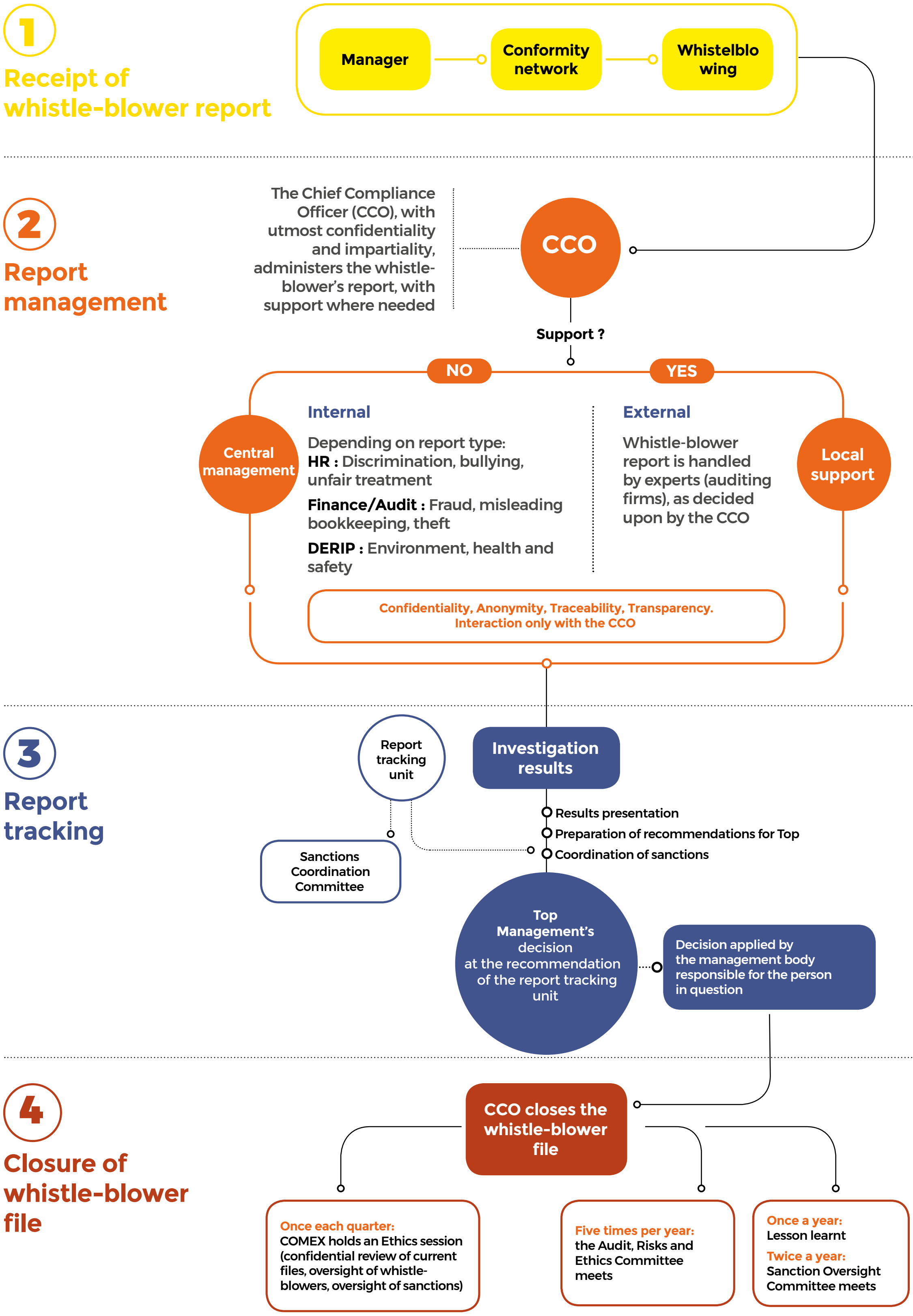
Alerts are dealt with following a dedicated procedure, which can be viewed on Eramet's intranet, in four main languages. This procedure guarantees that the whistle-blower has complete confidentiality, and insofar as the employee acts selflessly and in good faith, it also guarantees that no action can be taken against him or her as a result of the use of this mechanism. Finally, in full compliance with the new legislative provisions, the protection of whistle-blowers who disclose information in good faith is ensured.

A plan to improve the whistleblowing system was in the process of being finalised in late 2019, to facilitate the automation of the process using a dedicated computer tool.

All information on how the whistleblowing system operates is given in the Ethics Charter, which is available on the Group's websites (both internal and external) and is made available to all employees. Infographs that are regularly updated are displayed at the premises of each entity within the Group.

The Group, with the aim of ensuring constant improvement and compliance with the latest and highest ethical standards, has decided to review these issues on a regular basis. Thus, the whistle-blower reports are regularly reviewed, with the highest degree of confidentiality.

A Governance policy associated with alert management was put in place in 2019, clarified in the whistle-blower alert management procedure (see the attached diagram).


1
Receipt of whistle-blower report
Manager
Conformity network
Whistleblowing
2
Report management
The Chief Compliance Officer (CCO), with utmost confidentiality and impartiality, administers the whistle-blower's report, with support where needed
CCO
Support ?
NO
YES
Central management
Internal
Depending on report type:
HR : Discrimination, bullying, unfair treatment
Finance/Audit : Fraud, misleading bookkeeping, theft
DERIP : Environment, health and safety
External
Whistle-blower report is handled by experts (auditing firms), as decided upon by the CCO
Local support
Confidentiality, Anonymity, Traceability, Transparency.
Interaction only with the CCO
3
Report tracking
Report tracking unit
Investigation results
Results presentation
Preparation of recommendations for Top
Coordination of sanctions
Sanctions Coordination Committee
Top Management's decision at the recommendation of the report tracking unit
Decision applied by the management body responsible for the person in question
4
Closure of whistle-blower file
CCO closes the whistle-blower file
Once each quarter:
COMEX holds an Ethics session (confidential review of current files, oversight of whistle-blowers, oversight of sanctions)
Five times per year:
the Audit, Risks and Ethics Committee meets
Once a year:
Lesson learnt
Twice a year:
Sanction Oversight Committee meets

A Sanctions Coordination Committee, including representatives from the Group's Human Resources Department and from the two major Divisions, meets twice yearly to ensure that the sanctions applied are consistent.

This overhaul of the whistleblowing system was carried out in order to improve and update the reporting channels available to employees, the automated system and frames of references, and to adapt the dedicated organization to the requirements of all new legislation on sanction policy, protection of whistle-blowers and personal data protection (GDPR).

Transparency

In addition to these internal actions, Eramet also promotes transparency in the extractive industries. Eramet has been a member of the Extractive Industries Transparency Initiative (EITI) since 2011. This initiative is based on a set of principles and rules, bringing together governments, companies, civil society groups, investors and international organizations to promote revenue transparency at a local level. By adhering to these principles, Eramet demonstrates its willingness to ensure the responsible development of natural resources and to ensure transparency in financial flows between companies and host countries, and also to ensure regular accountability to its stakeholders.

Eramet has sites in four EITI member or candidate countries: Senegal, Indonesia, Argentina and Norway. In Senegal, Grande Côte Operations (GCO) is contributing to the preparation of the country's EITI reports; in 2018 Senegal was recognised as the first African country and the fourth in the world to achieve satisfactory progress in the implementation of the EITI standard. In Indonesia and Argentina, Eramet does not yet have an active mining operation, and it only has non-extractive sites in Norway: its subsidiaries have not been required to contribute to the EITI reports of these two countries.

6.4.1.4 Performance

Several key performance indicators have been identified and are regularly monitored by the Group.

Thus, in the context of the CSR Roadmap and its ninth objective, the Group has committed to respect the following objective for 2019: 100% of Sales and Purchasing Managers, and those directly attached to them, shall be trained.

At the time of writing, this objective has been achieved and, in anticipation of the annual benchmark set for 2021, 70% of purchasers and sellers have already been trained.

In addition, specific key performance indicators have been taken into consideration and are already included in the Group's internal control framework with control points dedicated to Compliance, which will be regularly reviewed as part of the internal control self-assessment campaigns from 2019. The KPIs in place notably relate to the number of alerts, number of people having received the training, or the visibility of the system, with specific plans of actions in place for each KPI. Finally, an indicator relating to the time taken to follow up on alerts has been added.

In 2019, particularly close attention was paid to improving the relaying of whistle-blower alerts in certain regions. For this purpose, a specific plan of action was put in place.

In addition, numerous targeted audits were conducted in 2019 by the Group's Internal Audit Department (seven), in close collaboration with the Ethics Department, regarding the follow-up of plans of actions being rolled out. Now, the Ethics aspect has been integrated into the internal audit frame of reference. These indicators are monitored as part of the annual CSR Roadmap and the action plan for monitoring Group risk mapping, as well as at meetings of the Risk, Audit and Ethics Committee. The Ethics and Compliance Department and the Group Risk Internal Control and Audit Department work closely together on these matters.

The outsourcing of investigations which may be monitored, in line with the above procedure, either internally or tasked to external audit bureaus, means that a new performance indicator can be integrated.

Statistics will be regularly communicated to the Chairman and CEO, to the COMEX, and also to the Audit, Risks and Ethics Committee.

Finally, as part of its development of a responsible value chain, the Group has implemented a procedure for evaluation of all its customers and suppliers.

In this context, two Responsible Purchasing and Responsible Sales Committees, described in detail in section 6.4.2, have been established.

6.4.2 Responsible value chain

6.4.2.1 Governance

As a responsible economic player, Eramet has established a structure to address new challenges in the value chain. Two dedicated committees, stemming from the Ethics Compliance Committee (mentioned in 6.4.1), meet on a quarterly basis to manage the responsible value chain approach, both upstream and downstream of Eramet's operations. In particular, Eramet's Responsible Value Chain approach covers all matters relating to CSR – in particular, corruption and influence peddling, the violation of Human Rights and fundamental freedoms, of the health and safety of individuals, damage to the environment, as well as the CSR and ethical situation of suppliers and subcontractors of these third parties.

The Responsible Purchasing Committee includes members of the Ethics and Compliance Department, the Communication and Sustainable Development Department, the Legal Department and the Purchasing Department, including a Supplier Performance Coordinator, with specific responsibility for CSR matters. The Committee leads the Group-wide responsible purchasing approach.

This approach is governed by Eramet's responsible purchasing policy. This policy formalises the Group's desire to strengthen the integration of sustainable development issues related to procurement and promotes a dynamic of continuous improvement. Eramet's expectations with regard to its suppliers, subcontractors and service providers primarily target three main areas: Human Rights and working conditions, environment and products, and good business practices. It is available on the Eramet website.

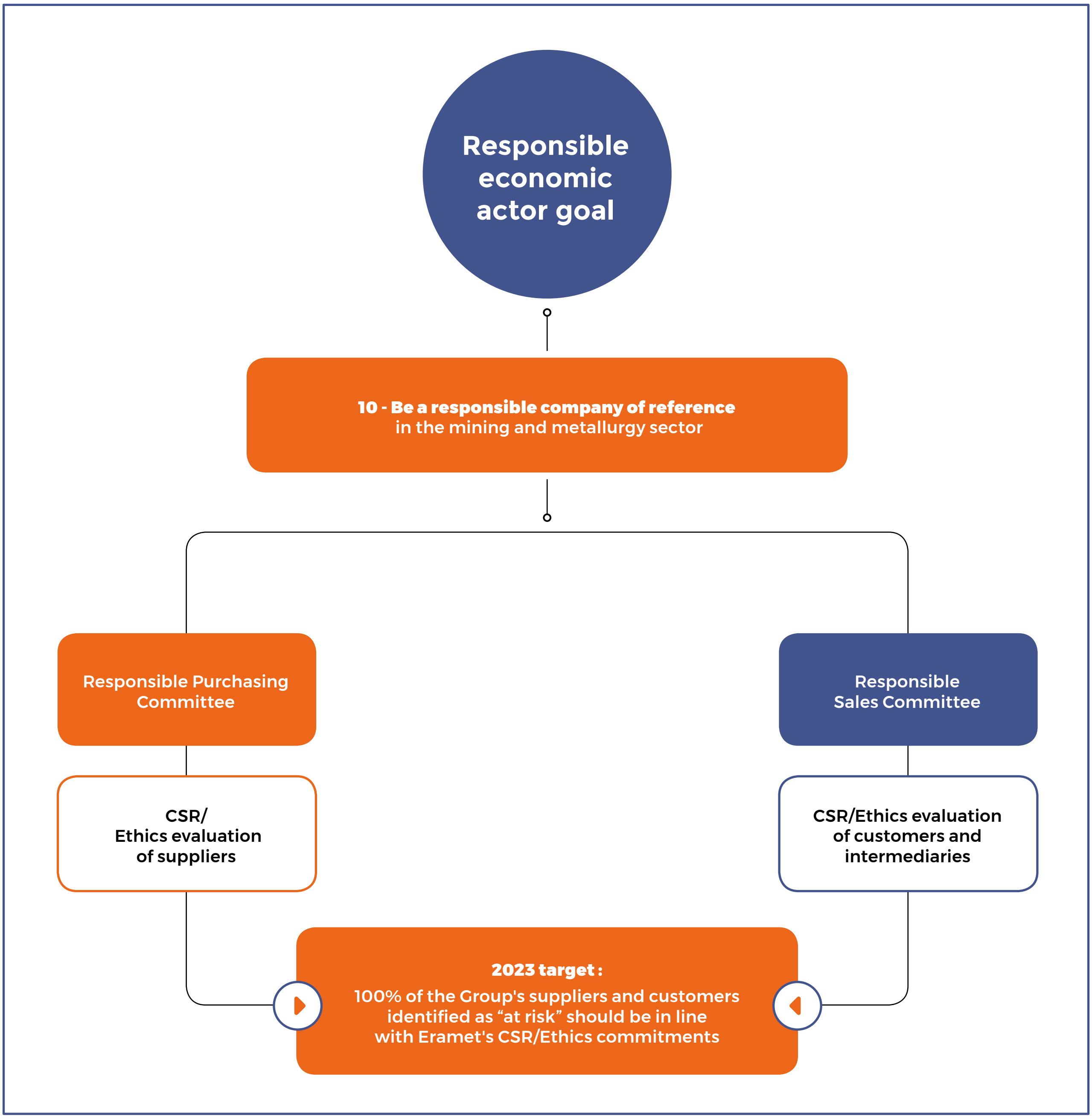
The Responsible Sales Committee is made up of members of the Sales Department, the Legal Department, the Ethics and Compliance Department and the Communication and Sustainable Development Department. The Committee oversees the gradual implementation of the Group's CSR and ethical commitments to customers, as set out in the Group's Ethics Charter. In addition, particular vigilance is exercised in relation to exports potentially involving countries subject to international sanctions.

There are two internal procedures in place governing CSR and ethical assessments of, firstly, suppliers, and secondly, customers and intermediaries. These procedures and their application are the subject of regular awareness-raising sessions within the various Group entities.

RSE 2023

The progress of the "Responsible Value Chain" approach is monitored through one of the objectives of the Commitment to Economic Responsibility focus area of the CSR Roadmap.

Group Responsible Value Chain approach



By at-risk suppliers and customers, the Group means third parties evaluated as "critical and/or sensitive" (in terms of importance to Eramet or CSR risk – depending on the business activity or country concerned). These parties must comply, according to the results of CSR/Ethics evaluations, with the Group's commitments in these areas. If there is a discrepancy between the evaluation results and the Group's expectations, the Group encourages dialogue and support, but reserves the right to suspend the business relationship.

6.4.2.2 Responsible purchasing

Due to the issues associated with the Group's businesses, purchases are the subject of particular attention and also strong expectations from stakeholders in this issue. Eramet is committed to a responsible purchasing approach, which aims to favour suppliers offering products or services that respect environmental and social criteria while maintaining a high level of competitiveness.

Supplier and subcontractor performance evaluation

Eramet has launched a global and progressive approach to evaluation the CSR performance of its suppliers and subcontractors.

With reference to the obligations imposed by the Law of 27 March 2017 relating to the duty of care of parent companies and contractors, the Group formalised its responsible purchasing approach by structuring it around a risk-based approach. Thus, the Responsible Purchasing Committee has produced a CSR risk map relating to the activities of its suppliers and subcontractors. This mapping exercise, the methodology of which may evolve as part of a continuous improvement drive, is repeated every year.

In order to develop this risk map, an approach based on the business categories of the various suppliers and subcontractors was chosen. By cross-referencing two criteria – the CSR risk of the category and the importance of that category for the Eramet Group – it is possible to rank purchase categories into four risk zones, and in particular, identify those categories of purchases which, while they are important for the Group, exhibit CSR-related risks. It is on these categories that Eramet focuses, as a matter of priority, in its due diligence actions. Indeed, the Group has defined a procedure for assessing these suppliers' situation in relation to these risk categories.

Suppliers in categories considered at risk are required to fill out an initial evaluation questionnaire. The questionnaire focuses on CSR criteria, such as respect for the environment, the management of the value chain, respect for Human Rights and labour relations, and business ethics. Depending on the risk level of the third party in question, this questionnaire is administered and analysed by an external specialist (Ecovadis) or by the internal supplier performance coordinator.

The results of these assessments, which may be supplemented by due diligence measures, allow the Responsible Purchasing Committee to define the degree to which the suppliers identified as at risk are in compliance, or in breach. Then, arbitration committees decide upon the risk management actions that need to be implemented for the suppliers currently judged to be non-compliant. Among the actions to control potential risks, dialogue with suppliers, the development of targeted action plans and on-site audits are given priority.

Additional elements relating to this approach are described in the Eramet Group's Vigilance Plan, which is attached to this Registration Document.

Since the launch of the consolidated programme, 200 suppliers and subcontractors identified as at risk have been evaluated. In late 2019, 58% of suppliers were considered compliant with the Group's requirements. The majority of those suppliers classed as non-compliant is attributable to non-response from certain suppliers. If they fail to respond to the evaluation, they are automatically classed in that category. 31 cases of non-compliance have been examined by the arbitration committees this year. For suppliers who declined the evaluation, the committees ruled that further questionnaires should be sent and recommended that on-site audits be conducted. In two cases, this year, the Group has opted to sever the business relationship as a last resort. Finally, 23 suppliers are currently subject to a corrective plan of action, seven of which were initiated directly by Eramet.

The establishment, in late 2019, of a Group Supplier Relationship Management platform will help improve the launch and monitoring of the CSR/ethics evaluations of prospects, and thus, the management of suppliers identified as being at risk. Indeed, the evaluation tools, based on the risk criteria defined above, will be crucial to the registration of a supplier. The same year, an additional due diligence approach was also put in place, through a specialised KYC platform, which is a compulsory prerequisite for certain categories of suppliers.

Monitoring of the "conflict ores" question

Some of the Group's activities require the use of tungsten in metal form in their manufacturing processes. This metal comes from ores that may be called "conflict" ores if their exploitation is used to finance armed groups and fuel civil wars in some parts of the world. Eramet is therefore very attentive to the conditions of supply of these materials and in particular to compliance with the specific provisions of the "US Dodd Frank Act", as well as the guidelines set by the OECD for multinational companies.

The Eramet buyers in charge of these supplies thus systematically require their suppliers to provide information concerning the origin of the ores used for the manufacture of tungsten metal sold to the Group. They are also asked what due diligence measures they have put in place to verify this origin. To this end, buyers use the Conflict Minerals Reporting Template (CMRT), supplied and updated regularly by the Responsible Minerals Initiative (RMI).

To expand its commitment to this theme, Eramet has become a partner member of the Responsible Minerals Initiative (formerly known as the Conflict Free Smelter Initiative). By supporting the RMI, the Group is contributing to the advancement of best practices in the sector.

The RMI, created in 2008 by the Responsible Business Alliance (RBA) and the Global e-Sustainability Initiative (GeSI), implements due diligence measures regarding conflict ores, in particular through audits of foundries supplying T3G (Tungsten, Tin, Tantalum and Gold). This initiative is currently working to also encompass Cobalt from sensitive areas.

6.4.2.3 Responsible sales

As part of its commitments in terms of ethics, governance and responsible performance, the Group attaches particular importance to CSR and Ethics issues and risks related to its value chain.

The internal procedure mentioned in 6.4.2.1 formalises the CSR and Ethics risk analysis measures adopted by the Group to evaluate its customer's situation in relation to these issues. Eramet is committed to ensuring that the practices and behaviour of third parties with whom it interacts do not generate risks of the same nature as those assessed by the Group in the context of its own activities. Particular objectives are protection of the environment, the respect of Human Rights and ethics in business relations. An e-learning course based on this new Group-wide procedure has been rolled out to the sales teams.

In order to carry out this assessment, the Group uses a specialised Know Your Customer (KYC) database. The results of this platform are then reviewed by the Responsible Sales Committee, which is tasked with following up on these evaluations and implementing additional due diligence actions as necessary.

Implemented in 2018, all customers identified as risk carriers were the subject of this first CSR/Ethics assessment. The potential risk carried by the business relationship is evaluated using two criteria: the amount of turnover achieved and the risk of the country in which the third party operates, according to the results of an evaluation carried out by an external service provider. The evaluations continued in 2019 across the Group's main Business Units. Thus, nearly 2,850 customers have been evaluated with this procedure since the launch of the programme. Over 99% of evaluations have yielded a positive recommendation. For customers whose evaluations yielded a non-compliant result (about fifteen), risk management actions have been defined in consultation with the sales teams.

6.4.3 Responsible interest representation

As a world leader in the production and transformation of alloy metals – notably manganese and nickel – and in top-of-the-range metallurgy, Eramet is in contact with the public authorities, bringing issues in the mining and metallurgy sector to their attention.

The Public Affairs Directorate, attached to the Communication and Sustainable Development Department, serves as the go-between with the different Divisions of the Group depending on the topics at hand. The General Management, the Communications Department, the Environment Department, Energy Department, Strategy Department and the site managers are often called upon to carry out actions: presentation of activities, participation in work carried out by the States or working groups for the sectors or geographic regions, organization of visits to the installations, or simply, responses to information requests.

In addition, Eramet has chosen to actively engage with various professional structures to contribute to the work of the public institutions. The Group is involved in organizations which take action at national, European and pan-national levels. These structures help to promote the Group's business lines and activities.

Many members of the Comex and Directors represent the Group in the organs of governance and management: such is the case, for example, in France, with the *Conseil national de l'industrie* (CNI – National Industry Council), the *Alliance des Minerais, Minéraux et Métaux* (A3M – Ores, Minerals and Metals Alliance), the *Comité stratégique de filière des industries extractives et de première transformation* (Strategic Committee for Extraction and Raw Materials Transformation Industries), and MEDEF. Similarly, in Europe, the Group has a strong presence as part of EuroAlliages, Eurométaux, the European Powder Metallurgy Association. On the international stage, it belongs to the International Manganese Institute and the Nickel Institute. In addition, many of the Group's experts contribute to the work of the various commissions or topic-specific working groups set up by these professional associations – relating, for example, to non-financial reporting, the duty of vigilance and the circular economy.

Finally, Christel Bories, as President of the *Comité stratégique de la filière mines et métallurgie* (CSF – Strategic Committee for the [Mining and Metallurgy] Industry), as part of the *Conseil national de l'industrie,* helps to represent the interests of the sector in dealing with the administrative authorities in France. In June 2019, for example, Christel Bories made a presentation to the national Senate's information committee relating to *"Enjeux de la filière sidérurgique dans la France du XXI^{e} siècle"* (Issues in the Steel Industry in 21st-Century France).

The CSF has made representations to governmental authorities on a number of the industry's key objectives, including: creating and implementing the benchmark standards in mining and responsible supply chains; ramping up the digital transition of the metallurgy industry to make it more competitive; developing mines and the jobs connected to them; and reducing greenhouse gas emissions by extracting CO_2 from the gases and fumes emitted by the industry.

6.4.4 Combating tax evasion

As stated in its Ethics Charter, the Group works to develop lasting relationships with local populations, local authorities and communities in the regions where it operates. Eramet's employees demand exemplary behaviour from themselves, ethical conduct that does not violate the laws of the countries in which they operate or the values to which they adhere.

The Group's activities are subject to specific taxes depending on their geographical location. Indeed, as Eramet is the parent company for a fiscal consolidation group in France, made up of 20companies as at 31 December 2019, the Group's activities are subject to specific taxes depending on their geographical location.

Its companies and units in mainland France are liable for tax at the standard French rate. The current corporate income tax rate is 33.33%, excluding an additional welfare contribution of 3.3%. The following specific notes apply to subsidiaries outside mainland France:

Le Nickel-SLN is liable for the 35% mining and metallurgical corporation tax in New Caledonia.

SLN's distributions to Eramet are subject to an additional income tax contribution of 3% (for any distribution in excess of 30 million Pacific francs, or €251,400).The withholding tax on dividend distributions applied in New Caledonia amounts to 10%. The deductibility of overhead costs is capped at 5% of the amount of external services.

SLN is exempt from the general consumption tax which came into force on1 October 2018 (this tax is a variation of value added tax).

The Comilog company is liable for corporate income tax at 35% and export duty and mining royalties representing approximately 6% of the pithead value of the products mined (close to FOB value), and also a 15% tax on dividends (10% on the fiscal scheme for corporate groups). This tax regime is fixed until 2032 as part of a mining agreement signed in October 2004. This convention was ratified by the Gabonese Parliament in 2005.

Under the Agreement signed with the Senegalese Government in 2004 and Amendment 1 to the agreement signed in 2007, Grande Côte Operations (GCO) benefits from a mining concession regime for 25 years in accordance with Ministerial Decree No. 2007-1326 of 2 November 2007. Under the provisions of the mining code, it enjoys full exemption for 15 years (exemption from VAT, customs duties, corporate tax, patenting and property tax, etc.), running from the end of the investment period (construction). This exemption period will end in November 2022.

With respect to mining royalties, as an exception to the Mining Code (which sets royalties at 3% of the pithead value), in 2007, GCO agreed to raise these fees to 5% and implement a production sharing arrangement at 10%, based on the margin, net of certain costs.

Dividends paid to the parent company by subsidiaries in Norway, Sweden and the United States are not subject to withholding at the source.

In accordance with its legal obligations, Eramet has carried out its "country by country reporting" by declaring to the French tax authorities the distribution of its profits, taxes and activities by tax jurisdiction (Article 223 *quinquies* of the French General Tax Code), as well as its "mining reporting" on its extractive activities, which includes payments made to governments (Article L. 225-102-3 of the French Commercial Code).

This "mining reporting" obligation is directly inspired by the Extractive Industries Transparency Initiative (EITI), of which Eramet has voluntarily been a member since 2011. The EITI aims to contribute to the fight against corruption by promoting transparency in money transfers between oil, gas and mining companies and the countries that host their activities. The Group's financial transparency reporting is available on Eramet's website – www.eramet.com.

6.4.5 Governance of the sustainable development of industrial and mining projects

All projects carried out by the Group are developed in accordance with the internal procedure "Integration of HSE/CSR factors into projects", which was renewed in 2018. This procedure requires compliance with both national and local regulations of the country where the project is located, Eramet policies and standards, and the requirements of the project funders. In addition, international financing standards (Equator Principles, World Bank Group standards) and best practices of the Group's businesses are referenced and applied as far as reasonably possible to the economic performance of the project. The compliance of the Group's projects with this standard is verified at regular intervals.

The aim is to build a long-term trusting relationship with the communities present in the settlement sites and to prevent any risk of infringement on the fundamental rights of these communities, particularly, where applicable, indigenous communities. This requires the implementation of mechanisms for dialogue with the representatives of relevant stakeholders.

Environmental, social, societal and health aspects are taken into account from the most upstream phases of projects. Sustainable development experts and specialists are integrated into the industrial, technical, legal and financial teams, and participate in the various steering committees, from pre-project phases to feasibility studies and pre-construction. Likewise, they participate in acquisition audits in the case of merger or acquisition projects, as well as in due diligence related to the transfer of assets.

The following sections detail the consideration of sustainable development factors in the main projects undertaken by the Group in 2019.

6.4.5.1 Project to improve the safety and reliability of the railway in Gabon

The Trans-Gabonese railway, which crosses Gabon from Libreville to Franceville, has a total of 710 km of tracks, 52 bridges, and 22 stations. In addition to transporting the ore from Comilog to the port of Owendo, it plays a strategic role in the economic development of the country.

Setrag (the Trans-Gabonese operating company) operates the railway under a Concession Agreement established in 2005 and updated in 2015. Setrag is the manager of the railway infrastructure, traffic and operations (passengers, timber, ore and other goods).

For several years, Setrag has stepped up the pace of maintenance and rehabilitation work on the Trans-Gabonese railway. However, the overall condition of the track continued to hinder the operation of the network so Setrag decided to intensify the infrastructure overhaul programme. The Company applied to the International Finance Corporation (IFC) and PROPARCO (French Development Agency Group) to finance the programme, and it successfully obtained funding in 2016. A new financing arrangement is envisaged to help speed the programme along. Other solutions under consideration are the consolidation of the platforms in unstable regions, securing of the track (level crossings, pedestrian bridges, etc.) and deployment of new traffic optimisation tools.

The concession contract stipulates a contribution from the concession grantor, the State, to certain works, in particular those associated with the reinforcement of infrastructures, the rehabilitation of civil engineering structures, the securing of level crossings and the renovation of "employee" housing developments. In this context, the State has taken steps similar to Setrag to obtain financing from the French Development Agency, whose terms were finalised in December 2016.

The work, which began in September 2017, continued in 2018 and 2019. Over 100 km of tracks have been replaced.

In accordance with Eramet's standards, the project was designed to minimise the potential associated environmental or societal impacts, based on comprehensive and relevant studies. Of particular note are: an environmental and social study for the work to upgrade the track, an impact assessment on a unit producing steel-concrete sleepers, and an impact assessment for the operation of the sand quarry to feed the sleeper factory. On this basis, management plans and dedicated actions have been developed and implemented.

Setrag reports its results in terms of Environment, Health, Safety and Stakeholder Dialogue to the two financial institutions once a year. It hosts on-site representatives twice a year for follow-up visits to verify the project's compliance with the environmental and social requirements of IFC and PROPARCO.

6.4.5.2 The Lithium project in Argentina

The project aims to produce 24,000 tonnes per year of lithium carbonate, using an alternative process to make the product from brines, which differs fundamentally from the conventional process of natural evaporation. Remember that lithium carbonate is a key product for electric car batteries, and hence is crucially important for the green transition.

The project is located in the province of Salta, in northern Argentina, on the Centenario-Ratones salt lake.

The social and environmental studies necessary for the project to proceed have been completed. These included the study of the environmental and social current state, and the environmental and social impact assessment. They involved work by over 25 external experts, local teams and Eramet's corporate support staff. These studies gave rise to a dialogue with the competent regional authorities, leading to the granting of the primary environmental licence for the project in February 2019.

A special effort has been made to integrate sustainable development criteria into the design of the project and the plant. For example, in the space of two years, this ongoing effort has reduced projected water consumption per tonne of lithium carbonate by about 30%, which is crucially important in this arid region of the world. This progress has been accomplished either by modifications that reduce water requirements, or by adding elements that better recycle water in the process. The recycling rate of water within the process is now over 60%. Finally, it should be pointed out that, thanks to the improved extraction efficiency of the innovative process implemented by Eramet, the impact of evaporation losses on the water balance of the catchment area is significantly reduced compared to the conventional evaporation process.

The project team maintains regular multi-channel dialogue with the inhabitants of the few communities surrounding the project site as well as with all project stakeholders (local and provincial authorities, etc.). It is also implementing a robust Community Development Plan, the focus of which has been decided in conjunction with the communities. These include the revitalisation of quinoa cultivation for the purpose of economic development and to fight against malnutrition, the partnership with the Ministry of Health to develop access to health services for the inhabitants of the *altiplano*, and a plan to develop local skills.

Finally, working hand in hand with the National Mining Agency, the project is one of Argentina's pioneering programmes in the rollout of the standard *Hacia una Mineria Sustentable* (Steps Toward Sustainable Mining). This high-level standard is an adaptation of the one used by Mining Association Canada.

6.4.5.3 Moanda Mine Extension project

As part of the development of its activities, Comilog is considering a scenario to increase production capacity at its Moanda site in Gabon.

The project includes the launch of the exploitation of a new Okouma plateau and the construction of associated mining and industrial infrastructure, including a new washing plant in the Moulili valley.

The project is being developed in accordance with the performance criteria and guidelines of the International Finance Corporation, one of the most stringent sustainable development standards in the world.

These commitments were applied from the early stages of design, by carrying out studies to characterise the human, physical and biological environments. In 2018, these studies were completed, and consultations were conducted with local communities and public authorities. The environmental and societal impact study, carried out with the participation of internationally recognised specialists in their field, was finalised in 2019. Public hearings aimed at the general population and the local authorities were held in June 2018 and February 2019. A detailed presentation of the project was made, which included discussion of its potential impacts, the risks it poses and the opportunities it presents. The impact assessment was filed and then submitted to the governmental authorities and financial institutions as part of operating licence and financing applications. The operating licence was granted in May 2019. The financial institutions contracted an independent firm to assess the application; they approved the study in July 2019.

Biodiversity issues are important for the project. The main focus is the chimpanzee – an iconic species, classified as endangered by the international organization IUCN[1].The presence of chimpanzees on the site, alongside other species on the IUCN red list, means that specific measures must be put in place. Avoiding their habitats is a central concern of the project's biodiversity conservation strategy. The mapping of future quarries is the result of collaborative work between environment, biodiversity, mining and engineering representatives of the project and Eramet, and the international specialists and experts of consultants Golder and Biotope. As a result, for the preservation of biodiversity it was decided to leave a significant proportion (more than 15%) of the mining reserves initially identified untouched. A dedicated plan of action is currently being developed. The purpose is to significantly increase the biodiversity of the project.

6.4.5.4 Weda Bay Nickel partnership in Indonesia

Following the signing of partnership agreements between Eramet and the Chinese steel group Tsingshan (the world's leading stainless steel producer), work to exploit the Weda Bay Nickel deposit, on the island of Halmahera, began in 2018 and continued through 2019.

This partnership, in which Eramet is now a minority shareholder, consists of using a pyrometallurgical process to produce nickel ferroalloy, with an annual volume of about 30,000 tonnes of nickel content, from the ore mined from the Weda Bay deposit.

The implementation of strong environmental and societal commitments for this project is an integral part of the objectives set out in the agreements signed between Eramet and Tsingshan. Eramet exercises full vigilance as part of this partnership. For instance, two audit and support projects were carried out during 2019, contributing to the dynamic of continuous improvement of the site's environmental and social performance.

Note that according to the consolidation process established by Eramet, activities for which the Group holds a percentage of control in the financial sense of less than 50% are not included in the reporting scope (see 6.5 "Methodological note"). As a minority shareholder, but aware of the potential CSR issues of the activities operated at Weda Bay, Eramet will publish separate annual information on the environmental management of these operations from the start of operational production (scheduled for 2020).

(1) IUCN: International Union for Conservation of Nature.

6.5 METHODOLOGICAL NOTE

6.5.1 Framework of indicators

The purpose of Chapter 6 is to inform stakeholders about actions undertaken by Eramet in relation to Sustainable Development and CSR. The indicator framework used for this purpose has been designed to provide the most accurate picture of the significant issues facing the Group given its activities. Specifically, the framework is made up of those indicators which Eramet deems relevant to reflect the breakdown of its policies and its performance in terms of CSR. It includes some of the information given by Article R-225-101-1 of the French Code of Commerce and indicators drawn from those given by the Global Reporting Initiative framework, and its specific section on Mines & Metallurgy.

6.5.2 Scope of reporting

The non-financial reporting scope has changed little compared to 2018. The changes mainly relate to mergers, restructuring or site closures:

- France:
  - Eramet Research and Eramet Engineering have merged to form the new Eramet Ideas,
  - Divestment of the site in Landévant run by Construction de Moules Métalliques (CMM);
- China: Eramet Comilog Shanghai Trading (ECST) has become Eramet Shanghai Trading (EST);
- Hong Kong: Comilog Far East Development (CFED) has closed;
- Italy: the Eramet International branch in Trezzano has closed.

N.B. 2019 was the first year in which TiZir (formed by the GCO and TTI sites) was fully consolidated. This year also marked PT Weda Bay Nickel's exclusion from the scope of consolidation of the non-financial reporting (Eramet holds a minority stake in this company).

The Eramet Group's non-financial reporting covers:

- for the Social aspect (information provided in section 6.3): all companies consolidated from an accounting point of view (full consolidation), and also those accounted for by the equity method, as well as the following additional companies: Sodepal, Eramet Alloys UK, Eramet Alloys GmbH and Erasteel India;
- for the Safety aspect: all companies consolidated for accounting purposes (full consolidation) and also those accounted for by the equity method, as well as EcoTitanium and Sodepal, and finally the Eramet International sales offices. Recent Group entities (acquisitions, new projects) may be excluded from the scope of consolidation if their reporting is not reliable or if the project does not yet represent a significant Group activity;
- for the Environment, Energy and Societal aspect: all of the Group's sites which meet the following criteria:
  - Eramet holds a controlling interest in the financial sense of at least 50%,
  - the sites are subject to environmental regulations (permit, code, national regulations).

  Within this scope, it does not apply to:

  - sites whose activity is solely administrative (e.g. sales offices),
  - sites in the project or closure phase, as long as no commercial production is carried out (with the exception of Eramet Ideas, to which this reporting requirement does apply),
  - since 2016, sites whose activity is limited to distribution, it being understood that their cumulative impact is less than 0.1% of the Group total in relation to the main indicators concerned (six sites whose characteristic of non-significant impact is monitored).

The societal aspect also includes the information relating to Eramine (Argentina) and Sodepal (Gabon).

The following table summarises the entities covered by the various reporting scopes.

Country	Legal entity	Site	Scope social data	Scope Safety	Environment & Energy scope	Societal
Germany	Eramet Alloys GmbH	Mönchengladbach	x	x		
	Eramet International German Branch	Frankfurt	x	x		
Argentina	Eramine Sudamerica	Salta	x	x		x
Brazil	Eramet Latin America	São Paulo	x	x		
China	Aubert & Duval Moulds & Die Technology (ADMDT)	Wuxi	x	x		
	Erasteel Innovative Materials Ltd (EIML)	Tianjin	x	x	x	x
	Eramet Shanghai Trading (formerly ECST)	Shanghai	x	x		
Korea	Eramet Korea	Seoul	x	x		
Spain	Aubert & Duval	Irun	x	x	x	x
United States	Erasteel Inc.	Boonton	x	x	x	x
		Bolingbrook	x	x		
	Eramet North America	Pittsburgh	x	x		
	Eramet Marietta	Marietta	x	x	x	x
France	EcoTitanium		x	x	x	x
	Aubert & Duval	Les Ancizes	x	x	x	x
		Clermont-Ferrand La Pardieu	x	x		
		Issoire	x	x	x	x
		Heyrieux	x	x		
		Imphy	x	x	x	x
		Pamiers	x	x	x	x
		Firminy	x	x	x	x
	Aubert & Duval TAF	Gennevilliers	x	x	x	x
	Brown Europe	Laval-de-Cère	x	x	x	x
	Aubert & Duval 10G	Paris	x	x		
	Erasteel	Commentry	x	x	x	x
	Erasteel	Champagnole	x	x	x	x
	Erasteel	Paris & Chalon	x	x		
	Forges de Monplaisir	Saint-Priest	x	x	x	x
	Interforge	Issoire	x	x	x	x
	UKAD	Les Ancizes	x	x	x	x
	Eramet Holding	Paris and Trappes	x	x		
	Eramet Ideas	Trappes	x	x	x	x
	Comilog Dunkerque	Dunkirk	x	x	x	x
	Eramet Comilog Manganese	Paris and Trappes	x	x		
	Eramet Sandouville	Sandouville	x	x	x	x
	Eramet Nickel	Paris and Trappes	x	x		
	Eramet Services	Clermont-Ferrand	x			

Gabon	Comilog SA	Moanda Complexe C2M	x	x	x	x
		Moanda Complexe CIM	x	x	x	x
		Owendo Mineral Port	x	x	x	x
		Moanda Mine	x	x	x	x
	Setrag	Owendo	x	x	x	x
	Sodepal	Bakoumba	x	x		x
India	Eramet India Private Limited	Mumbai	x			
	Erasteel India	Mumbai	x			
	SQUAD	Belgaum	x	x	x	x
	ADEI	India	x	x		
Italy	Eramet Alloys Italia	Ferrara	x	x		
Japan	Eramet International	Tokyo	x	x		
Norway	Eramet Norway	Kvinesdal	x	x	x	x
		Sauda	x	x	x	x
		Porsgrunn	x	x	x	x
	TiZir Titanium & Iron (TTI)	Tyssedal	x	x	x	x
	Eralloys Holding		x			
New Caledonia	SLN	Nouméa (Doniambo)	x	x	x	x
		Kouaoua	x	x	x	x
		Népoui	x	x	x	x
		Poum	x	x	x	x
		Tiébaghi	x	x	x	x
		Thio	x	x	x	x
United Kingdom	Eramet Alloys UK	Sheffield	x			
	Erasteel Stubs	Warrington	x	x	x	x
Senegal	Grande Côte Operations – TiZir	Diogo	x	x	x	x
Sweden	Erasteel Kloster	Söderfors	x	x	x	x
		Långshyttan	x	x	x	x
		Vikmanshyttan	x	x	x	x
Taiwan	Eramet International	Taipei	x	x		

6.5.3 Collection, consolidation and control of data

Social reporting is based on the Era-Link dedicated acquisition and consolidation tool and on a qualitative questionnaire, sent in parallel to the entities concerned (which also facilitates feedback on the sites' societal commitment). Comparing the figures from these two tools for some common indicators allows for data verification.

The procedure "Safety and Information Reporting in case of personal accident" is the reference in terms of safety reporting. The applicable version was revised in 2019.

Data relating to occupational accidents are cross-checked with the monthly declarations made by the sites to the Safety and Prevention Department via the Group's HSE SharePoint.

The process of environmental and energy reporting is subject to a procedure that was updated in 2016, which clearly defines the responsibilities and operating procedures.

Environmental and energy reporting is based on a dedicated information system, called EraGreen, which has been in place at all relevant sites since 2011. All the quantitative information provided in this report (environmental indicators) is extracted from EraGreen and comes exclusively from the data entered by each of the Group's sites and validated by each site manager.

EraGreen contains systems for checking data automatically by comparison with previous years. In addition, the annual site reports issued through EraGreen are systematically checked for consistency by experts from Division or Group departments.

6.5.4 Specific points and methodological limitations

- The CSR performance indicator is a calculated value, by means of which the Group can, each year, assess the degree to which their CSR roadmap has been successfully implemented. For each of the targets[1], the year's achievement is compared to the initial benchmark initially set for the year, defining the corresponding level of attainment. Every attainment level is assigned a score, as a percentage. The mean of the percentages for each target is then consolidated to obtain an overall indicator.
  - *Sustainable value chain (suppliers and customers).*
- From 2019 onwards, fatal accidents are also taken into account in calculating the frequency rates[2] of occupational accidents, and include External Contractors in the workforce. The methodology used to calculate the severity rates has not changed.[3]
- Due to planning constraints, some monthly environmental data may not be available for the last month of the year. In this case, the missing data is estimated as accurately as possible, based on the historical site data, and, where appropriate, is correlated to production, in accordance with the Group's standards.
- When an environmental measurement is deemed to be faulty or is unavailable, an estimate based on historical ratios is used, adjusted according to the site's production level. This situation may arise in particular for nitrogen oxides (NOx) and channelled dust parameters, for which the quantities reported are based on a limited number of measurements during the year for certain sites.
- **Waste:** waste is reported in the environmental reporting by the sites in accordance with the national regulations applicable to them. The reported quantities correspond to the quantities of waste discharged into the treatment systems during the year. The criteria used to identify hazardous or non-hazardous waste vary depending on the regulations of the different countries, so the reporting cannot be completely uniform in this respect.

  The measurement of non-hazardous waste does not include tonnages of deliberately rich slag that is generated as part of the ferromanganese pyrometallurgical process to feed the silicomanganese production furnaces as a secondary raw material, thus contributing to the circular economy.
- **Water consumption:** the quantities of seawater used for the cooling of the thermal power plant and for the granulation of SLN slag (New Caledonia), and water used for cooling the facilities at the Marietta site (USA) are not accounted for, as the water is directly returned to the natural environment without undergoing transformation.
- **Greenhouse gas emissions:** reporting is done in accordance with the rules of the GHG Protocol (WRI). The emission factors used are those most recently published by ADEME (in its Carbon Database), and by the International Energy Agency for electricity.
- **Biodiversity:** from 2018 onwards, the figures given for the cleared and revegetated area indicators have been made more comprehensive in scope by including contracted sites. The values for 2017 and 2016 are given with this same definition. This explains the discrepancy with the data published in previous registration documents.
- **Enrolled workforce:** employees with a contract of employment with the Company (fixed-term contract "CDD", permanent contract "CDI") and entered in the personnel records on the last day of the period concerned. This information corresponds to the number of people regardless of their working time (full or part time). Each employee is counted as 1.

(1) It should be noted that, for the 13 objectives, 15 targets are assigned, owing to the distinction between the targets for the following two objectives:
– Circular economy (waste and residue);

*(2) The **frequency rate** of workplace accidents is the number of accidents (including fatal ones) that occur at work in a given period, expressed in relation to one million hours worked. FR = (number of occupational accidents × 1,000.000) / number of hours worked.*

*(3) The **severity rate** of workplace accidents is the number of calendar days not worked after an occupational accident, occurring during a given period, based on one thousand hours worked. SR = (number of days not worked due to occupational accident x 1,000) / number of hours worked.*

6.6 REPORT BY THE STATUTORY AUDITOR, APPOINTED AS INDEPENDENT THIRD PARTY, ON THE CONSOLIDATED NON-FINANCIAL STATEMENT

This is a free English translation of the Statutory Auditor's report issued in French and is provided solely for the convenience of English-speaking readers. This report should be read in conjunction with, and construed in accordance with, French law and professional standards applicable in France.

For the year ended 31 December 2019

To the Annual General Meeting,

In our capacity as Statutory Auditor of your Company (hereinafter the "entity") appointed as independent third party, and accredited by the French Accreditation Committee (*Comité français d'accréditation* or COFRAC) under No. 3-1049[1], we hereby report to you on the consolidated non-financial statement for the year ended 31 December 2019 (hereinafter the "Statement"), included in the Group Management Report pursuant to the requirements of Articles L. 225-102-1, R. 225-105 and R. 225-105-1 of the French Commercial Code *(Code de commerce).*

Responsibility of the entity

The Management Board is responsible for preparing the Statement, including a presentation of the business model, a description of the principal non-financial risks, a presentation of the policies implemented considering those risks and the outcomes of said policies, including key performance indicators.

The Statement has been prepared in accordance with the entity's procedures (hereinafter the "Guidelines"), the main elements of which are presented in the Statement and available upon request at the entity's head office.

Independence and quality control

Our independence is defined by the requirements of Article L. 822-11-3 of the French Commercial Code and the French Code of Ethics *(Code de déontologie)* of our profession. In addition, we have implemented a system of quality control including documented policies and procedures regarding compliance with applicable legal and regulatory requirements, the ethical requirements and French professional guidance.

Responsibility of the Statutory Auditor appointed as independent third party

On the basis of our work, our responsibility is to provide a report expressing a limited assurance conclusion on:

- the compliance of the statement with the requirements of Article R. 225-105 of the French Commercial Code;
- the fairness of the information provided in accordance with Article R. 225-105I-3° and II of the French Commercial Code, i.e., the outcomes, including key performance indicators, and the measures implemented considering the principal risks (hereinafter the "Information").

However, it is not our responsibility to comment on the entity's compliance with other applicable legal and regulatory requirements, in particular the French duty of care law and anti-corruption and tax avoidance legislation nor on the compliance of products and services with the applicable regulations.

Nature and scope of our work

The work described below was performed in accordance with the provisions of Article A. 225-1 *et seq.* of the French Commercial Code, as well as with the professional guidance of the French Institute of Statutory Auditors (*Compagnie nationale des commissaires aux comptes* or CNCC) applicable to such engagements and with ISAE 3000[2]:

- we obtained an understanding of all the consolidated entities' activities, and the description of the principal risks associated;

(1) Accreditation scope available at www.cofrac.fr.

(2) ISAE 3000: international standard on assurance engagements other than audits or reviews of historical financial information.

- we assessed the suitability of the criteria of the Guidelines with respect to their relevance, completeness, reliability, neutrality and understandability, with due consideration of industry best practices, where appropriate;
- we verified that the Statement includes each category of social and environmental information set out in Article L. 225-102-1-III as well as information regarding compliance with human rights and anti-corruption and tax avoidance legislation;
- we verified that the Statement provides the information required under Article R. 225-105-II of the French Commercial Code, where relevant with respect to the principal risks, and includes, where applicable, an explanation for the absence of the information required under Article L. 225-102-1-III, paragraph 2 of the French Commercial Code;
- we verified that the Statement presents the business model and a description of principal risks associated with all the consolidated entities' activities, including where relevant and proportionate, the risks associated with their business relationships, their products or services, as well as their policies, measures and the outcomes thereof, including key performance indicators associated to the principal risks;
- we referred to documentary sources and conducted interviews to:
  - assess the process used to identify and confirm the principal risks as well as the consistency of the outcomes, including the key performance indicators used, with respect to the principal risks and the policies presented,
  - corroborate the qualitative information (measures and outcomes) that we considered to be the most important presented in Appendix. Concerning all risks, our work was carried out on the consolidating entity and on a selection of entities[3].
- we verified that the Statement covers the scope of consolidation, i.e. all the consolidated entities in accordance with Article L. 233-16 of the French Commercial Code within the limitations set out in the Statement;
- we obtained an understanding of internal control and risk management procedures the entity has put in place and assessed the data collection process to ensure the completeness and fairness of the Information;
- for the key performance indicators and other quantitative outcomes that we considered to be the most important presented in Appendix, we implemented:
  - analytical procedures to verify the proper consolidation of the data collected and the consistency of any changes in those data,
  - tests of details, using sampling techniques, in order to verify the proper application of the definitions and procedures and reconcile the data with the supporting documents. This work was carried out on a selection of contributing entities[3] and covers between 18% and 54% of the consolidated data selected for these tests;
- we assessed the overall consistency of the Statement based on our knowledge of all the consolidated entities.

We believe that the work carried out, based on our professional judgment, is sufficient to provide a basis for our limited assurance conclusion; a higher level of assurance would have required us to carry out more extensive procedures.

Means and resources

Our work was carried out by a team of five people between October and March 2020 and took a total of five weeks.

We were assisted in our work by our specialists in sustainable development and corporate social responsibility. We conducted around ten interviews with the people responsible for preparing the Statement.

Conclusion

Based on the procedures performed, nothing has come to our attention that causes us to believe that the non-financial statement is not presented in accordance with the applicable regulatory requirements and that the Information, taken as a whole, is not presented fairly in accordance with the Guidelines, in all material respects.

Paris-La Défense, 13 March 2020

KPMG S.A.

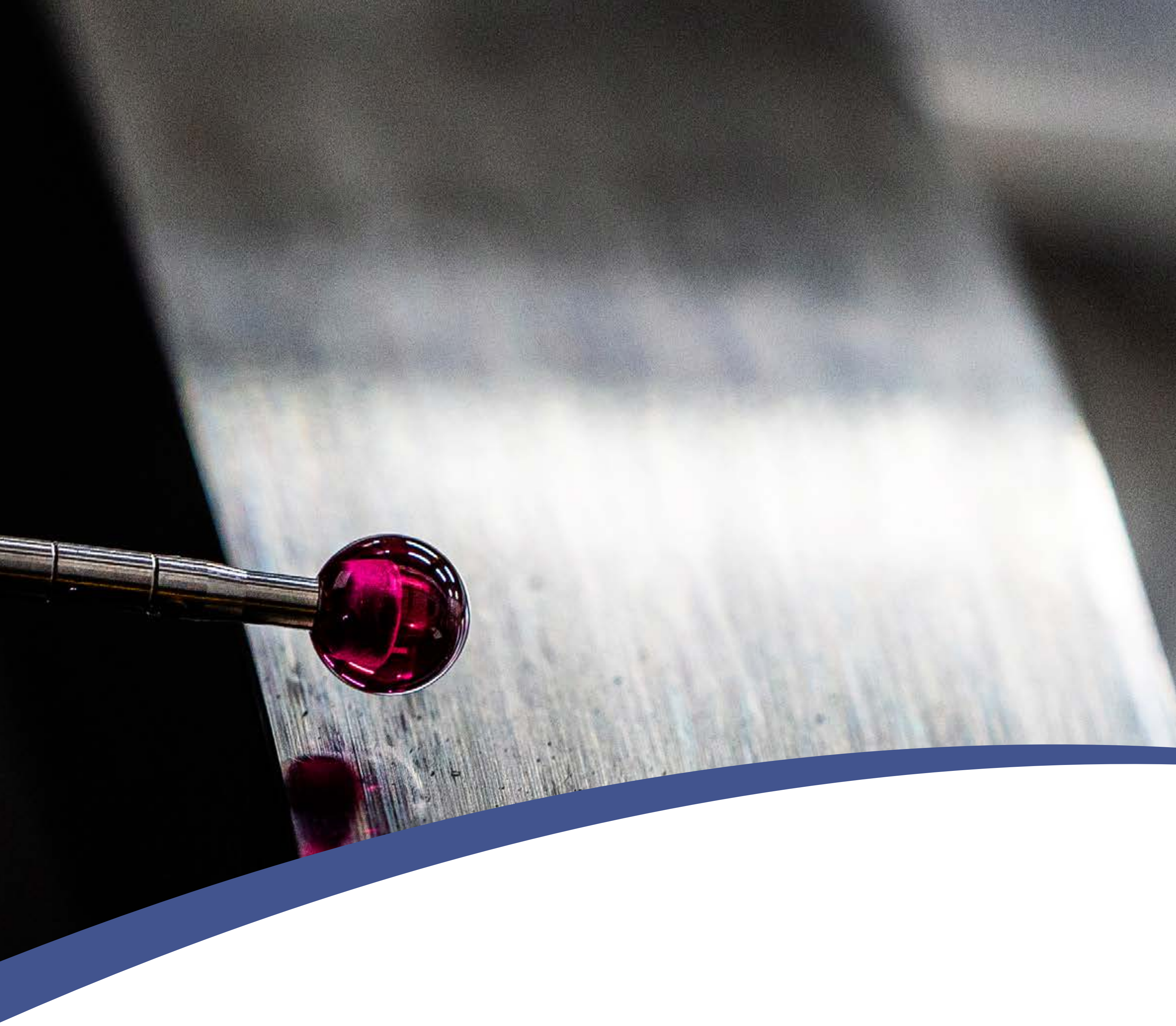
Anne Garans	Pierre-Antoine Duffaud
Partner	*Partner*
Sustainability Services	

(3) TiZir Titanium and Iron (Norway), Eramet Norway Porsgrunn (Norway), Société Le Nickel (New Caledonia, France), Grande Côte Opérations (Senegal), Complexe Métallurgique de Moanda (C2M) of Comilog (Gabon).

Appendix 1

Qualitative information (actions and results) considered most important
• Measures taken in favour of the safety of employees
• Environmental policies and action plans
• Audits on human rights
• Risk management on corruption and influence peddling
• CSR and ethics supplier assessment procedures

Key performance indicators and other quantitative results considered most important
• Social key performance indicators and outcomes
• Workforce on 31 December 2018 and distribution by type of employment contract and by socio-professional category
• Recruitments
• Departures
• Share of women in managerial positions
• Share of employees trained during the year
• Frequency rate of work accidents (with and without lost time)
• Severity rate
• Environmental key performance indicators and outcomes
• Total energy consumption
• CO2 emissions due to energy consumption
• Canalized dust
• Chemical oxygen demand (COD)
• Dangerous waste production
• Total water consumption and its distribution by type of source



7

Remuneration of the management and administration bodies

7.1 REMUNERATION POLICY FOR THE EXECUTIVE CORPORATE OFFICERS *SAY ON PAY EX ANTE*

Our remuneration policy was drafted by the Board of Directors on 19 February 2020, in accordance with Article L. 225-37-2 of the French Commercial Code, as amended by Order No. 2019-134 of 27 November 2019 and its implementing decree, based on the proposal by the Remuneration and Governance Committee.

As at the date of this report, the Company's corporate officers are Ms Christel Bories, Chairperson and CEO, and all the members of the Board of Directors.

In accordance with Articles L. 225-37-2 and R. 225-29-1 of the French Commercial Code, the remuneration policy will be put to the 2020 General Shareholders' Meeting for approval in a resolution and will be made public on the Company's website on the next business day after the vote. The public can continue to consult the policy, free of charge, throughout the period it is applicable, together with the date and result of the vote.

7.1.1 Information on all corporate officers

7.1.1.1 Principles for determining the remuneration policy applicable to corporate officers

The Board of Directors ensures that the remuneration policy applicable to corporate officers, proposed by the Remuneration and Governance Committee and approved by the Board, is in the corporate interest, is aligned with the Company's business strategy and is designed to promote our performance and competitiveness over the medium and long term to ensure sustainability.

These are the principles underlying the policy:

Compliance	In its analysis and proposals, the Remuneration and Governance Committee pays special attention to making sure the remuneration policy accords with legal and regulatory requirements, as well as with the recommendations of the AFEP-MEDEF Code.
Simplicity and consistency	In drafting the remuneration policy, the Remuneration and Governance Committee ensures that it proposes simple, intelligible rules that are consistent with those that apply to Group employees.
Comprehensiveness and balance	All components of remuneration and benefits of all kinds are exhaustively analysed each year, with both an approach by component, based on justification and the interests of the Company and the Group, and an analysis of overall consistency. The aim is to achieve the best possible balance between fixed and variable, individual and collective, short and long-term compensation.
Aligning interests	This criterion is predicated on the need to be able to attract, motivate and retain the talent to execute on the strategy the Company needs, and to meet the requirements of shareholders and other stakeholders, especially when it comes to CSR and the link to performance.
Competitiveness	We regularly benchmark remuneration levels and structures against panels of our corporate peers, with the assistance of external consulting firms. The international panel is made up of international mining players: Rio Tinto, Anglo-American, BHP, Vale and Glencore. In the national market, we use a panel of 120 companies, with a particular focus on industrial companies.
Performance	Financial and extra-financial performance requirements are stringent and assessed annually. They encompass the key factors of value creation and the Company's profitable and sustainable growth and are aligned with our short, medium and long-term objectives, which contributes to lasting growth. They are regularly reviewed in line with the Group's strategic priorities.

7.1.1.2 Decision-making process to determine, review and implement the remuneration policy for corporate officers

The policy for the remuneration of corporate officers is determined and reviewed every year by the Board of Directors, on the recommendations of the Remuneration and Governance Committee.

These recommendations are based on analysing market practices and on a yearly survey of the remuneration of corporate officers of companies with a turnover and market capitalisation comparable to that of the Eramet Group.

In its procedures for managing conflicts of interest, Eramet complies with the recommendations of the AFEP-MEDEF Code on the independence of directors that sit on the Remuneration and Governance Committee and the Board of Directors.

All directors are bound by the Directors' Charter appended to Eramet's Internal Regulations, which sets out the directors' obligations with respect to conflicts of interest.

Accordingly, the executive corporate officer concerned (in this case, the Chairperson and CEO) does not take part in the work of the Remuneration and Governance Committee that concerns him/her.

Similarly, the executive corporate officer does not take part in the deliberations or vote on decisions concerning him/her taken by the Board of Directors.

The Remuneration and Governance Committee meets as often as necessary, especially before approving the "say on pay" agenda item for the Shareholder's Meeting.

The Committee is tasked with:

- deciding on all forms of compensation for corporate officers, including benefits in kind, pensions or retirement benefits, received from any Group company or affiliated company;
- scrutinising and formulating proposals to the Board of Directors on the remuneration of corporate officers and, in particular, the fixed portion, the variable portion, medium- and long-term remuneration plans (including performance shares), as well as pension plans and the contractual terms and conditions relating to their termination of employment (including the fixed portion and the variable portion of remuneration);
- proposing the principles for determining how directors' fees should be allocated amongst the directors;
- proposing the total annual sum allocated to the directors, the breakdown of individual amounts, as well as the remuneration allocated to the directors tasked with exceptional assignments.

The Chairman of the Remuneration and Governance Committee reports to the Board of Directors on the Committee's work, studies and recommendations.

Under its remit, the Remuneration and Governance Committee may request technical studies relating to the compensation of corporate officers from any outside advisor, consultant or expert.

The Board of Directors decides on the remuneration policy applicable to the corporate officers and oversees implementation. It sets the remuneration for Eramet's Chairperson & CEO and directors. Moreover, as part of its preparatory work for the annual review of the remuneration of corporate officers, the Remuneration and Governance Committee is informed about the changes proposed for the Group's employees as a whole, both in terms of fixed and variable compensation and the allocation of shares, with or without performance conditions. This information is designed to ensure that the policy for corporate officers is aligned and consistent with the remuneration policy for Group employees.

7.1.1.3 Breakdown of fixed annual remuneration granted to directors

The total sum allocated to the Board of Directors was set at €950,000 at the General Shareholders' Meeting of 23 May 2017 (seventeenth resolution).

From 2017 onwards, and in accordance with recommendation 20.1 of the AFEP-MEDEF Code the rules for the allocation of Eramet's directors' fees are as follows, to ensure the amount consists primarily of a variable portion:

- €10,000 per year per member of the Board of Directors;
- €5,000 per member of the Appointments Committee, no annual fee for members of the Strategy and CSR Committee, for members of the Audit, Risks and Ethics Committee or for members of the Remuneration and Governance Committee;
- payment of €2,500 for each attended meeting of the Board of Directors, each attended meeting of the Strategy and CSR Committee and each attended meeting of the Remuneration and Governance Committee. This amount is increased to €5,000 for the Chairman of each of these two Committees;
- payment of €3,000 for each attended meeting of the Audit, Risks and Ethics Committee. This amount is increased to €6,000 for the Chairman of the Committee;
- no fees are paid for attendance at Appointments Committee meetings;
- there is no annual limit per Board or Committee;
- a travel allowance of €1,525 is paid to each director living outside Europe for each trip to attend a Board or Committee meeting.

7.1.1.4 Applying the remuneration policy

a. How we assess performance criteria

i. Variable remuneration of the Chairperson and CEO

Annual variable remuneration is currently set by the Board of Directors at the end of the financial year to which it applies. During the fourth quarter of the year, on a recommendation of the Remuneration and Governance Committee, the Board reviews the targets, their weighting and expected performance. It sets:

- the threshold below which no variable remuneration is paid;
- the target variable remuneration due when all targets are met; and
- the criteria for evaluating quantitative performance.

Accordingly:

- 100% of the bonus is paid when targets are met;
- 150% of the bonus may be paid if these targets are exceeded.

Economic performance targets based on financial indicators are set precisely according to a budget approved in advance by the Board of Directors. They are subject to the performance thresholds referred to above. They are identical to those that apply to the Group's key executives and managers. The rate of achievement for each criterion is communicated separately when performance has been reviewed by the Board.

ii. Share-based remuneration of the Chairperson and CEO

The share-based payment plan for the Chairperson and CEO, which is identical to the plan in place for the Group's key executives and managers is based on both intrinsic and extrinsic performance criteria. These criteria for 2020 are detailed in 7.1.2.1.b.iii.

Intrinsic performance targets based on financial indicators are set precisely according to a budget approved in advance by the Board of Directors. During the fourth quarter of the year, on a recommendation of the Remuneration and Governance Committee, the Board reviews the targets, their weighting and expected performance. It sets:

- the threshold below which no share vests;
- the target share acquisition level when each target is met.

Accordingly:

- 100% of allocated shares vest when the targets are met;
- 150% of allocated shares may vest if these targets are exceeded.

The quantitative performance criteria for long-term remuneration are assessed by the Remuneration and Governance Committee during the first quarter on the basis of the detailed figures in the annual financial statements approved by the Statutory Auditors.

The extrinsic performance criterion is assessed by an external firm, Forward Finance. Their detailed assessment is sent every year to the Remuneration and Governance Committee.

b. Appointment of new corporate officers

If a new Chairperson and CEO were appointed, the same principles, criteria and remuneration components in the policy for the remuneration of the Chairperson and CEO would apply.

If one or more Deputy CEO's were appointed, the principles and criteria for the calculation, breakdown and allocation of remuneration components in the remuneration policy for the Chairperson and CEO would apply to them. On a recommendation of the Remuneration and Governance Committee, the Board of Directors would then decide, based≈on their individual positions, on the targets, performance levels, parameters, structures and maximum percentages of fixed remuneration to consider, which may not be higher than those applied to the Chairperson and CEO.

If the Chairman of the Board of Directors and Chief Executive Officer are separate positions, the Chairman of the Board will be remunerated on the same basis as the directors and will receive fixed remuneration, the amount of which will be determined based on their individual positions and responsibilities.

If a CEO is appointed, the remuneration policy for the Chairperson and CEO will apply in principle, tailored to the individual's position, the targets, performance levels, parameters, structure and maximum percentage of fixed annual remuneration, which may not be higher than those that apply to the Chairperson and CEO.

Moreover, pursuant to Article 24.4 of the AFEP-MEDEF Code, if a new executive is appointed from a company outside the Eramet Group, the Board of Directors may decide to grant them an onboarding allowance (in cash and/or shares) to compensate for the loss of previous remuneration or benefits (excluding pension benefits).

Such remuneration may be paid or implemented subject only to the approval of the Shareholders' Meeting pursuant, to Article L. 225-37-2 of the French Commercial Code.

In addition, if the Chief Executive Officer were to be appointed as a Company director, no compensation would be paid for this office.

If a new director were appointed, the same principles, criteria and remuneration components in the policy for the remuneration directors would apply.

c. Changes to the remuneration policy in 2019

The remuneration policy in force at the Company during fiscal 2019, which was approved by the General Shareholders' Meeting on 23 May 2019, was clarified to comply with the terms of the Order and decree of 27 November 2019.

It states in its fifteenth resolution that the General Shareholders' Meeting, held on 23 May 2019, approved the criteria for the calculation, breakdown and allocation of the fixed, variable and exceptional components of the total remuneration and benefits of all kinds payable in 2019 to the Chairperson and CEO on a 99.2% basis, without debate.

7.1.2 Information about each corporate officer

7.1.2.1 Remuneration policy applicable in 2020 to the Chairperson and CEO

a. Term of office of the Chairperson and CEO

Christel Bories was appointed Chairperson and CEO with effect from 23 May 2017, for the duration of her term of office as director, until the General Shareholders' Meeting called to approve the financial statements for the 2020 financial year.

The Chairperson and CEO may be dismissed at any time by the Board of Directors.

b. Total remuneration and benefits of any kind

i. Fixed remuneration

The Chairperson and CEO receives a fixed remuneration in consideration for the responsibilities attached to this type of corporate office. The remuneration is determined mainly on the basis of the following:

- level of responsibility and complexity of the assignments attached to this position;
- skills, professional experience, expertise and background of the incumbent;
- market research on the remuneration for similar positions at French companies with revenues and market capitalisation comparable to those of the Group. By conducting such research, the Group seeks to position itself in the market median of comparable companies.

The fixed remuneration of the Chairperson and CEO was defined as part of her appointment as Chairperson and CEO on 23 May 2017. It amounts to €800,000 (annual gross fixed amount) and has remained unchanged since that date.

However, the fixed remuneration of the Chairperson and CEO is reviewed each year, and its revision may be proposed in the event of significant change to the incumbent's scope of responsibility or discrepancy with respect to the Company's market positioning, on the basis of the remuneration surveys carried out each year.

ii. Annual variable remuneration

The objective of the annual variable remuneration is to provide an incentive to the Chairperson and CEO to attain the annual performance objectives set by the Board of Directors in line with the implementation of the Company's strategy.

The target-based annual variable portion is set at 100% of gross annual fixed remuneration and can vary from 0% to 150% of gross annual fixed remuneration depending on the level of achievement of the various objectives, with 100% of the fixed rate corresponding to 100% achievement of the objectives. It may not exceed 150% of gross annual fixed remuneration. The variable portion for objectives achieved and the maximum variable portion are reviewed each year by the Remuneration and Governance Committee in relation to market practice, as part of the remuneration surveys conducted annually.

The annual variable remuneration of the Chairperson and CEO, identical to the one applied to the Group's executives and managers everywhere in the world, is determined:

- 50% on the basis of the quantitative objectives relating to the Group's financial performance during the previous year. For 2020, the adopted performance indicator is the Group's operational cash flow;
- 10% on the basis of the quantitative objectives relating to the safety of the Group's administrative staff, temporary workers and subcontractors (workplace accident frequency rate);
- 40% on the basis of annual qualitative objectives.

For 2020, the COI criterion, previously used in the Chairperson and CEO's annual variable remuneration and for all the Group's executives and managers, has been cancelled. The entirety of the variable portion on financial objectives will be based on the operational cash-flow criterion. Due to the changes to the Group's financial ratios, management launched an action plan in 2020 covering the components of cash-generating items. The objectives of the 2020 variable portion are therefore consistent with this focus and will be applied to all Group executives and managers.

Qualitative objectives are determined by the Board of Directors at the proposal of the Remuneration and Governance Committee and focus on strategic, business and managerial issues specific to the next financial year. They may concern the implementation of strategic orientations approved by the Board of Directors, major industrial and commercial developments and programmes, organizational and management actions and achievements that are part of the Group's corporate social responsibility (CSR) and sustainable development approach. They do not fall under routine tasks but are specific actions for which the Board of Directors expects a particular performance.

The 2020 objectives for the Chairperson and CEO break down as follows:

	Indicator	Weighting
Financial quantitative objective	Group operational cash flow	50%
Safety objective	Workplace accident frequency rate with or without lost days, including the accidentology of Eramet employees, temporary workers and subcontractors. In the event of a fatal accident at a site, the achievement rate is divided in half. Beyond that, the achievement rate is considered nil.	10%
Qualitative objectives	• Scale up key achievements of the 2020 strategic roadmap while ensuring a secured financial path. • Ensure that *the* organization's momentum continues. • Propose solutions for assets in trouble	40%

These criteria contribute to the remuneration policy objectives, insofar as:

- the performance criteria are stringent and correspond to the Group's key profitable and sustainable growth factors and are generally aligned with the short- and long-term objectives and priorities of the Eramet Group;
- the performance criteria include Eramet's performance with respect to the Group's Social Responsibility, whether through performance in workplace safety and environment, or through more qualitative annual objectives;
- the performance criteria are consistent with those of all of the Group's executive employees and managers, thereby aligning all key employees with the interests of shareholders to help achieve sustainable and profitable growth for the Eramet Group.

The annual variable remuneration is calculated and set by the Board of Directors at the end of the financial year to which it applies. To this end, each year, during the first quarter, the Board of Directors, on the recommendation of the Remuneration and Governance Committee, examines the different objectives, their weighting and the anticipated performance levels that are set:

- the threshold below which no variable remuneration is paid;
- the target level of the variable remuneration due when each objective is reached; and
- the quantitative performance assessment criteria.

As such:

- 100% of the bonus is paid when the objectives are reached;
- 150% of the bonus may be paid if these objectives are exceeded.

The economic performance objectives measured by financial indicators are specifically set on the basis of the budget previously approved by the Board of Directors and are subject to the performance thresholds mentioned above. The achievement level of objectives is communicated for each criterion once the performance assessment has been made by the Board of Directors.

The Company cannot demand that the annual variable remuneration be returned.

The variable portion owed in a given year is determined by the Board of Directors approving the financial statements for the same year. Thus, in accordance with Article L. 225-100 of the French Commercial Code, payment of the variable portion due for 2020 will be subject to *ex post* vote by the Shareholders' Meeting called in 2021 to approve the financial statements for the 2020 financial year. It is paid within the month following the validation of this payment by the General Shareholders' Meeting.

There is no other period of potential postponement.

iii. Long-term remuneration

The Chairperson and CEO's long-term remuneration is exclusively based on the share grants contingent on performance conditions.

Share-based remuneration is in line with the objectives of the remuneration policy, since it allows the Company to retain its executives and encourages aligning their interests with the Group's corporate interests and the interests of shareholders.

The Chairperson and CEO is granted a maximum of 15,000 performance shares when all the plan performance conditions are exceeded. When the performance conditions are reached at the level of the budget target, definitively vested shares correspond to an envelope of 10,000 shares. The level of this share grant is subject to analysis, renewed at least every three years to ensure that it corresponds to best market practices and, under all circumstances, to AFEP MEDEF guidelines. A revision in the number of shares granted may be proposed in the event of a material change to the Chairperson and CEO's scope of responsibility, a discrepancy with respect to the Company's market positioning, on the basis of the remuneration surveys carried out, or a material change to the Eramet share price.

Share grants are awarded annually at the same time of year and are not discounted. Since these concern existing shares as opposed to new shares, there is no share dilution. With regard to the dilution of voting rights, the allocation of existing shares only has a marginal impact, given the composition of Eramet's equity, on one hand, and the selectivity of the criteria established for these plans, on the other. The share plan regulations prohibit hedging operations and executive corporate officers give a formal undertaking in this respect.

Granted shares are contingent on performance conditions as described below as well as a continuous three-year presence condition for the Group's employees. Vested shares at the end of the three-year vesting period are then subject to an additional two-year holding period for securities.

Furthermore, since the Board meeting of 23 July 2007, corporate officers are required to hold 20% of shares vested in the context of performance share plans throughout their entire term of office.

Performance conditions

Share grant performance conditions are calculated over three years and are identical to those imposed on other Eramet Group beneficiary executives and managers. These performance condition indicators are reviewed at least every three years, after analysing the practices of comparable companies on the market, and to ensure alignment and consistency between long-term remuneration and the Eramet Group's strategy.

In 2020, performance conditions are based on four indicators:

- the relative performance of Eramet shares for 30% of the share grant (this involves comparing the change in total shareholder return over a three-year period with that of a panel comprised of several dozens of comparable companies on the Euromoney Global Mining Index; Diversified Metals & Mining, Steel; this performance condition is 100% achieved if Eramet ranks between the 30th and 45th percentile, and 150% in the case it ranks among the top 15% of the panel);
- the intrinsic performance carried out by third parties over three years of the two economic indicators for 50% of the share grant: 25% of EBITDA (Earnings before interest, taxes, depreciation and amortization) and 25% of the net debt. Annual objectives correspond to the Group's budget objectives for the year. This performance condition is only met at 150% if these objectives are significantly exceeded;
- Eramet Group's CSR performance over three years for 20% of the share grant. This is the achievement rate of the Group's CSR roadmap, which is based on 13 indicators that can be broken down into 15 objectives that must be reached, mainly covering the following areas: safety, training and commitment of employees, diversity, energy transition, respect for human rights, reduction of atmospheric emissions and CO_2 emissions, responsible procurements, etc.

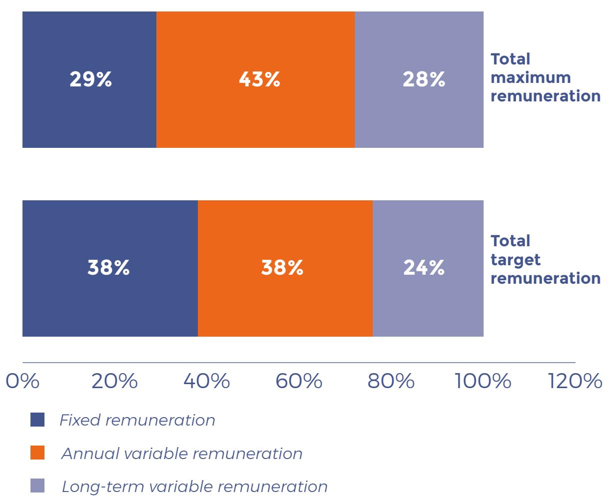
The remuneration and Governance Committee evaluates the quantitative performance criteria of this long-term remuneration on the basis of the quantified components of the annual financial statements validated by the Statutory Auditors (EBITDA, net debt). Forward Finance, an external firm, performs the assessment of the relative performance criteria of the Eramet share with respect to the Euromoney Global Mining Index panel of companies.

Achievement of the CSR roadmap objectives assessed annually by the Strategy and CSR Committee.

Respective weight of remuneration components

The remuneration policy for the Chairperson and CEO aims to strike a balance between long-term and short-term performance in order to promote the development of the Eramet Group for all of its stakeholders.

The total target and maximum remuneration for the Chairperson and CEO breaks down as follows:



The long-term variable remuneration below is valued on the basis of the IFRS value during the share grant by the Board of Directors of 20 February 2019.

Severance package

The corporate office of the Chairperson and CEO states that in case of dismissal (except for gross misconduct) or forced resignation, particularly following a change of company control or substantial imposed changes to the scope of responsibility, the Chairperson and CEO will be awarded severance pay equal to one year of her gross fixed and variable remuneration.

To comply with the objectives of the remuneration policy, this package is subject to the condition that the sum of gross variable remuneration received over the last three complete years of her term of office must be 35% or more of the total gross annual fixed remuneration received during the same three-year period. The calculation of this variable compensation is based on stringent performance conditions determined by the Board of Directors at the proposal of the Remuneration and Governance Committee. These conditions include the financial objectives that correspond to the development objectives of the Eramet Group, an objective of corporate responsibility based on the workplace accident rate with lost days and qualitative objectives concerning strategic, business and managerial challenges specific to the financial year. They may concern the implementation of strategic orientations approved by the Board of Directors, major industrial and commercial developments and programmes, organizational and management actions and achievements that are part of the Group's corporate social responsibility (CSR) and sustainable development approach.

In the event that the number of full years is less than three, the performance will be assessed based on the actual duration of the term of office, at the discretion of the Board of Directors at the proposal of the Remuneration and Governance Committee.

The Board of Directors can unilaterally cancel this severance package.

Supplementary insurance scheme and healthcare plan

The Chairperson and CEO is covered by the supplementary insurance scheme and healthcare plan in force within the Company under the same conditions as those applicable to other employees.

The supplementary healthcare plan which is 56% financed by Eramet and 44% by beneficiaries, covers the hospitalisation, medical costs, dental and optical costs of beneficiaries and their assigns.

The supplementary insurance scheme, which is 67% financed by Eramet and 33% by beneficiaries, provides coverage in the event of lost days due to illness or accident, a disability allowance, as well as capital or income proportional to the gross annual pay in the event of death.

Insurance contracts related to these schemes can be cancelled under applicable statutory law conditions.

Furthermore, the Board of Directors may unilaterally revisit whether these schemes shall apply to the Chairperson and CEO.

Supplementary pension plan

The Chairperson and CEO is covered by a life insurance policy pursuant to Article 82 of the French General Tax Code, designed to supplement the level of the Chairperson and CEO's replacement income when she retires.

The annual amount paid in respect of this policy is 30.39% of the gross total annual remuneration (fixed remuneration + variable remuneration subject to performance conditions) paid to the Chairperson and CEO during the reference year.

The amount thus determined shall be paid in two instalments:

- payment by the Company to an insurance company of an annual contribution, up to 50% of the total amount of the additional remuneration;
- annual payment by the Company to Chairperson and CEO of an amount in cash, up to 50% of the total amount of the additional remuneration, to finance the corresponding social security and tax charges.

The subscription of the life insurance policy was authorised by the Board of Directors on 26 July 2017 and approved by the General Meeting of 24 May 2018 under the procedure for regulated agreements (Article L. 225-38 *et seq.* of the French Commercial Code). Insurance policies related to these schemes can be cancelled under the statutory law conditions applicable in the field.

To comply with the objectives of the remuneration policy, the basis for calculating this additional remuneration includes fixed and variable remuneration and is therefore *de facto* subject to performance conditions, which are described above.

c. Absence of other remuneration items

Non-competition commitment

There is no provision for the Chairperson and CEO to receive payment in respect of a non-competition commitment upon conclusion of their respective terms of office.

Compensation for term of office as director

The Chairperson and CEO does not receive any compensation for the terms of office held within the Group's companies.

Exceptional remuneration

The principle of an exceptional remuneration does not exist.

Company car

The Eramet Group's remuneration policy provides that the Chairperson and CEO and other Group executives shall be provided a company car.

The Chairperson and CEO has waived the benefit of this company car.

Employment or provision of services contracts

The Chairperson and CEO does not have an employment contract nor a service contract.

7.1.2.2 Remuneration policy applicable in 2020 to directors

a. Term of office of directors

Directors are appointed for a term of four years in office.

Christel Bories	appointed on 23 May 2017	expiry date SM convened for 2020 financial statements
Michel Antsélévé	appointed on 15 May 2013	expiry date SM convened for 2020 financial statements
Emeric Burin des Roziers	appointed on 23 May 2019	expiry date SM convened for 2022 financial statements
Christine Coignard	appointed on 23 May 2017	expiry date SM convened for 2020 financial statements
François Corbin	appointed on 23 May 2019	expiry date SM convened for 2022 financial statements
Jérôme Duval	appointed on 23 May 2019	expiry date SM convened for 2022 financial statements
Sorame (Cyrille Duval)	appointed on 11 May 2011	expiry date SM convened for 2022 financial statements
Nathalie de La Fournière (CEIR)	appointed on 11 May 2011	expiry date SM convened for 2022 financial statements
Frédéric Gaidou	Director appointed to represent employees	term of office effective from 12 November 2018 until 11 November 2022
Jean-Yves Gilet	appointed on 23 September 2016	expiry date SM convened for 2022 financial statements
Philippe Gomès	appointed on 10 December 2014	expiry date SM convened for 2020 financial statements
Manoelle Lepoutre	appointed on 11 May 2011	expiry date SM convened for 2022 financial statements
Jean-Philippe Letellier	Director appointed to represent employees	term of office effective from 23 June 2018 until 22 June 2022
Miriam Maes	appointed on 27 May 2016	expiry date SM convened for 2019 financial statements
Louis Mapou	appointed on 24 May 2018	expiry date SM convened for 2021 financial statements
Catherine Ronge	appointed on 17 February 2016	expiry date SM convened for 2020 financial statements
Sonia Sikorav	appointed on 27 May 2016	expiry date SM convened for 2019 financial statements
Claude Tendil	appointed on 25 May 2012	expiry date SM convened for 2022 financial statements
Bruno Vincent	Appointed as State representative on 23 May 2019 in accordance with the 20 August 2014 order	no expiry date

The director can be dismissed at any time by resolution of the Shareholders' Meeting.

b. Total remuneration and benefits of any kind

Fixed remuneration

Directors receive an annual package compensation of €10,000.

Depending on cases, directors receive the following compensation:

- an annual package of €5,000 for Appointments Committee members;
- compensation of €2,500 for each attended meeting of the Board of Directors, the Strategy and CSR Committee and the Remuneration and Governance Committee. This amount is increased to €5,000 for the Chairman of each of these two Committees;
- compensation of €3,000 for each meeting of the Audit, Risks and Ethics Committee attended. This amount is increased to €6,000 for the Chairman of the Committee.

The directors holding this post in Eramet subsidiaries, Cyrille Duval and Édouard Duval are paid in accordance with the rules defined by each of these companies.

Travel allowance

Each director who is a non-European resident receives a travel allowance of €1,525 for each journey to attend a Board or Committee meeting.

Absence of other remuneration items

Directors do not receive variable or exceptional remuneration, nor share-based payments.

The above remuneration procedures apply to all Eramet directors.

Employment or service contracts

Directors do not, under any circumstances, have an employment contract nor a service contract with Eramet.

7.2 OVERALL REMUNERATION OF CORPORATE OFFICERS IN 2019 SAY ON PAY *EX POST*

7.2.1 Annual total remuneration of the Chairperson and CEO in respect of the 2019 financial year

7.2.1.1 Total remuneration and benefits of any kind

a. Remuneration items

i. Fixed remuneration

For the 2019 financial year, Christel Bories received gross fixed remuneration of €800,000. This remuneration is identical to the sum received in 2018.

ii. Variable remuneration

The gross variable remuneration paid in 2019 on behalf of the 2018 financial year was 566,160 euros. This remuneration was approved by the Shareholders at the AGM on 23 May 2019 (16th resolution). The gross variable remuneration owed on behalf of the 2019 financial year is 736,000 euros. The amount of the variable remuneration was determined according to the achievement level of the objectives described below:

Achievement level of 2019 objectives for variable remuneration paid in 2020

Objectives	Weighting	Achievement rate	Percentage paid in respect of this objective
COI	25%	60%	15%
Operating cash flow	25%	150%	37.5%
Safety (AF2 including employees, temporary workers and subcontractors)	10%	0%(1)	0%
Qualitative objectives linked in particular to the implementation of major Group projects and the continued rollout of the transformation programme.	40%	99%	39.5%
OVERALL OBJECTIVES ACHIEVEMENT RATE	**100%**	**92%**	**92%**

(1) Despite the objective achievement rate above 150%, four fatal accidents occurred in 2019 resulting in assigning an achievement rate of 0% for this objective.

The Company did not demand that a variable remuneration be returned.

iii. Exceptional remuneration

Christel Bories does not receive any exceptional remuneration.

iv. Long-term remuneration

The Board of Directors' meeting of 20 February 2019 granted Christel Bories 15,000 performance shares (i.e. 0.06% of the share capital), at an estimated value of €785,550 using the method adopted for the consolidated financial statements (fair value of the share on the day of the share grant by the Board of Directors) where all the plan performance conditions are exceeded A target number of 10,000 shares corresponds to the number of shares that may be definitively vested three years following granting provided that the performance conditions are fully met. Furthermore, these performance shares are subject to an additional two-year holding period and 20% of these shares are prohibited from sale until the end of the corporate officer's term of office.

These very rigorous performance conditions are calculated over a three-year period, as follows:

- the relative performance of Eramet shares for one-third of the share grant (this involves comparing the change in total shareholder return over a three-year period with that of a panel of around 37 comparable companies on the Euromoney Global Mining Index; Diversified Metals & Mining, Steel; this performance condition being achieved at 100% in case of ranking between the 30th and 45th percentile and 150% if the Eramet share is ranked among the top 15% of the panel); and
- the intrinsic performance of certain financial indicators achieved in three instalments over a three year period for two-thirds of the share grant (equal to one-third of EBITDA and one-third of ROCE, the annual objectives referring to the Company's budgetary targets); this performance condition is only met at 150% when the targets are significantly out-performed.

Christel Bories was not granted any other long-term remuneration item during the financial year ended 31 December 2019.

v. Other remuneration items

Social protection scheme

Christel Bories benefits from the supplementary healthcare plan and the supplementary disability and life insurance scheme operating within the Eramet Group.

In 2019:

The employer contribution to the healthcare plan amounted to €1,227.12.

The employer contribution to the supplementary life insurance scheme amounted to €7,390.80.

Life insurance (Article 82)

Christel Bories is covered by a life insurance policy pursuant to Article 82 of the French General Tax Code, designed to supplement the level of the Chairperson and CEO's replacement income when she retires. This policy guarantees that savings will be set aside which, on the retirement date, will be converted into a life annuity or paid as a lump sum.

The supplementary remuneration prompts the following two payments:

- the financing of a life insurance contract:

  the Company has arranged for Christel Bories to join a life insurance policy underwritten by the Company with an approved insurance company. This contract, known as "Article 82", is an individual life insurance contract. The financing of this contract is fully covered by the Company and represents 50% of the additional remuneration determined in accordance with the above. It does not constitute a retirement commitment;
- an annual cash payment:

  each year, the Company pays a cash amount equal to 50% of the additional remuneration determined in accordance with the above provisions, in order to cover the related social and tax charges.

The annual amount of the additional remuneration paid is 30.39% of the total gross annual remuneration (fixed + variable) paid to Christel Bories during the reference year. The basis for calculating this additional remuneration includes not only fixed remuneration but also variable remuneration. For the 2019 financial year, the employer contribution paid by the Company amounted to €415,176, which breaks down into €207,588 paid to the insurer and €207,588 paid to Christel Bories to offset the related social and tax charges.

The Company's commitment is limited to the payment of the contribution mentioned above and it remains free to terminate this contract at any time.

vi. Other forms of remuneration

Christel Bories did not receive any of the following remuneration:

- deferred variable remuneration;
- multi-year variable remuneration;
- benefits in kind.

vii. Remuneration allocated to directors

Christel Bories did not receive any remuneration in respect of her term of office as director.

b. Remuneration paid by a company in the scope of consolidation

Christel Bories did not receive any remuneration paid by a company in the scope of consolidation.

c. Respective weight of remuneration items

Relative proportion of fixed and variable remuneration

	Amount	Portion
Fixed remuneration	800,000	52%
Annual variable remuneration	736,00	48%

7.2.1.2 Fairness ratio and changes in performance

The fairness ratio between the remuneration level of the Chairperson and CEO and the average and medial remuneration of Eramet SA employees

The following presentation was performed in accordance with the provisions of French ordinance No. 2019-1234 of 27 November 2019 and the AFEP guidelines.

To prepare this information, we chose the scope of the listed company Eramet SA.

	2015	2016	2017	2018	2019
Fairness ratio on median wage	39.4	21.1	24.6	36.9	24.3
Fairness ratio on median wage	23.7	15.0	16.8	22.1	16.4

Explanations for the change of ratios

Patrick Buffet was Chairperson and CEO throughout all of financial years 2015 and 2016.

Christel Bories was Chairperson and CEO throughout all of financial years 2018 and 2019.

For the 2017 financial year, the ratio was calculated on the basis of total remunerations paid to Patrick Buffet until the end of the term of office on 23 May 2017 and Christel Bories as from the start of her appointment on 23 May 2017.

Comparison of the changes to these remunerations with the change in the performance of the Eramet Group

	2015/2016	2016/2017	2017/2018	2018/2019
Remuneration of the Chairperson and CEO	-44%	43%	31%	-31%
Eramet SA average remuneration	-12%	28%	0%	-7%
EBITDA(1)	308%	132%	-3%	-25%

(1) The data presented is adjusted data from the Group's reporting, in which the operating performance of the joint ventures is recognized under proportionate consolidation until 2018: the TiZir subgroup (Mineral Sands BU, Mining and Metals Division) until 30 June and UKAD (High Performance Alloys Division) until 31 December.

7.2.1.3 Taking into account the Shareholders' Meeting's last global *ex post* vote

Not relevant given that this vote, created by the French ordinance of 27 November 2019, was not applied until the last Shareholders' Meeting.

7.2.1.4 Compliance of the remuneration paid with the remuneration policy

The remuneration items of Christel Bories described below are compliant with the provisions defined by the Board of Directors, on the recommendation of the Remunerations Committee. They are determined in compliance with the corporate interest, as tailored to Company's commercial strategy, and correspond to a policy of performance and competitiveness in the medium and long term to ensure the Company's longevity.

The financial performance and non-financial performance conditions are stringent and assessed on an annual basis. They correspond to the Company's key value-creation and profitable, sustainable growth factors and align with its short-, medium- and long-term objectives, which contributes to its longevity. They are reviewed regularly in light of the Group's strategic priorities.

Share grant performance conditions are calculated over three years and are identical to those imposed on other Eramet Group beneficiary executives and managers.

The Board of Directors determines the remuneration applicable to corporate officers and ensures their implementation. It sets the remuneration of Eramet's Chairperson and CEO and directors. Furthermore, as part of the work involved in preparing for the annual review of the remuneration of corporate officers, the Remuneration and Governance Committee receives information on the trending criteria proposed for the Group's employees overall, both with respect to fixed and variable remuneration and granting of shares regardless of whether or not they are contingent on performance conditions. This information ensures alignment and consistency between the provisions applicable to corporate officers and those applicable to the Group's employees.

The Company did not deviate from the remuneration policy implementation procedure.

The Company did not waive the remuneration policy.

7.2.1.5 Suspension of the remuneration paid to directors

As the Board of Directors is organised in accordance with the provisions of Article L. 225-18-1 of the Commercial Code, payment of the compensation set out in the first sub-paragraph of Article L. 225-45 of the aforesaid Code has not been suspended.

7.2.2 Total annual remuneration of the directors in respect of the 2019 financial year

7.2.2.1 Total remuneration and benefits of any kind

a. Remuneration items

Table 3 provides details on the items of the directors' remuneration in respect of financial year 2019.

b. Remuneration paid by a company in the scope of consolidation

With the exception of Cyrille Duval as mentioned in Table 3, directors received no remuneration from a company in the scope of consolidation.

c. Respective weight of remuneration items

Directors did not receive any variable or exceptional compensation in respect of the 2019 financial year.

7.2.2.2 Taking into account the Shareholders' Meeting's last *ex post* vote

Not applicable given that this vote, created by the French ordinance of 27 November 2019, was not applied until the last Shareholders' Meeting.

7.2.2.3 Compliance of the remuneration paid with the remuneration policy

Not applicable given that no remuneration policy had been defined for directors prior to the 27 November 2019 ordinance.

7.2.2.4 Suspension of the remuneration paid to directors

As the Board of Directors is organised in accordance with the provisions of Article L. 225-18-1 of the Commercial Code, payment of the compensation set out in the first sub-paragraph of Article L. 225-45 of the aforesaid Code has not been suspended.

7.2.3 Items of the remuneration paid or granted in respect of the 2019 financial year subject to the vote of the Shareholders' Meeting that will be held in 2020 in application of Article L. 225-100, III of the French Commercial Code

Remuneration items	Amounts granted in respect of 2019 or accounting valuation	Amounts paid in respect of 2019	Presentation
			No suspended employment contract. Christel Bories holds a corporate office.
Fixed remuneration	€800,000	€800,000	Gross fixed remuneration, paid for the 2019 financial year in accordance with the provisions adopted by the Board of Directors of Eramet SA on 23 February 2017. It is identical to the fixed remuneration paid in 2018.

Annual variable remuneration	€736,000 (amount applied for the 2019 financial year)	€566,160 (amount paid in 2019 in respect of financial year 2018)	At its meetings of 19 February 2020 and 12 March 2020, the Board of Directors, on recommendation by the Remuneration Committee and following validation of the financial items by the Audit Committee, approved the amount of variable remuneration for Christel Bories for the financial year 2019 at €736,000 (i.e., 92% her target variable remuneration).
			The variable portion is based on quantitative and qualitative objectives, whose selection and weighting are proposed by the Remuneration Committee and approved by the Board of Directors. These objectives are based for 60% on safety and working conditions and on quantitative economic performance objectives and for 40% on qualitative objectives:
			• quantitative objectives (60%), the achievement rate of which is detailed in section 7.2.1.1.a.ii:
			  • 10% on safety (accident frequency rate of employees, temporary workers and subcontractors) which is reduced if a fatal accident occurs,
			  • 25% on current operating income,
			  • 25% on operating cash-flow.
			The objectives achieved (100%) correspond to the budget figures.
			• qualitative objectives (40%) detailed for 2019 in section 7.2.1.1.a.ii.
			The target-based annual variable portion is set at 100% of gross annual fixed remuneration based on the achievement rate of various goals. This remuneration may vary from 0 to 150% of gross annual fixed remuneration, 100% of fixed remuneration corresponding to 100% of goals achieved. It may not exceed 150% of gross annual fixed remuneration. The variable portion for goals achieved and the maximum variable portion are reviewed each year by the Remuneration Committee in relation to market practice, as part of remuneration surveys conducted annually.
			The Company cannot demand that the annual variable remuneration be returned.

Deferred variable remuneration	N/A		Christel Bories does not receive any deferred variable remuneration.
Multi-year variable remuneration	N/A		Christel Bories does not receive any multi-year variable remuneration.
Exceptional remuneration	N/A		Christel Bories does not receive any exceptional remuneration.

Remuneration items	Amounts granted in respect of 2019 or accounting valuation	Amounts paid in respect of 2019	Presentation
Performance shares or stock options, or any other long-term remuneration item	15,000 bonus shares = €785,550 (applying the method used in the consolidated financial statements, fair value of the share on the day of granting by the Board of Directors) Options = N/A Other items = N/A		The Board of Directors of 20 February 2019 confirmed, in accordance with the authorisation of the Shareholders' Meeting of 24 May 2018 (11th resolution), that Christel Bories would be granted 15,000 performance shares when all the performance conditions are exceeded, which represents a share grant of 10,000 shares per target when the performance conditions of the plan are fully achieved, for an estimated value of €785,550 (i.e., 0.06% of the share capital) according to the method adopted for the consolidated financial statements (fair value of the share on the day of the share grant by the Board of Directors). This number corresponds to the number of shares that may be vested, fully or partially, three years after they are granted provided that the performance conditions are fully or partially met. Furthermore, these performance shares are subject to an additional two-year holding period and 20% of these shares are prohibited from sale until the end of the corporate officer's term of office. These very rigorous performance conditions are calculated over a three-year period, as follows: • the relative performance of Eramet shares for one-third of the share grant (this involves comparing the change in total shareholder return over a three-year period with that of a panel of around 37 comparable companies on the Euromoney *Global Mining Index; Diversified Metals & Mining, Steel;* this performance condition being achieved at 150% if the Eramet share is ranked among the top 15% of the panel); and • the intrinsic performance of certain financial indicators achieved in three instalments over a three year period for two-thirds of the share grant *(equal to one-third of EBITDA and one-third of ROCE,* the annual objectives referring to the Company's budgetary targets); this performance condition is only met at 150% when the targets are significantly out-performed. Christel Bories was not granted any other long-term remuneration item during the financial year ended 31 December 2019.
Remuneration for term of office as director	N/A		Christel Bories does not receive remuneration for the offices she holds at Eramet and its subsidiaries.
Benefits of any kind	N/A		Christel Bories does not have a company car.

REMUNERATION ITEMS FALLING DUE OR GRANTED FOR THE FINANCIAL YEAR ENDED WHICH HAVE BEEN OR ARE SUBJECT TO SHAREHOLDER APPROVAL PURSUANT TO THE PROCEDURES RELATED TO REGULATED AGREEMENTS AND COMMITMENTS

Remuneration items	Amounts granted in respect of 2019 or accounting valuation	Amounts paid in respect of 2019	Presentation
Compensation related to taking up or leaving a post	No payment		In case of dismissal (except for gross misconduct) or forced resignation, particularly following a change of control of the Company or substantial imposed changes to the scope of responsibility, Christel Bories will be awarded severance pay equal to two years of her gross fixed and variable remuneration. This benefit is subject to the condition that the sum of gross variable remuneration received over the last three complete years of her term of office must be 35% or more of the total gross annual fixed remuneration received during the same three-year period. In the event that the number of full years is less than three, the performance will be assessed based on the actual duration of the term of office, at the discretion of the Board of Directors on the proposal from the Remuneration Committee. In accordance with the procedures related to regulated agreements and commitments and to the provisions of Article L. 225-42-1 of the French Commercial Code, this commitment was authorised by the Board of Directors on 23 February 2017 and approved by the General Shareholders' Meeting of 24 May 2018.
Contribution Article 82 scheme	€466,790	€415,176	Christel Bories is covered by a life insurance policy under Article 82 of the French General Tax Code. On 26 July 2017, the Board of Directors, acting on a proposal from the Remuneration Committee, authorised the implementation of the system under the following conditions: The annual amount of the additional remuneration paid is 30.39% of the total gross annual remuneration (fixed + variable) paid to Christel Bories during the reference year. The basis for calculating this additional remuneration includes not only fixed remuneration but also variable remuneration. The additional remuneration determined in accordance with the preceding provisions shall give rise to the following two payments: • the financing of a life insurance contract: The Company has arranged for Christel Bories to join a life insurance policy underwritten by the Company with an approved insurance company. this contract, known as "Article 82", is an individual life insurance contract. the financing of this contract is fully covered by the Company and represents 50% of the additional remuneration determined in accordance with the above. It does not constitute a retirement commitment; • an annual cash payment: each year, the Company pays an amount in cash equal to 50% of the additional remuneration determined in accordance with the above provisions, in order to cover the related social and tax charges. On behalf of the financial year 2019, the basis for calculating this remuneration includes the fixed remuneration and the variable remuneration and is accordingly subject to performance conditions.. Considering the achievement rate of 2019 variable remuneration objectives, which corresponds to 92%, the amount of employer contribution totals €466,790 broken down into the proportions mentioned above. The Company's commitment is limited to the payment of the contribution mentioned above and it remains free to terminate this contract at any time.
Supplementary insurance scheme and healthcare plan	Employer share Healthcare costs €1,227 Employer share and life insurance: €7,391	Employer share Healthcare costs €1,227 Employer share and life insurance: €7,391	Christel Bories benefits from the supplementary healthcare plan and the supplementary disability and life insurance scheme operating within the Eramet Group. In accordance with the procedures related to regulated agreements and commitments, this commitment was authorised by the Board of Directors on 23 February 2017 and approved by the General Shareholders' Meeting of 24 May 2018.

7.2.4 Presentation of the remunerations for executive corporate officers

TABLE 1 – SUMMARY TABLE OF THE REMUNERATION, SHARES AND OPTIONS GRANTED TO THE EXECUTIVE CORPORATE OFFICER

	Remuneration granted in the financial year(1)		Value of shares granted during the year(2)		Total	Total
(€)	2019	2018	2019	2018	2019	2018
Christel Bories Chairman and CEO	2,002,790	1,868,993	785,550	1,754,700	2,788,340	3,623,693
TOTAL CORPORATE OFFICERS	**2,002,790**	**1,868,993**	**785,550**	**1,754,700**	**2,788,340**	**3,623,693**

(1) The valuation method used to calculate the value of performance shares does not permit the actual remuneration of executives to be extrapolated from these figures for the years in question.

(2)Calculated according to the fair value per share on the day of granting by the Board of Directors, namely €52.37 at 20 February 2019, €116,98 at 22 March 2018 – no options were granted during the financial year. The valuation corresponds to the maximum grant of 15,000 shares, the target being 10,000 shares for a 100% achievement.

Valuation of the other remuneration plans:

There is no:

- long-term remuneration plan;
- stock options plan.

TABLE 2- SUMMARY OF THE REMUNERATION OF THE EXECUTIVE CORPORATE OFFICER

	Amount for 2019		Amount for 2018	
	granted	Paid	granted	Paid
Christel Bories **Chairman and CEO**				
Fixed remuneration	800,000	800,000	800,000	800,000
Annual variable remuneration	736,000	566,160	566,160	854,600
Contribution to the standard scheme Art. 82	466,790	415,176	502,833	502,833
Remuneration allocated for term of office as director	0	0	0	0
Benefits in kind	0	0	0	0
Total	**2,002,790**	**1,781,336**	**1,868,993**	**2,157,433**
TOTAL CORPORATE OFFICERS	**2,002,790**	**1,781,336**	**1,868,993**	**2,157,433**

No multi-year variable remuneration fell due or was paid out during the financial year.

The combined total remuneration received by the top five earners at Eramet in respect of 2019 was €4,318,444.28, which has been certified by the Statutory Auditors.

TABLE 3 – REMUNERATION RECEIVED BY NON-EXECUTIVE CORPORATE OFFICERS

	Eramet	Other companies	Total 2019	Total 2018
Michel Antsélévé	36,650	-	36,650	41,650
Christel Bories(1)	-	-	-	-
Emeric Burin des Roziers(3)	15,833	-	15,833	-
Christine Coignard	53,000	-	53,000	60,000
François Corbin(3)	24,833	-	24,833	-
Cyrille Duval (Sorame)	51,500	33,000	84,500	79,000
Édouard Duval(2)	16,250		16,250	50,000
Georges Duval(2)	14,167	-	14,167	42,500
Jérôme Duval(3)	26,933	-	26,933	-
Nathalie de La Fournière (CEIR)	32,500	-	32,500	37,500
Frédéric Gaidou(4)	30,000	-	30,000	6,666
Other remunerations excluding corporate office: €88,459				
Marie Axelle Gautier(5)	-	-	-	50,334
Jean Yves Gilet	35,000	-	35,000	45,000
Philippe Gomès	31,100	-	31,100	35,125
Manoelle Lepoutre	47,917	-	47,917	47,500
Jean-Philippe Letellier(6)	30,000	-	30,000	15,000
Other remunerations excluding corporate office: €94,581				
Miriam Maes	68,500	-	68,500	69,000
Louis Mapou(7)	18,050	-	18,050	13,883
Ferdinand Poaouteta(8)	-	-	-	3,333
Pia Older(9)	-	-	-	22,500
Catherine Ronge	30,000	-	30,000	35,000
Sonia Sikorav	53,000	-	53,000	60,000
Claude Tendil	52,500	-	52,500	60,000
Antoine Treuille(2)	31,217	-	31,217	90,825
Bruno Vincent(10)	68,000	-	68,000	75,000
TOTAL	**766,950**	**33,000**	**799,950**	**939,816**

(1) Other remuneration: see other tables related to executive corporate officers' remuneration.
(2) Term of office expired on 23 May 2019.
(3) Appointed on 23 May 2019.
(4) Director representing employees – Term of office begins 12 November 2018.
(5) Director representing employees – Appointed 12 November 2014 – End of term of office 11 November 2018.
(6) Director representing employees – Term of office begins 23 June 2018.
(7) Appointed at the General Shareholders' Meeting of 24 May 2018.
(8) Ferdinand Poaouteta's term of office ended up 4 May 2018.
(9) Director representing employees – appointed 23 June 2014 – End of term of office 22 June 2018.
(10) Amount paid to the Ministry of Finance – on 23 May 2019, Bruno Vincent is appointed State representative.

TABLES 4 AND 5 – NOT APPLICABLE

No share purchase or subscription options were granted to executive corporate officers during the financial year. No share purchase or subscription options were exercised by executive corporate officers during the financial year.

TABLE 6 – PERFORMANCE SHARES GRANTED TO EACH EXECUTIVE CORPORATE OFFICER DURING THE YEAR

	Plan no. and date	Number of shares granted	Value of shares(1)	Acquisition date	Date available	Performance conditions
C. Bories	Plan from 20/02/2019	15,000	785,550	20/02/2022	20/02/2024	Relative performance of Eramet shares (TSR) compared to that of companies included in the indices *(Euromoney Global Mining Index: Diversified Metals & Mining, Steel)* (1/3) and intrinsic performance of economic indicators (1/3) EBITDA and (1/3) ROCE at constant economic conditions of the budget; progressive acquisition over 3 years
TOTAL		**15,000**				

(1) Award of 10,000 shares per target, when the performance conditions of the plan are fully met. Over-performance on all the performance conditions can lead to the award of a maximum of 15,000 shares. Calculated per target, according to the fair value of the share on the date of grant by the Board of Directors, namely €52.37 on 20 February 2019.

TABLE 7 –– NOT APPLICABLE

No performance shares became available during the financial year for the executive corporate officer.

TABLE 8 –– NOT APPLICABLE

There is no share purchase or subscription option plan currently in operation.

TABLE 9 – PERFORMANCE SHARES – INFORMATION

	2013 plan	2014 plan	2015 plan	2016 plan	2017 plan	2018 plan	2019 plan
Date of Shareholders' Meeting	15/05/2012	15/05/2012	15/05/2012	27/05/2016	27/05/2016	27/05/2016	24/05/2018
Date of Board Meeting	21/03/2013	20/02/2014	19/02/2015	27/05/2016	23/02/2017	22/03/2018	20/02/2019
Total no. of shares granted, of which number granted to (total)[1]	145,040	143,510	132,680	134,327	142,546	206,056[1]	179,596[1]
including the corporate officer							
• C. Bories[1]					12,500	15,000	15,000
• P. Buffet (until 23/05/2017)	22,405	22,405	22,405	22,405	0	0	0
• G. Duval (until 22/04/2016)	5,085	5,085	3,000	0	0	0	0
• P. Vecten (until 22/04/2016)	4,730	4,730	4,730	0	0	0	0
• B. Madelin	3,970	3,970	3,970	0	0	0	0
• E. Duval	900	900	0	0	0	0	0
• C. Duval	500	500	0	0	0	0	0
Date of vesting of France Plan shares	21//03/2016	20/02/2017	19/02/2018	27/05/2019	23/02/2020	22/03/2021	20/02/2022
End date of holding period France	21/03/2018	20/02/2019	19/02/2020	27/05/2021	23/02/2022	22/03/2023	20/02/2024
End date of vesting and holding period for International Plan shares	21/03/2017	20/02/2018	19/02/2019	27/05/2020	23/02/2021	22/03/2022	20/02/2023
Performance conditions	Performance of the Eramet share price in relation to that of comparable companies listed on the Stoxx 600 Basic Resources index (1/3) and intrinsic performance of financial indicators (2/3) (operating margin (current operating income / revenue) and operating cash flow); progressive acquisition over 3 years		Total Shareholder return (TSR) of Eramet shares compared to that of companies included in the indices *(Euromoney Global Mining Index: Diversified Metals & Mining, Steel)* (1/3) and intrinsic performance of economic indicators (2/3) (current operating income/CA and cash flow from operating activities; progressive acquisition over 3 years			Relative performance of Eramet shares (TSR) compared to that of companies included in the indices *(Euromoney Global Mining Index: Diversified Metals & Mining, Steel)* (1/3) and intrinsic performance of economic indicators (1/3) EBITDA and (1/3) ROCE at constant economic conditions of the budget; progressive acquisition over 3 years	
Number of shares vested at 31/12/2019 (International Plan)	5,209	10,045	17877				
Number of shares vested at 31/12/2019 (France Plan)	18,165	34,626	59,939	85,660			
Cumulative number of cancelled or lapsed shares	121,666	98,839	54,864	21,542			
Performance shares remaining at financial year end	0	0	0	27,125			

(1) Number of shares at maximum performance:

	2013 plan	2014 plan	2015 plan	2016 plan	2017 plan	2018 plan	2019 plan
Vesting rate of selective plans	16.37%	32.19%	49.44%	86.67%	55.60%		

For the 2013 and 2014 performance share plans, the performance conditions are calculated over a three-year period, as follows: the relative performance of Eramet shares for one-third of the share grant (this involves comparing the change in total shareholder return over a three-year period with that of a panel of around 30 comparable companies on the Stoxx 600 Basic Resources Index, with the performance conditions being fully achieved if the Eramet share is ranked among the top 15% of the panel) and the intrinsic performance of certain financial indicators achieved in three instalments over a three year period for two-thirds of the share grant (one-third of the current operating income and one-third of the operating cash-flow from operating activities, the annual objectives referring to the Company's budgetary targets, with performance conditions only being fully achieved when these targets are significantly out-performed). Taking into consideration the performance conditions, the vesting rate as a percentage of shares awarded is as follows: 2013: 16.37% – 2014: 32.19%.

For the 2015, 2016 and 2017 performance share plans, the performance conditions are calculated over a three-year period, as follows: the relative performance of Eramet shares for one-third of the share grant (this involves comparing the change in total shareholder return over a three-year period with that of a panel of around 50 comparable index companies (Euromoney Global Mining Index; Diversified Metals & Mining, Steel), with the performance conditions being fully achieved if the Eramet share is ranked among the top 15% of the panel) and the intrinsic performance of certain financial indicators achieved in three instalments over a three year period for two-thirds of the share grant (one-third of the current operating income and one-third of the operating cash-flow from operating activities, the annual objectives referring to the Company's budgetary targets, with performance conditions only being fully achieved when these targets are significantly out-performed). Taking into consideration the performance conditions, the vesting rate as a percentage of shares awarded is as follows: 2015: 49.44% – 2016: 86.67% – 2017: 58.00%

The very rigorous performance conditions for the 2018 and 2019 plans are calculated over a three-year period, as follows: the relative performance of Eramet shares for a third of the share grant (this entails comparing the change in total shareholder return over a three-year period with that of a panel of around 37 comparable companies on the Euromoney Global Mining Index; Diversified Metals & Mining, Steel; this performance condition is only met at 150% if the share is ranked among the top 15% of the panel) and the intrinsic performance of certain financial indicators achieved in three instalments over a three-year period for two thirds of the share grant (for one-third Earning before interest, taxes, depreciation and amortization (EBITDA) at constant economic conditions of the budget and for one-third of Return On Capital Employed (ROCE), the annual objectives referring to the Company's budgetary targets); this performance condition is met at 150% only when these targets are significantly out-performed.

TABLE 10 – NOT APPLICABLE

There is no multi-year remuneration for the executive corporate officer.

TABLE 11 – SUMMARY BY CORPORATE OFFICER

Corporate officers	Employment contract	Supplementary pension plan	Compensation or benefits falling due or which may fall due, as the result of departure or a change of position	Compensation related to a non-compete clause
Christel Bories Chairman and CEO: 23/05/2017 End of term of office for the director at the General Shareholders' Meeting called to approve the 2020 financial statements	No	No, but the Company is financing a life insurance contract	Yes	No

7.3 SPECIAL REPORT ON BONUS SHARE GRANTS

Financial year 2019

Dear Shareholders,

Pursuant to the provisions of Article L. 225-197-4 of the French Commercial Code, this report is presented to the General Shareholders' Meeting.

A/ Grants to corporate officers of the Company

Plan of 20 February 2019	Number of shares	Value
Christel Bories	15,000	785,550

B/ Grants to non-corporate officer employees of the Company and its subsidiaries

Plan of 20 February 2019	Number of shares[1]	Value
Kleber Silva	9,885	519,620
Thomas Devedjian	5,702	298,615
Michel Carnec	4,952	259,337
Jérôme Fabre	4,952	259,337
Philippe Gundermann	4,202	220,060
Jean de L'Hermite	2,702	141,505
Virginie de Chassey	2,702	141,505
Mohamed Bouzidi	1,352	70,805
Claire Heinrich	1,352	70,805
Marc Blanquart	1,202	62,950
Dominique Hannicque	1,202	62,950
Christian Levivier	1,202	62,950
Christophe Petit	1,202	62,950
Laurent Joncourt	1,202	62,950
Christine Deram	1,202	62,950
Pierre Alain Gautier	1,202	62,950
Jean François Huet	1,202	62,950
Xavier Jegard	1,202	62,950
Diana Lewertowski	1,202	62,950
Nicole Sourgens	1,202	62,950

(1) Indicated and valued at maximum for shares subject to performance conditions.

C/ Grants to all beneficiary employees

Each employee on the payroll received two bonus shares, subject to length of service conditions, as part of the bonus share plan of 20 February 2019.

The Board of Directors

8 Eramet and its shareholders

8.1 COMPANY'S SHARE MARKET

8.1.1 Listing Market

The Company's shares are traded at Euronext on the Euronext Paris market (ISIN code: FR0000131757, LEI code 549300LUH78PG2MP6N64).

No shares of another Group company are admitted for trading on another stock exchange.

8.1.2 Price trends

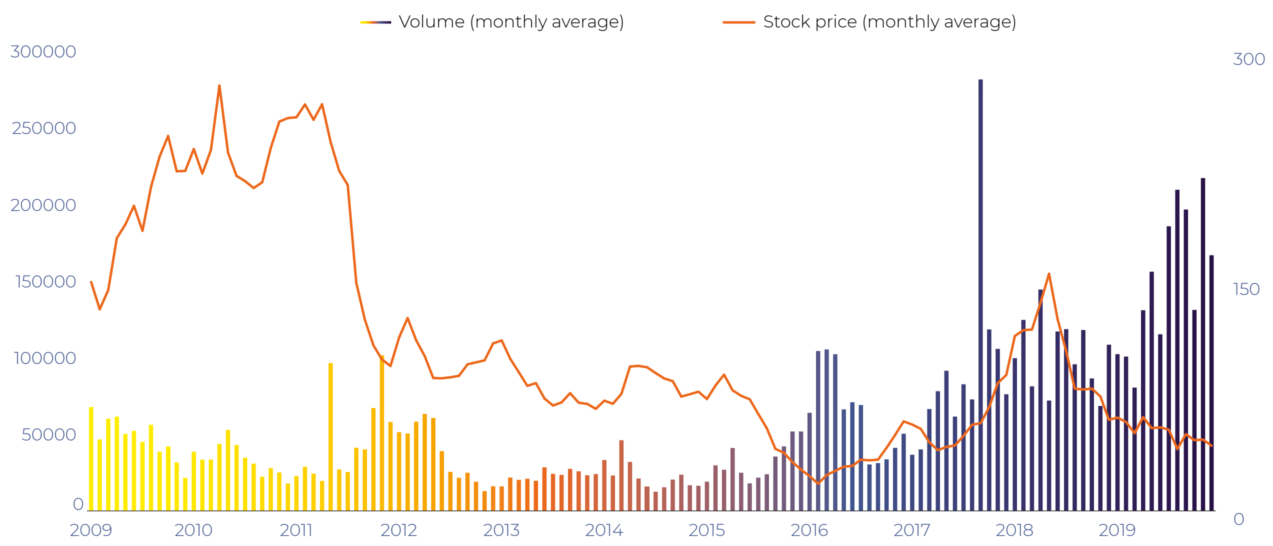
Eramet closed 2019 at €45.84 per share, representing a 24% decrease over the year, equating to a market capitalisation of €1.2 billion. This shift is the result of another very varied and fluctuating year, with share prices ranging from a high of €72.9/share on 17 April 2019 to a low of €36.4/share on 15 August 2019.

The year was marked by the implementation of the Group's operational improvement plan, entailing: increased production of manganese ore in Gabon, the enactment of the three-point plan to salvage SLN (exporting ore, organising working time and cutting energy costs), and continuing progress made in Sandouville. However, the respective fluctuations of the price of manganese and of nickel values on the LME remain the main factors accounting for the volatile trend seen in Eramet's share prices. Whilst the first half of the year was marked by a stable, high manganese price and nickel values improving on where they were at the close of 2018, the latter half saw a downward trend in prices for both these metals. With manganese, all producers were working at full capacity, leading to a slight imbalance in the market despite the sustained high demand from the carbon steel sector. For nickel, the early announcement of Indonesia's export ban initially caused prices to soar, but they returned to normal levels once backup inventories had been compiled.

Nevertheless, the volumes traded increased sharply from 26,041,295 shares in 2018 to 36,077,700 in 2019, representing an average of approximately 141,480 shares traded per session (compared with approximately 102,120 shares/session in 2018).

Trends in volumes and the Eramet share price

Volume *(in thousands of shares / price in euros)*



STOCK MARKET DATA

	Share prices *(in euros)* extremes during the period			Market capitalisation as at 31/12	Volume
	Highest	Lowest	Close as at 31/12	*(in millions of euros)*	*(daily ave.)*
2008	669.98	96.06	138.00	3,618	52,945
2009	272.30	108.00	220.75	5,821	47,589
2010	298.40	193.70	256.50	6,801	33,419
2011	276.65	80.05	94.50	2,505	46,402
2012	139.90	75.95	110.95	2,944	36,742
2013	116.00	63.76	70.29	1,866	22,927
2014	102.00	65.85	76.50	2,031	22,980
2015	94.39	23.05	29.50	783	32,166
2016	66.72	15.36	56.74	1,506	63,607
2017	99.81	36.43	99.03	2,640	92,549
2018	167.20	46.00	60.35	1,607	102,123
2019	72.90	36.42	45.84	1,220	149,901

	Share prices *(in euros)*			Volume (× 1000)
2019	**Lowest**	**Highest**	**Mean (close)**	*(ave./month)*
December	39.11	46.24	42.46	166.8
November	40.35	55.56	46.54	217.1
October	42.63	50.30	46.11	131.1
September	45.3	55.90	50.02	196.6
August	36.42	45.20	40.34	209.5
July	43.35	61.85	52.98	185.7
June	49.41	59.16	54.47	115.2
May	48.84	62.34	54.02	156.0
April	50.56	72.90	61.16	130.9
March	45.84	55.90	50.98	80.4
February	47.62	63.10	57.98	100.7
January	53.45	71.40	60.86	102.2

8.1.3 Share service

The Company's share register is maintained by:

- BNP Paribas Securities Services

  GCT – Issuer Services

  Grands Moulins de Pantin – 9, rue du Débarcadère – 93761 Pantin Cedex

The implementation of the liquidity agreement was entrusted to Exane BNP Paribas.

8.2 SHARE CAPITAL

8.2.1 Subscribed capital

8.2.1.1 Representative amount and shares

The share capital, as of 31 December 2019, amounted to €81,239,800, represented by 26,636,000 shares with a nominal value of €3.05, all of the same class and fully paid up.

8.2.1.2 Rights attached to the shares

Each share entitles the holder, in the ownership of the Company's assets and in the sharing of profits, to a share equal to the portion of the share capital it represents, taking into account, where appropriate, the amortised and unamortised capital, paid and unpaid, the nominal amount and the rights of the shares of different classes.

Each share shall give the right, during the Company's life and in the event of liquidation, to payment of the same net amount in any allocation or redemption, such that all shares shall be considered together, where applicable, regardless of any tax exemptions or any taxation likely to be assumed by the Company.

8.2.1.3 Subscribed capital not yet paid

None.

8.2.2 Securities not representing capital

8.2.2.1 Founders' shares, voting certificates

None.

8.2.2.2 Other securities – Potential capital

The potential capital consists of ODIRNAN.

On 5 October 2016, the Company issued 2,158,428 perpetual bonds with an option to repay in cash and/or new shares (ODIRNAN) for a total amount of €99,999,969.24.

Total amount of the issue	€100 million
Maturity	Indefinite
Number of bonds issued	2,158,428
Number of bonds at 31/12/2019	2,065,647
Nominal value (with a 30% premium based on the reference price of €35.64)	€46.33
Fixed interest rate until 4 October 2022	4%

The ODIRNANs are admitted to trading on the regulated market of Euronext Paris (ISIN code FR0013204492).

The purpose of the ODIRNAN issue was to strengthen Eramet's balance sheet structure by accounting treatment of shareholders' equity and the proceeds from the issue will be used to finance the Group's general needs.

The nominal unit value of ODIRNAN was set at €46.33, showing a conversion premium of 30% over the reference price of the Company's share at €35.64 on the Euronext Paris regulated market.

The ODIRNANs were issued at par on 5 October 2016, the settlement/delivery date. The bonds constitute direct, general, unconditional, non-subordinated and unsecured obligations.

From the date of issue until 4 October 2022, the ODIRNANs will bear interest at the annual nominal rate of 4%, payable semi-annually in arrears on 5 October and 5 April of each year, and for the first time on 5 April 2017, subject to suspension of interest payment. Effective from 5 October 2022, the ODIRNANs will bear interest at a discounted rate on the basis of the six-month EURIBOR variable interest rate plus 1,000 basis points, expressed on an annual basis, payable semi-annually in arrears on 5 October and 5 April of each year, and for the first time on 5 April 2023, subject to a suspension of interest payment.

Subject to early amortisation at the option of the Company, the ODIRNANs will only be redeemable in the event of liquidation of the Company or at the end of the lifetime specified in the Company's Articles of Association (23 September 2062), unless this period of life is extended under the conditions provided for by the applicable legislation. The refund will be, in both cases, equal to par.

The ODIRNAN holders may exercise their share allotment right at any time from the date of issue (inclusive) until the 18th trading day (excluded) before 5 October 2022, or any earlier date of early redemption. In the event of the exercise of the share allotment right, the ODIRNAN holders will receive, at the option of the Company, either an amount in cash, or a combination of an amount in cash and new shares, or new shares only.

The *Autorité des marchés financiers* has affixed to the prospectus visa No. 16-448 dated 26 September 2016.

The Company has not issued any other currently valid financial instruments – that do not represent a share in capital – but are likely to give access to capital in the future or by option.

However, authorisations exist to do so, by decision of the Board. This has not been used to date.

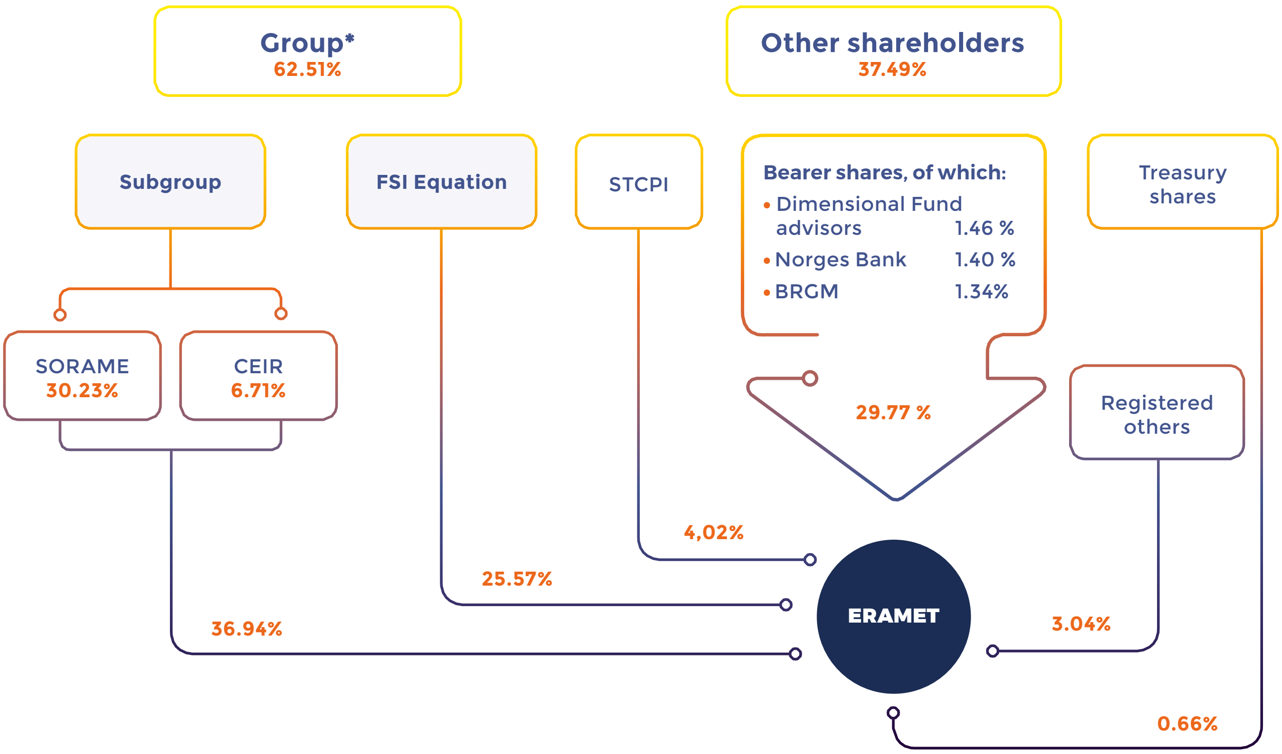
8.2.3 Recent changes in share capital and its distribution

Since the close of the financial year, the Company has not been informed of any significant change in shareholding.

8.2.4 Distribution of share capital

8.2.4.1 Control organization chart

Shareholders of the Company as at 31 December 2019 *(in % of shares)*



* *Pursuant to a Shareholders' Agreement which was the subject of a decision and information of the AMF published on 12 April 2012 under the No. 212C0486 at the time of its conclusion and a decision and information of the AMF published on 28 July 2016 under the No. 216C1753, relating to the changes in the group at the time of the acquisition of the entire FSI Equation capital by the Agence des participations de l'État (APE).*

8.2.4.2 As at 31 December 2019 (including shareholders holding – or those likely to hold – at least 1% of capital or voting rights, and known to the Company)

Major shareholders	Shares	Percentage of capital	Theoretical voting rights	Percentage of theoretical voting rights	Voting rights exercisable at Shareholders' Meeting	Percentage of voting rights exercisable at Shareholders' Meeting
Sorame[1]	8,051,838	30.23%	16,103,676	35.85%	16,103,676	35.99%
CEIR[1]	1,788,305	6.71%	3,572,301	7.95%	3,572,301	7.98%
Total for the Sorame/ CEIR subgroup[1]	**9,840,143**	**36.94%**	**19,675,977**	**43.80%**	**19,675,977**	**43.97%**
FSI Equation (held by the French State)[1]	6,810,317	25.57%	13,620,634	30.32%	13,620,634	30.44%
State (direct ownership)	100	not significant	200	not significant	200	not significant
Group total (Sorame/ CEIR/FSI)(1)	**16,650,560**	**62.51%**	**33,296,811**	**74.12%**	**33,296,811**	**74.41%**
Norges Bank[2]	373,706	1.40%	373,706	0.83%	373,706	0.84%
Dimensional Fund Advisors lp[2]	391,591	1.47%	391,591	0.87%	391,591	0.88%
STCPI	1,070,587	4.02%	2,141,174	4.77%	2,141,174	4.79%
BRGM[2]	356,044	1.34%	356,044	0.79%	356,044	0.80%
Employees (Eramet share fund)[3]	260,005	0.98%	312, 378	0.70%	312,378	0.70%
Corporate officers	9,051	not significant	16,335	not significant	16,335	not significant
Eramet treasury shares	176,562	0.66%	176,562	0.39%	0	0.00%
Other	7,347,894	27.62%	7,858,007	17.53%	7,858,007	17.60%
TOTAL SHARES	**26,636,000**	**100.00%**	**44,922,608**	**100.00%**	**44,746,046**	**100.00%**
Total Registered Shares	**18,706,172**	**70.23%**	**36,942,189**	**82.24%**	**36,765,627**	**82.17%**
Total Bearer Shares	**7,929,828**	**29.77%**	**7,929,828**	**17.65%**	**7,929,828**	**17.72%**

(1) The companies Sorame, CEIR and FSI Equation are signatories to a Shareholders' Agreement constituting a joint action and have been the subject of a decision and information of the Financial Markets Regulator under the No. 212C0486.

(2) Estimate based on last TPI survey.

(3) In accordance with the new drafting of Article L. 225-102 of the French Commercial Code, issued after Article 135 of the Law 215-990 of 6 August 2015 (Macron law), the share of capital held by employees on the last day of the year includes, in addition to the shares allocated to a salary savings plan or an FCPE, free registered shares issued from bonus share plans authorised by a general meeting subsequent to the entry into force of the law, i.e. from 8 August 2015. As at 31 December 2019, there were 260,005 shares answering this definition.

8.2.4.3 As at 31 December 2018 (including shareholders holding – or those likely to hold – at least 1% of capital or voting rights, and known to the Company)

Major shareholders	Shares	Percentage of capital	Theoretical voting rights	Percentage of theoretical voting rights	Voting rights exercisable at Shareholders' Meeting	Percentage of voting rights exercisable at Shareholders' Meeting
Sorame[1]	8,051,838	30.23%	16,103,676	35.85%	16,103,676	35.92%
CEIR[1]	1,788,305	6.71%	3,572,301	7.95%	3,572,301	7.97%
Total for the Sorame/ CEIR subgroup[1]	**9,840,143**	**36.94%**	**19,675,977**	**43.80%**	**19,675,977**	**43.89%**
FSI Equation (held by the French State)[1]	6,810,317	25.57%	13,620,634	30.32%	13,620,634	30.38%
State (direct ownership)	100	not significant	200	not significant	200	not significant
Group total (Sorame/ CEIR/FSI)(1)	**16,650,560**	**62.51%**	**33,296,811**	**74.12%**	**33,296,811**	**74.28%**
Schroders plc[2]	685,644	2.57%	685,644	1.53%	685,644	1.53%
Blackrock[4]	428,114	1.61%	428,114	0.95%	428,114	0.96%
Norges Bank[2]	373,706	1.40%	373,706	0.83%	373,706	0.83%
Acadian Asset Man. llc[2]	360,172	1.35%	360,172	0.80%	360,172	0.80%
Dimensional Fund Advisors lp[2]	302,451	1.14%	302,451	0.67%	302,451	0.67%
STCPI	1,070,587	4.02%	2,141,174	4.77%	2,141,174	4.78%
BRGM[2]	356,044	1.34%	356,044	0.79%	356,044	0.79%
Employees (Eramet share fund)[3]	136,306	0.51%	184,538	0.41%	184,538	0.41%
Corporate officers	15,143	not significant	25,952	not significant	25,952	not significant
Eramet treasury shares	95,164	0.36%	95,164	0.21%	0	0.00%
Other	6,161,993	23.19%	6,672,838	14.91%	6,672,838	14.94%
TOTAL SHARES	**26,635,884**	**100.00%**	**44,922,608**	**100.00%**	**44,827,444**	**100.00%**
Total Registered Shares	**18,525,883**	**69.55%**	**36,780,500**	**81.88%**	**36,685,336**	**81.84%**
Total Bearer Shares	**8,110,001**	**30.45%**	**8,110,001**	**18.05%**	**8,110,001**	**18.09%**

(1) The companies Sorame, CEIR and FSI Equation are signatories to a Shareholders' Agreement constituting a joint action and have been the subject of a decision and information of the Financial Markets Regulator under the No. 212C0486.

(2) Estimate based on last TPI survey.

(3) According to the new drafting of Article L. 225-102 of the French Commercial Code, issued after Article 135 of the Law 215-990 of 6 August 2015 (Macron law), the share of capital held by employees on the last day of the year includes, in addition to the shares allocated to a salary savings plan or an FCPE, free registered shares issued from bonus share plans authorised by a general meeting subsequent to the entry into force of the law, i.e. from 8 August 2015. At 31 December 2018, there were 136,306 shares corresponding to this definition (126,298 Eramet employee mutual funds and 10,008 under the Erashare 2016 resident plan).

(4) BlackRock: to the best of the Company's knowledge.

8.2.4.4 As at 31 December 2017 (including shareholders holding – or those likely to hold – at least 1% of capital or voting rights, and known to the Company)

Major shareholders	Shares	Percentage of capital	Theoretical voting rights	Percentage of theoretical voting rights	Voting rights exercisable at Shareholders' Meeting	Percentage of voting rights exercisable at Shareholders' Meeting
Sorame(1)	8,051,838	30.23%	16,103,676	35.86%	16,103,676	35.97%
CEIR(1)	1,783,996	6.70%	3,567,992	7.94%	3,567,992	7.97%
Total for the Sorame/ CEIR subgroup(1)	**9,835,834**	**36.93%**	**19,671,668**	**43.80%**	**19,671,668**	**43.94%**
FSI Equation (held by the French State)(1)	6,810,317	25.57%	13,620,634	30.33%	13,620,634	30.43%
State (direct ownership)	100	not significant	200	not significant	200	not significant
Group total (Sorame/ CEIR/FSI)(1)	**16,646,251**	**62.50%**	**33,292,502**	**74.13%**	**33,292,502**	**74.37%**
Schroders plc(2)	619,137	2.32%	619,137	1.38%	619,137	1.38%
Acadian Asset Man. llc(2)	454,540	1.71%	454,540	1.01%	454,540	1.02%
Dimensional Fund Advisors lp(2)	267,807	1.01%	267,807	0.60%	267,807	0.60%
STCPI	1,070,587	4.02%	2,141,174	4.77%	2,141,174	4.78%
BRGM(2)	356,044	1.34%	356,044	0.79%	356,044	0.80%
Employees (Eramet share fund)(3)	132,165	0.50%	184,538	0.41%	184,538	0.41%
Corporate officers	14,002	not significant	18,614	not significant	18,614	not significant
ERAMENT treasury shares	147,642	0.55%	147,642	0.33%	0	0.00%
Other	6,925,485	26.06%	7,799,143	16.59%	7,430,067	16.64%
TOTAL SHARES	**26,633,660**	**100.00%**	**44,912,065**	**100.00%**	**44,764,423**	**100.00%**
Total Registered Shares	**18,509,540**	**69.50%**	**36,663,450**	**81.63%**	**36,640,303**	**81.85%**
Total Bearer Shares	**8,124,120**	**30.50%**	**8,124,120**	**18.09%**	**8,124,120**	**18.15%**

(1) The companies Sorame, CEIR and FSI Equation are signatories to a Shareholders' Agreement constituting a joint action and have been the subject of a decision and information of the Financial Markets Regulator under the No. 212C0486.

(2)Estimate based on last TPI survey.

(3)According to the new drafting of Article L. 225-102 of the French Commercial Code, issued after Article 135 of the Law 2015-990 of 6 August 2015 (Macron law), the share of capital held by employees on the last day of the year includes, in addition to the shares allocated to a salary savings plan or an FCPE, free registered shares issued from bonus share plans authorised by a general meeting subsequent to the entry into force of the law, i.e. from 8 August 2015. As at 31 December 2017, there were no bonus shares corresponding to this definition. The share capital held by employees as at 31 December 2017 is therefore equal to 132,165 shares, corresponding to 0.50% of the share capital.

To the best of the Company's knowledge, there are no other shareholders directly or indirectly holding more than 1% of the Company's capital or voting rights and there are no pledged securities. Except for the treasury-held shares mentioned in the table above, there are no other treasury shares. The holding of shares by corporate officers is detailed in the Governance Chapter.

8.2.4.5 Foreseeable changes to voting rights

At 31 December 2019, 275,897 shares registered for less than two years in registered form do not benefit from the double voting right. Should these shares qualify for double voting rights, double voting rights would be increased to a total of approximately 37,220,000, to which the simple voting rights of the bearer shares should be added i.e. 7,929,828 additional rights as of 31 December 2019.

8.2.5 Stock option plans and bonus shares

As at the date of this registration document, there are no other dilutive instruments (convertible or exchangeable negotiable securities or any negotiable securities with warrants) issued by the Company besides the ODIRNANs described in section 8.2 above.

The bonus shares allocated, including details of the granted and open plans as at 31 December 2019, are presented in the notes to the consolidated financial statements of Eramet described in Chapter 3 of this document, and are existing shares. There are no other stock-option plans in force.

8.2.6 Summary of financial authorisations

Authorised capital increases	
A – By issuing shares, other securities and/or warrants, with preferential subscription rights for the shareholders. Art. L. 225-129 CC	
By the EGM for an amount of €24,000,000	23 May 2019 (19th resolution)
Duration of the delegation	26 months until 22/07/2021
Use of authorisation	None.
B – By issuing shares, various securities and/or warrants, without preferential subscription rights for part of a public offering	
By the EGM for an amount of €16,000,000	23 May 2019 (20th resolution)
Duration of the delegation	26 months until 22/07/2021
Use of authorisation	None.
C – By issuing shares, other securities and/or warrants, with the cancellation of the preferential subscription rights of the shareholders in the context of an offer referred to in II of Article L. 411-2 of the Monetary and Financial Code	
By the EGM for an amount of €16,000,000	23 May 2019 (21st resolution)
Duration of the delegation	26 months until 22/07/2021
Use of authorisation	None.
D – By issuing shares, with the cancellation of shareholders' preferential subscription rights, as a result of subsidiaries issuing securities which give access to the Company's capital	
By the EGM for an amount of €16,000,000	23 May 2019 (22nd resolution)
Duration of the delegation	26 months until 22/07/2021
Use of authorisation	None.
E – By incorporation of reserves, profits, premiums or otherwise, the capitalisation of which would be permitted	
By the EGM for an amount of €24,000,000	23 May 2019 (18th resolution)
Duration of the delegation	26 months until 22/07/2021
Use of authorisation	None.
F – By issuing shares, other securities, as compensation for contributions in kind granted to the Company, with cancellation of the preferential subscription rights of the shareholders. Art. L. 225-147 paragraph 6 CC	
By the EGM for an amount of 10% of the capital	23 May 2019 (23rd resolution)
Duration of the delegation	26 months until 22/07/2021
Use of authorisation	None.
LIMITATION OF THE AMOUNT OF ISSUES (TOTAL A+B+C+D+F)	
By the EGM	23 May 2019 (24th resolution)
Maximum amount	€24,000,000
Use of authorisations	None.
CAPITAL INCREASE RESERVED FOR EMPLOYEES	
G – By the EGM	23 May 2019 (25th resolution)
Duration of the delegation	26 months until 22/07/2021
Maximum amount	€500,000
Use of authorisation	None.
CAPITAL REDUCTION	
H – By the EGM	23 May 2019 (26th resolution)
Duration of the delegation	26 months until 22/07/2021
Maximum amount	10% of capital
Use of authorisation	None.
ALLOCATION OF BONUS SHARES (ART. L. 225-197-1 AND L. 225-197-2 CC)	
By the EGM	24 May 2018 (11th resolution)
Maximum total number	550,000 shares
Duration of authorisation	38 months until 23/07/2021
Used in 2019	149,385
Available balance	400,615

8.2.7 Description of the share buyback programme

8.2.7.1 Details of the purchase and sale of treasury shares during the year (Article L. 225-211 of the French Commercial Code)

The table below summarises the treasury share transactions that were made by the Company between 1 January and 31 December 2019.

	Total number of shares	Market making[1]	Grants to employees	Total
Position at 1 January 2018		**23,147**	**124,495**	**147,642**
As a percentage of capital	*26,633,660*	*-0.06%*	*0.77%*	*0.71%*
Final allocation of bonus shares			(92,388)	(92,388)
Purchases / sales		39,910		39,910
Position at 31 December 2018		**63,057**	**32,107**	**95,164**
As a percentage of capital	*26,633,660*	*0.24%*	*0.12%*	*0.36%*
Buyback mandate			193,250	193,250
Final allocation of bonus shares			(128,228)	(128,228)
Purchases / sales		16,376		16,376
POSITION AT 31 DECEMBER 2019		**79,433**	**97,129**	**176,562**
As a percentage of capital	*26,635,884*	*0.30%*	*0.36%*	*0.66%*

(1) Liquidity agreement signed with Exane BNP Paribas.

During the year, 482,468 shares were purchased at an average price of €49.77 and 401,070 shares were sold at an average price of €52.17.

The book value of the portfolio of 176,562 shares with a nominal value of €3.05 per share, held as at 31 December 2019, amounted to €16,068,160.73, with a market value, on the same date, of €45.84 per share, or €8,093,602.08.

The Company did not use derivatives during the year.

No Group company holds shares in the parent company Eramet.

8.2.7.2 Liquidity agreement

To ensure minimum liquidity at any time of its share, the Company entered into a liquidity agreement with Exane BNP Paribas on 18 July 2003. This liquidity agreement is in accordance with market practice accepted by the AMF. The summary of the market making operations is given in the details of the purchase and sale transactions carried out above.

8.2.8 Description of the 2020 buyback programme

8.2.8.1 Legal framework

In accordance with the provisions of Article 241-2 of the general regulations of the *Autorité des marchés financiers* and of EU Delegated Regulation 2016/1052 of 8 March 2016, the aim of this description is to state the purposes, terms and conditions of the Company's share buyback programme. This programme, which falls within the scope of Article L. 225-209 of the Commercial Code, will be subject to authorisation by the General Shareholders' Meeting of 26 May 2020, meeting the quorum and majority requirements in ordinary matters.

8.2.8.2 Breakdown by equity securities objectives held by the Company

As at 31 December 2019, the 176,562 treasury shares held by the Company were distributed as follows by objective:

- market maker (liquidity agreements): 79,433 shares;
- allocation to employees: 97,129 shares.

8.2.8.3 Objectives of the new share buyback programme

The objectives of this programme are:

- supporting the share price via a liquidity agreement with a market maker, in accordance with the market practice accepted by the AMF;
- the delivery of shares upon the exercise of rights attached to securities giving access to the share capital by redemption, conversion, exchange or otherwise;
- the implementation of any stock option plan of the Company pursuant to the provisions of Articles L. 225-177 *et seq.* of the French Commercial Code;
- the allocation of bonus shares under the provisions of Articles L. 225-197-1 *et seq.* of the French Commercial Code;
- the allocation or the transfer of shares to the employees with respect to their participation in the benefits of the expansion of the Company, or the implementation of any employee savings plan under the conditions stipulated by the law, in particular, the Articles L. 3332-1 *et seq.* of the French Labour Code;
- their cancellation, in accordance with the resolution proposed at the Combined Shareholders' Meeting of 23 May 2019, authorising the reduction of the share capital of the Company for a period of twenty-six months.

8.2.8.4 Maximum number of shares to be purchased and maximum cash amount allocated to the programme

10% of the share capital as at 31 December 2019, or 2,663,600 shares, before deducting the treasury shares held by the Company.

The Eramet shares are listed on Euronext Paris (ISIN code: FR0000131757).

The maximum purchase price would be €200 per share.

The maximum amount allocated to these acquisitions would be €532,720,000 euros for 2,663,600shares representing 10% of the Company's share capital.

8.2.8.5 Terms of repurchase

Shares, disposals, and transfers may be made by any means on the market or over the counter, including by transactions in blocks of securities or via derivatives, provided that the resolution proposed to the vote of the shareholders does not limit the part of the programme which can be realised by purchase of blocks of securities.

The Company specifies that in the event of the implementation of derivatives, the objective of the Company would be to cover optional positions taken by the issuer (purchase options or subscription of shares granted to Group employees, debt securities giving access to the capital of the issuer). The use of derivatives will more specifically consist of buying call options and the Company will not be required to use sales of put options.

8.2.8.6 Duration of the buyback programme

The validity of the programme is limited to a period ending with the General Shareholders' Meeting convened to approve the financial statements for 2020.

8.3 INFORMATION ABOUT THE COMPANY

8.3.1 Corporate name (Article 2 of the Articles of Association)

Eramet. In this document, the Company is called "the Company" or "the issuer": the Group comprising Eramet and its subsidiaries is referred to as "the Group".

8.3.2 Registration number of the Company – LEI

The Company is registered in the Paris Trade and Companies Register under the No. 632 045 381 and under the SIRET No. 632 045 381 000 27. Its industry is the research and exploitation of mineral deposits of all kinds, the metallurgy of all metals and alloys, and their trading. LEI 549300LUH78PG2MP6N64

8.3.3 Date of incorporation and duration of the Company (Article 5 of the Articles of Association)

The Company has been incorporated for a period of 99 years commencing on 23 September 1963 and expiring on 23 September 2062, except in the case of early dissolution or extension.

8.3.4 Headquarters (Article 4 of the Articles of Association)

10, boulevard de Grenelle

75015 Paris

Phone: + 33 (0)1 45 38 42 42

Website: www.eramet.com (information on the website is not part of the prospectus, unless it is referenced therein).

8.3.5 Legal form and applicable law

Eramet is a limited company under French law, run by a Board of Directors, governed by Articles L. 224-1 *et seq.* of the Code of Commerce (the legislative and regulatory part), insofar as it is not exempted by more specific provisions such as, notably, ordinance No. 2014-948 of 20 August 2014 with respect to governance and share capital transactions of publicly-owned companies, and the provisions of its own Articles of Association.

8.3.6 Legal audit of the Company (Article 19 of the Articles of Association)

In accordance with the law, the legal audit of the Company is provided by two Statutory Auditors and two alternate Statutory Auditors.

8.3.7 Corporate purpose (Article 3 of the Articles of Association)

"The objective of the Company in all countries is the research and exploitation of mineral deposits of all kinds, the metallurgy of all metals and alloys, and their trading.

To this end, it operates directly, or indirectly, by way of participation in the following activities:

- research, acquisition, leasehold, alienation, concession and operation of all mines and quarries of any nature whatsoever;
- treatment, processing and sale of all ores, mineral substances and metals, as well as their by-products, alloys and all derivatives;
- the manufacture and marketing of all products in the composition of which the aforesaid materials or substances are incorporated;
- more generally, all operations directly or indirectly related to the above items, or to promote the development of corporate interests.

To achieve this objective, the Company may:

- create, acquire, sell, exchange, take or lease, with or without a promise to sell, manage and exploit directly or indirectly all industrial and commercial establishments, factories, sites, and premises, movable and immovable objects;
- obtain or acquire any patents, licences, processes and trademarks, use, assign or provide them, grant licences in any country;
- generally carry out all commercial, industrial, financial, movable or immovable transactions, which may relate, directly or indirectly, to the Company's objective or which may facilitate its implementation. It may act, directly or indirectly, on its own behalf or on behalf of third parties and either alone or in association, partnership, or Company, with any other companies or persons and carry out, directly or indirectly, in France or abroad, under whatever form it may take, the operations falling within its purpose. It may take, in any form, all interests and participations, in all companies or enterprises, French or foreign, such as to favour the development of its own affairs. "

8.3.8 Fiscal year (Article 23 of the Articles of Association)

The financial year, of twelve months, begins on 1 January and ends on 31 December of each year.

8.3.9 General Shareholders' Meeting

8.3.9.1 Convocation and conditions for admission (Articles 20 to 22 of the Articles of Association)

Composition

The General Shareholders' Meeting is composed of all the shareholders of the Company, regardless of their number of shares.

Convocation

The General Shareholders' Meeting is convened and deliberates in accordance with the provisions of the French Commercial Code and Articles 20 to 22 of the Articles of Association.

Meetings are held at the head office or any other place within the same department specified in the meeting notice.

Conditions of admission

Any shareholder has the right, upon proof of identity, to participate in the Meetings, either by attending personally or by being represented by another shareholder, his spouse, the partner with whom he has entered into a civil union, or by any other natural or legal person of his choice under the conditions provided for by the regulations in force.

Holders of registered shares and holders of bearer shares must complete the formalities prescribed by the regulations in force. These formalities must have been completed no later than the second business day preceding the Meeting at midnight Paris time prior to the Meeting. Shareholders are also entitled to vote by correspondence in accordance with Articles L. 225-107 and R. 225-75 *et seq.* of the French Commercial Code, by means of a form to be sent to the Company at least three days before the meeting.

If the Board of Directors so decides at the time of convening the Meeting, participation in the Meeting by video conference or by any means of telecommunication and remote transmission, including the Internet, is authorised in accordance with the regulations. If applicable, this decision is communicated in the meeting notice published in the Bulletin of Mandatory Legal Notices.

Undivided, split, pledged or sequestered shares

In the absence of specific statutory provisions, and pursuant to the provisions of Article L. 225-110 of the Commercial Code, any holder of an undivided share, a split share (bare owner and beneficiary), a pledged share or a sequestered share, is called to the Meeting and may attend, subject to compliance with the legal or statutory provisions below with respect to the exercise of voting rights.

8.3.9.2 Conditions for exercise of voting rights (Articles 8 and 20 of the Articles of Association)

Each shareholder has as many votes as the shares he owns or represents, subject to the double voting rights attached to certain shares. The Extraordinary Shareholders' Meeting convened on 21 July 1999 conferred a double voting right to each fully paid-up share for which a nominal registration has been valid for at least two years in the name of the same shareholder, with effect from 1 January 2002.

Shares granted free of charge, with respect to an incorporation of reserves, profits, or issue premiums, on the basis of old shares with double voting rights, also confer double voting rights at the end of a period of two years.

Double voting rights cease for any share which has been converted into bearer form or transferred, except, by law, any transfer by succession, liquidation of community property between spouses or family donation or a merger or division of the shareholding company.

In accordance with the law, double voting rights may only be abolished by a decision of the Extraordinary General Shareholders' Meeting and after ratification by the Special Shareholders' Meeting.

Electronic voting

Any shareholder may also, if the Board of Directors so decides at the time of the convening of the Meeting, transmit a vote by correspondence or proxy, by any means of remote transmission, including the Internet, in accordance with the regulations applicable at the time of use.

In the case of the use of an electronic form, the signature of the shareholder may take the form either of a secure signature or of a reliable identification process guaranteeing its connection with the act to which it relates, specifically consisting of an identifier and a password. If applicable, this decision is communicated in the meeting notice published in the Bulletin of Mandatory Legal Notices.

Proxies or votes expressed electronically in this way before the meeting, and the confirmation of receipt given in reply, shall be regarded as irrevocable written instructions enforceable on all parties, it being stipulated that if the shares are sold before midnight, Paris time, on the second business day preceding the meeting, the Company shall invalidate or amend, as the case may be, proxies or votes expressed before such date and time.

Undivided, split, pledged or sequestered shares

In the absence of specific statutory provisions and pursuant to the provisions of Article L. 225-110 of the Commercial Code, the voting right is exercised by the usufructuary at the Ordinary General Shareholders' Meeting, by the bare owner at the Extraordinary General Shareholders' Meeting, by one of the undivided co-owners or by a single representative in the case of co-owners of undivided shares and by the owner of securities pledged or under escrow.

8.3.10 Transmission of shares

Since the elimination of the approval clause adopted by the Meeting of 15 June 1994, shares are exchanged freely subject to compliance with the rules applicable to companies whose shares are admitted to trading on a regulated market.

8.3.11 Identification of shareholders

8.3.11.1 Crossing thresholds / Declaration of Intent

Legal declarations

Under Articles L. 233-7 to L. 233-11 of the Commercial Code, any natural or legal person, acting alone or in concert, holding a number of shares representing more than one twentieth, one tenth, three-twentieths, one fifth, one quarter, three-tenths, one third, one half, two thirds, eighteen twentieths or nineteen twentieths of the Company's capital and/or voting rights must inform the *Autorité des marchés financiers* and the Company – within the agreed time limits by registered letter with acknowledgement of receipt, of the total number of shares and/or voting rights in his possession. The same people are also required to inform the Company when their participation falls below any of the above mentioned thresholds.

Finally, this reporting obligation is supplemented by the legal obligation to report, on time, the objectives over the next six months for any person crossing, upward or downward, the above mentioned thresholds of one tenth, three-twentieths, one fifth, or one quarter.

In the event of non-compliance with these reporting obligations, the provisions of Article L. 233-14 of the said Code shall be applied.

Additional statutory declarations

Since the amendment of Article 9 of the Articles of Association by the General Shareholders' Meeting on 15 June 1994, any natural or legal person, acting alone or in concert, who comes to hold or ceases to hold a fraction equal to 1% of the capital and/or voting rights, or any multiple thereof, is required to inform the Company within ten days by registered letter with acknowledgement of receipt addressed to the Company's head office, including the number of shares and voting rights held.

Failure to do so results in the deprivation of voting rights for the shares or voting rights exceeding the fraction that should have been declared for a period of two years commencing from the regularisation and on request, at a Meeting, of one or more shareholders owning 5% of capital or voting rights of a Meeting.

8.3.11.2 Identifiable bearer shares

Pursuant to Article L. 228-2 of the Code of Commerce, the Company, whose shares are admitted for trading on a regulated market, may, at any time, appeal to Euroclear SA for the procedure for identifying the holders of bearer shares called "identifiable bearer shares".

8.3.12 Publicly made declarations of threshold crossing

Date	AMF Decision No.	Subject
03/08/1999	199C1045	Declaration of threshold crossing (ERAP – CEIR – Sorame). Declaration of intent. Appointment of five people qualified as directors. Reminder: exemption from the obligation to file a public tender offer.
29/12/1999	199C2064	Declaration of threshold crossing Cogema replaces ERAP.
30/12/1999	199C2068	Declaration of threshold crossing AFD replaces ERAP.
25/07/2001	199C0921	Draft amendment to the Shareholders' Agreement: reclassification of Eramet shares held by Cogema at CEA Industrie.
12/09/2001	201C1140	Declaration of threshold crossing Amendment to the Shareholders' Agreement following the substitution of Cogema by AREVA.
20/12/2004	204C1559	Declaration of threshold crossing and declaration of intent. Substitution of Maaldrift BV by Carlo Tassara International.
14/02/2006	206C0296	Declaration of threshold crossing upward to 5.0034% of capital and 2.98% of voting rights by M & G Investment Management Limited.
17/01/2007	207C0134	Declaration of threshold crossing upward to 13.16% of capital and 7.74% of voting rights and declaration of intent by Carlo Tassara France.
18/01/2007	207C0137	Declaration of threshold crossing downward (0%) by Carlo Tassara International.
24/07/2007	207C1569	Declaration of threshold crossing downward to 4.14% of capital and 4.81% of voting rights by STCPI.
30/05/2008	208C1042	Amendment to the Shareholders' Agreement (CEIR – Sorame – AREVA) of 17/06/99
03/06/2008	208C1083	Declaration of threshold crossing downward to 4.95% of capital and 2.93% of the voting rights of M & G Investment Management Limited.
21/07/2009	209C1013	Amendment to the Sorame – CEIR Agreement of 19/07/99
20/03/2012	212C0416	Declaration of threshold crossing upward and then downward (4.92% of capital and 2.94% of voting rights) by BlackRock Inc.
12/04/2012	212C0486	Publication of the Sorame-CEIR-FSI Shareholders' Agreement clauses
21/05/2012	212C0634	Declaration of threshold crossing downward by AREVA – End of Sorame-CEIR-AREVA Shareholders' Agreement.
23/05/2012	212C0647	Declaration of threshold crossing upward by FSI
22/07/2013	213C1027	Declaration of threshold crossing upward by BPI Group through Bpifrance Participations (ex FSI)
22/07/2013	213C1028	Declaration of participation of the Caisse des Dépôts et Consignations through the BPI Group
21/07/2014	214C1461	Declaration of threshold crossing upward by Caisse des Dépôts et Consignations and BPI Group, through BPI France Participations, as a result of the allocation of double voting rights.
28/07/2016	216C1753	Consideration of the consequences of the change within the group (change of control of FSI Equation without affecting the equilibrium of the controlling group Eramet, the Sorame-CEIR-FSI Equation shareholder agreement remaining unchanged)
02/09/2016	216C1953	Declaration of threshold crossing upward by the Agence des participations de l'État (APE), together with the FSI Equation which it controls and the companies Sorame and CEIR
02/09/2016	216C1957	Declaration of threshold crossing downward by Bpifrance, through Bpifrance Participations, and the end of collaborative action with FSI Equation, Sorame and CEIR
05/09/2016	216C1971	Declaration of threshold crossing downward by Caisse des Dépôts et Consignations, through Bpifrance Participations
20/12/2016	216C2860	Declaration of threshold crossing upward by Intesa SanPaolo S.p.A.
21/12/2016	216C2884	Declaration of threshold crossing downward by Carlo Tassara France SAS
19/09/2017	2017C2159	Declaration of threshold crossing downward by Intesa SanPaolo S.p.A.

8.3.13 Elements likely to have an impact in the event of a public offer

In addition to the information on threshold crossings, double voting rights, shareholder agreements and commitments detailed in this section, the following items are to be noted.

8.3.13.1 Possibility of using the capital increase authorisations during public offers

According to the new wording of Article L. 233-32 of the Commercial Code, resulting from Law No. 2014-384 of 29 March 2014, the capital increase, authorisations put to vote at the General Shareholders' Meeting may be used during a takeover bid or exchange by the Board of Directors, subject to the powers expressly granted to general meetings and within the limits of the corporate interest of the Company.

8.3.13.2 Loans

The Multicurrency Revolving Credit Facility Agreement (RCF) described in the Notes to the consolidated statements (section 3), provides for the possibility for each bank, in the event of a change of control of the Company, to notify the cancellation of its commitment and the early repayment of its participation in the advances in progress.

In addition, the perpetual bond loan with an option to repay in cash and/or new shares (ODIRNAN) in the amount of approximately €100 million described in Note 6 to the consolidated financial statements provides for:

- the possibility of early redemption at the option of the Company within forty-five days following the change of control of the Company for all outstanding bonds;
- in the event that the Company decides not to proceed with the early repayment of the bonds following the change of control, an automatic surcharge of 500 basis points of the nominal rate will apply as of the first interest period following said change of control.

The bond loans described in the notes to the consolidated financial statements include a change of control clause that could lead to the mandatory early redemption of bond loans at the request of each bondholder in the event of a change of control of the Company.

8.4 SHAREHOLDERS' AGREEMENTS

Pursuant to a Shareholders' Agreement concluded on 16 March 2012, which entered into force on 16 May 2012, was last amended on 25 April 2019 and is renewable on 31 December of each year for a further one-year period, which was the subject of a decision and information of the *Autorité des marchés financiers* (AMF) under No. 212C0647 at the time of its conclusion, and a decision and information of the *Autorité des marchés financiers* under No. 216C1753 relating to the change within the group acting in concert during the acquisition by the *Agence des participations de l'État* (APE) of the entire share capital of FSI Equation, the Company is majority controlled by a group of shareholders having declared to be acting in concert, including:

- a subgroup between Sorame and CEIR, companies controlled by the Duval Family, under a concurrent Shareholders' Agreement dated 19 July 1999, which came into force on 21 July 1999 and was the subject of an amendment on 13 July 2009;
- the *Agence des participations de l'État* (APE), through its subsidiary FSI Equation.

The Shareholders' Agreement provides that the Board of Directors include five directors proposed by Sorame/CEIR, three directors nominated by APE, five directors must be natural persons, including three individuals proposed by the subgroup Sorame/CEIR and two proposed by APE, selected on the basis of their competence and independence, two directors nominated by the Caledonian Territorial Corporation of Industrial Participation (hereinafter "STCPI"), a director proposed by agreement between Sorame/CEIR and APE, and a director called upon to chair the Eramet Board of Directors.

The provisions of the Shareholders' Agreement referred to above as well as those of the subgroup are contained in the main extracts of the AMF's decision and information texts No. 216C1753, No. 212C0486 and No. 209C1013 (amendment of 13 July 2009) reproduced below (the full text of these texts is available on the AMF website).

8.4.1 Decision and Information No. 216C1753 of 28 July 2016

On 29 August 2016, the *Agence des participations de l'État*, acting on behalf of the State, acquired the entire capital of FSI Equation, which holds 6,810,317 Eramet shares – i.e. 25.66% of the capital of this company.

In this context, the *Agence des participations de l'État* filed a request for dismissal of a proposed public offer for the Eramet shares with the AMF, which issued a decision No. 216C1753 on 28 July 2016, the terms of which are reproduced below.

"At its meeting of 13 July 2016, the Autorité des marchés financiers considered a request to dismiss a proposed public offer for the Eramet shares, which is part of the amendment to the shareholding of this company(1). The group consisting of Sorame(2) and CEIR(3) (both controlled by the Duval family) and FSI Equation(4) holds 16,646,151 Eramet shares, representing 33,292,302 voting rights, or 62.71% of the capital and 74.34% of voting rights of this company(5), apportioned as follows:

	Shares	% capital	Voting rights	Percentage of voting rights
Sorame	8,051,838	30.33	16,103,676	35.96
CEIR	1,783,996	6.72	3,567,992	7.97
Total for the Sorame/CEIR subgroup	**9,835,834**	**37.06**	**19,671,668**	**43.93**
FSI Equation	6,810,317	25.66	13,620,634	30.41
SUBGROUP TOTAL	**16,646,151**	**62.71**	**33,292,302**	**74.34**

The Agence des participations de l'État (APE), acting on behalf of the State, intends to acquire, in the second half of 2016, the entire capital of FSI Equation, which holds 6,810,317 Eramet shares, i.e. 25.66% of the share capital of this company. As a result of the APE's acquisition of the entire share capital of FSI Equation, the direct shareholding of Eramet will not be changed, so the above-mentioned shareholding table will remain unchanged. Nevertheless, due to the APE replacing Bpifrance Participations in the control of FSI Equation and in the group formed with the Sorame-CEIR subgroup, it will indirectly increase the threshold of 30% of the voting rights of Eramet and, in collaboration with the Sorame-CEIR subgroup, the thresholds of 30% of the capital and voting rights of this company.

In this context, the APE has asked the Autorité des marchés financiers to note that there is no reason to file a public offer for the shares of Eramet, particularly on the basis of Article 234-7 of the general regulations.

(1) See, in particular, the communication issued by the State (APE) on 27 July 2016.
(2) Société de Recherche et d'Applications Métallurgiques controlled by the Duval family.
(3) Compagnie d'Études Industrielles de Rouvray, controlled by the Duval family.
(4) 100% owned by Bpifrance Participations, itself 100% owned by Bpifrance SA, which is jointly controlled 50% by the public institution Bpifrance and 50% by the Caisse des Dépôts et Consignations.
(5) Based on share capital of 26,543,218 shares representing 44,783,479 voting rights under the second paragraph of Article 223-11 of the general regulations.

In particular, the applicant contends that:

- *Eramet is controlled by a group composed of Sorame, CEIR and FSI Equation, which holds 74.34% of Eramet's voting rights (of which 30.41% of the voting rights are held by FSI Equation), i.e. the majority of voting rights in the Company;*
- *the subgroup Sorame-CEIR is predominant within the group it forms with FSI Equation[1] and the result of the proposed substitution transaction for the capital of FSI Equation, this predominance of the subgroup Sorame-CEIR will not be called into question insofar as the balance of the interests between the said shareholders in the capital of Eramet will remain unchanged;*
- *the transaction will not entail any change in the terms of the exercise of power within Eramet due to the absence of any modification of the provisions of the Shareholders' Agreement concluded on 16 March 2012 between the current collaborators, which provides, in particular, for the composition of the corporate bodies and the rules for cooperation[1].*

On this basis, the AMF noted (i) that the change of control of FSI Equation in favour of the APE will have no implication for the balance of the group controlling Eramet, within which Sorame and CEIR remain predominant over FSI Equation, (ii) the Shareholders' Agreement between the subgroup Sorame-CEIR and FSI Equation will remain unchanged, particularly with regard to the terms of exercising governance within Eramet and, therefore, on the basis of Article 234-7 of the general regulations there was no need for the compulsory filing of a draft public offer.

In the event of a modification of the agreements concluded or the respective interests of the collaborators, the AMF would need to be informed so that it can assess the consequences of these changes with regard to the obligation to file a public offer.

8.4.2 Decision and Information No. 212C0486 of 12 April 2012

The main clauses of the said agreement are as follows:

Composition of the Eramet Board of Directors

The Board of Directors will be made up of five directors proposed by Sorame/CEIR, three directors proposed by FSI, four directors who must be natural persons, of which two natural persons will be proposed by the Sorame/CEIR subgroup and two proposed by FSI, selected on the basis of their competence and independence, two directors nominated by the Caledonian Territorial Corporation of Industrial Participation (hereinafter "STCPI") and a director called upon to chair the Board of Eramet.

This composition must be maintained except in the case of (i) a capital change of more than 10% of the share capital of Eramet of the capital interests held at the signing of the Agreement, either by Sorame and CEIR, or by FSI, or (ii) a significant change in STCPI's participation in Eramet, in terms of capital, constituting a reduction to below 635,372 Eramet shares.

Chair and committees of the Board of Directors

The parties (i.e. Sorame, CEIR and FSI) plan to consult before any appointment of a Chairman of the Board, a Managing Director, or a Deputy CEO, or appointment of leaders of each of the three Divisions of the Eramet Group. The composition and duties of the committees of the Board of Directors, namely the Selection Committee, the Remuneration Committee, and the Audit Committee, are also defined. In the event of failure of the collaboration, the rules of general law apply.

Stability of the group

Commitment of collaboration

The parties agree to consult before any meeting of the Eramet Board of Directors and any General Shareholders' Meeting with a view to a concerted exercise of their voting rights and the implementation of a common approach to it, and stipulate that, in instances of disagreement on a matter before the Board of Directors, they will ensure that its decision is postponed to its next meeting[2].

Commitment to retain

The companies Sorame and CEIR undertake to hold the first 70%, at least, and the second 30% of their total interest in Eramet and, as long as FSI does not increase its overall interest in Eramet, to retain 2% more of the Eramet capital than FSI, which ensures the overall group the retention of 51% of the Eramet voting rights as long as the participation of FSI in Eramet will remain equal to 25.68% of the capital. However, the Sorame/CEIR subgroup remains free to sell at least 80% of its interest in Eramet, and its commitment to retention ceases if FSI exercises its option to purchase the Eramet shares from Sorame.

(1) See in particular D&I 212C0486 of 12 April 2012 and 212C0647 of 23 May 2012.

(2) It is specified that in such a case, the parties are not required to agree and remain free to exercise their voting rights as they wish; in particular, they did not provide veto rights.

Obligations in case of public offer

Each party undertakes to make or execute in due time the declarations and obligations to which it is bound, to bear only the penalties for their possible non-performance, and to deposit and assume alone the public tender offer which became mandatory because of its possible acquisitions of Eramet shares, or any of its acts, or a breach of any of its obligations.

Options to buy and sell the Eramet shares of Sorame and CEIR

Sorame grants to FSI an indivisible purchase option for its Eramet shares, exercisable in the event of a transfer of shares or one or more shares of general partners or of any transaction on Sorame that results in the Duval Family losing control of Sorame. CEIR grants to FSI an indivisible purchase option for all of its Eramet shares, and FSI grants CEIR an indivisible sale option for all of its Eramet shares. These two options will be exercisable upon exercise by FSI of its option to purchase the Eramet shares held by Sorame.

Rights of reciprocal first refusal (pre-emption)

The parties agree to a right of reciprocal first refusal, (i) in case of a firm intention to sell, on the market to unidentified third parties on an *ad hoc* basis or by accelerated bookbuilding (ABB) or by a fully marketed offer (FMO), a specified number of Eramet shares; (ii) in the event of a proposed assignment to one or more identified third parties of one or more Eramet share blocks, by application or off the market; and in the case of plans to contribute all or part of its interest in Eramet, paid for by the shares of the Company benefiting from the contribution.

The right of first refusal is excluded in the following cases:

- transfers in the market: for Sorame and CEIR, as long as the commitment to retain is respected, and for FSI, as long as it retains 20% of Eramet's share capital;
- transfers to a third party or several third parties identified or proposed contribution: for Sorame and CEIR, as long as the commitment to retain is respected and that a block of more than 5% of the capital is not sold to the same group of investors and for FSI, as long as it keeps 20% of the Eramet capital and that more than 5% of the capital is not sold to the same group of investors.

Generally, there is no obligation of notification and rights of first refusal for (i) free transmissions, upon death or *inter vivos*, to individuals, (ii) assignments within the Sorame/CEIR subgroup, provided that the first of these retains at least 70%, and the second at most 30% of their overall participation in Eramet, (iii) in case of a merger of Sorame and CEIR, if Sorame is the absorbing firm and remains controlled by the Duval family, and (iv) in case of FSI making a transfer or contribution of its Eramet shares to one of its subsidiaries, provided that the recipient adheres to the Shareholders' Agreement and replaces FSI in the resulting rights and duties.

Duration

The pact will enter into force on the actual transfer by AREVA to FSI of the interest it holds in Eramet. It is concluded for a fixed term ending on 31 December 2016, and extends beyond that date by tacit agreement for periods of one year, unless one of the parties notifies the other of its termination at least one month before the expiration of the current period. The pact will cease immediately and automatically in the event of (i) a change of predominance within the global group due to acquisitions or share subscriptions by FSI, (ii) sale or contribution or transfer by one of the parties of more than 80% of its stake in Eramet, or (iii) reduction to less than 15% of FSI's direct or indirect stake in Eramet capital.

Consequently, Sorame and CEIR decided by addendum No. 2, concluded on 16 March 2012, to amend the duration clause of the Shareholders' Agreement which they concluded on 17 June 1999, already amended by addendum No. 1 of 13 July 2009.

Finally, it is specified that Sorame and CEIR have committed to FSI to convert the required number of Eramet shares to bearer shares so that the current interest of the Sorame/CEIR subgroup is not increased by more than 2% as a result of the loss of the double voting rights attached to the Eramet shares sold to FSI. After the sale of Eramet shares, Sorame and CEIR and FSI will ask Eramet to re-register all of their Eramet shares in order to recover the double voting rights two years later.

8.4.3 Decision and information No. 209C1013 of 21 July 2009

By letter dated 16 July 2009, the AMF was the recipient of a shareholder agreement entitled "Amendment No. 1 to the Eramet Shareholders' Agreement of 19 July 1999 between Sorame and CEIR" concluded on 13 July 2009 between the company Sorame, partnership limited by share capital, and the company CEIR, by simplified joint-stock.

A/ It is recalled that the companies Sorame and CEIR (companies controlled by the Duval family) concluded on 19 July 1999 a Shareholders' Agreement establishing them in concert for 10 years, effective 21 July 1999.

This pact provided, in particular:

- the inalienability of their Eramet shares for five years, except, for each of them, up to a maximum of 1.5% of the Eramet share capital;
- complete freedom to sell between themselves their Eramet shares, provided that Sorame continues to hold at least 70% of the Eramet shares held by their collaboration and CEIR, a maximum of 30%, with the commitment to maintain this distribution between them in case of an increase in their holdings;
- reciprocal pre-emption rights over their Eramet shares;
- a commitment to collaborate prior to any Eramet General Shareholders' Meeting, with a view to the concordant exercise of their voting rights for the implementation of a common policy regarding that company.

B/ It is further recalled that the companies Sorame and CEIR, certain members of the Duval family and AREVA are united by a Shareholders' Agreement establishing them in collaboration with respect to Eramet, which results from a private agreement dated 17 June 1999, and a supplementary agreement of 27 July 2001 having substituted AREVA for Cogema, itself already substituted for ERAP on1 December 1999, pursuant to the provisions of the said agreement.

Amendment No. 2 to the aforementioned private deed of 17 June 1999 was signed on 29 May 2008, by which the parties extended their agreement of collaboration until 31 December 2008, and made various modifications to it, and for that reason substituted, as of 29 May 2008, a new wording to the previous drafting of their Shareholders' Agreement as of 17 June 1999.

In the absence of termination by the parties before 15 December 2008 and then 15 June 2009, the new agreement was tacitly extended twice, the last time from1 July 2009 for a period of six months ending on 31 December 2009.

As of 16 July 2009, the parties to the agreement together hold 61.57% of the capital and 73.57% of the voting rights of Eramet, broken down as follows:

	Shares	% capital	Voting rights	Percentage of voting rights
Sorame	7,818,919	29.37	15,637,838	35.16
CEIR	1,783,996	6.70	3,567,992	8.02
Sorame/CEIR subtotal	**9,602,915**	**36.07**	**19,205,830**	**43.18**
AREVA	6,787,277	25.39	13,514,554	30.63
GROUP TOTAL	**16,390,192**	**61.57**	**32,720,384**	**73.57**

C/ On 13 July 2009, Sorame and CEIR signed an amendment to the agreement of 19 July 1999 described in point A above, extending their collaboration agreement until 21 July 2014, by providing different modifications, and, as of 13 July 2009, substituted a new wording to that of the Shareholders' Agreement of 19 July 1999.

The main clauses of the amendment between Sorame and CEIR are as follows:

- stability of the Sorame/CEIR group: except in the event of a sale representing at least 80% of the group's interest in Eramet and as long as AREVA does not increase its stake in Eramet by more than 2%, the parties undertake to retain the number of shares and voting rights required for their subgroup to remain predominant in the overall collaboration;
- transfer of Eramet shares between Sorame and CEIR: any sale of Eramet shares may be carried out freely between the parties, provided that Sorame continues to hold at least 70% of the Eramet shares held by the subgroup and CEIR, a maximum of 30%;
- increase in holdings by Sorame and CEIR in Eramet: the parties are free to increase their participation in Eramet, provided that they do not increase their shareholding by more than 2% of the capital or voting rights in less than twelve months;
- commitment to collaborate between the parties prior to any Eramet General Shareholders' Meeting, with a view to the concordant exercise of their voting rights for the implementation of a common policy regarding Eramet.

This agreement replaces the agreement of 19 July 1999. It is concluded for a period expiring on 21 July 2014 and shall thereafter be tacitly renewed for periods of two years, in the absence of its termination notified by either party with one month's notice before the expiry of the period in progress.

It shall cease, as will the concerted action between the parties, in the event of the sale by one of the parties of more than 80% of its interest in Eramet.

x x x

Furthermore, the distribution of directors on the Board and committees is detailed in Chapter 4 "Governance" of this document.

To the knowledge of Eramet, there is no other agreement or pact.

9

General Shareholders' Meeting

9.1 EXPLANATORY STATEMENT AND TEXT OF DRAFT RESOLUTIONS

TEXT OF THE DRAFT RESOLUTIONS AND EXPLANATORY STATEMENT

Under the authority of the Ordinary Shareholders' Meeting

Resolutions 1 and 2 concern the approval of the parent company financial statements and the consolidated financial statements for the past financial year. The detailed financial statements can be found in the documents distributed to shareholders and are commented upon in the management report.

First resolution

(2019 annual financial statements)

The Shareholders' Meeting, acting with the quorum and majority required for ordinary shareholders' meetings, after hearing read aloud the Board of Directors' report and the Statutory Auditors' report on the annual financial statements for the financial year ended 31 December 2019, approves said annual financial statements as presented to it, and the transactions translated in these financial statements or summarised in these reports.

Second resolution

(2019 consolidated financial statements)

The Shareholders' Meeting, acting with the quorum and majority required for ordinary shareholders' meetings, after hearing read aloud the Board of Directors' report and the Statutory Auditors' report on the consolidated financial statements for the financial year ended 31 December 2019, approves the said consolidated financial statements as presented to it, and the transactions translated in these financial statements or summarised in these reports.

In **resolution 3,** you are asked to approve the special report of the Statutory Auditors of your Company pertaining to the agreements specified in Articles L. 225-38 *et seq.* of the French Commercial Code and authorised during the past financial year. You are asked to note that the report also presents the agreements previously authorised by your Meeting, which continued in the prior year and that, as these previously authorised agreements have already been approved by your Meeting, they are not being put to a vote by this Meeting.

Third resolution

(Regulated agreements)

The General Shareholders' Meeting, acting with the quorum and majority required for ordinary shareholders' meetings, after hearing read aloud the special report drawn up by the Statutory Auditors on the agreements specified in Articles L. 225-38 *et seq.* of the French Commercial Code, approves this report and the transactions set out therein.

The purpose of **resolution 4** is to propose to the Shareholders' Meeting the appropriation of income for the 2019 financial year.

Fourth resolution

(Appropriation of income)

The General Shareholders' Meeting, acting with the quorum required for ordinary shareholders' meetings:

- notes that the income for the financial year ended is €4,697,098.88;
- in addition to retained earnings at 31 December 2019 €287,893,778.27;
- i.e. a distributable amount of €292,590,877.15.

The General Shareholders' Meeting resolves:

- to allocate to the legal reserve the amount required to raise it to its maximum of 10% of the share capital, i.e. €35.38;
- to allocate the balance to retained earnings which will then amount to €292,590,841.77.

The General Shareholders' Meeting, in its ordinary session, duly notes that the dividends per share to be paid for the past year and the three previous years are, or were, as follows:

	2016	2017	2018	2019
Number of shares compensated	26,550,443	26,633,660	26,635,884	26,636,000
Dividend	€0	€2.30	€0.60	€0

Resolutions 5 to 6 concern the renewal for four years of the terms of office of directors expiring at this Shareholders' Meeting:

- renewal of the term of office of Ms Miriam Maes (independent director). Ms Maes has held executive management positions in several international companies and is sitting on the Board of Directors of several companies.
- renewal of the term of office of Ms Sonia Sikorav (independent director). Ms Sikorav has held executive management, strategy management and procurement management positions in different industrial groups.

Fifth resolution

(Renewal of a director's term of office)

The General Shareholders' Meeting, acting with the quorum and majority required for ordinary shareholders' meetings, renews for a period of four years, i.e., until the General Shareholders' Meeting held in 2024, called to approve the financial statements for the 2023 financial year, the term of office of Ms Miriam Maes, which expires at this meeting.

Sixth resolution

(Renewal of a director's term of office)

The General Shareholders' Meeting, acting with the quorum and majority required for ordinary shareholders' meetings, renews for a period of four years, i.e., until the General Shareholders' Meeting held in 2024, called to approve the financial statements for the 2023 financial year, the term of office of Ms Sonia Sikorav, which expires at this meeting.

"Say on Pay Ex Ante"

Pursuant to the provisions of Article L. 225-37-2 paragraph II and Article R. 225-29-1 of the French Commercial Code, the General Shareholders' Meeting is called to approve **resolution 7** of the remuneration policy applicable to the members of the Board of Directors and **resolution 8** the remuneration policy applicable to Ms Christel Bories, Chief Executive Officer. These disclosures are provided in Chapter 7 of the 2019 Universal Registration Document, "Remuneration of the management and administration bodies".

In accordance with the wording of Article L. 225-37-2, the approval of the General Shareholders' Meeting is required every year and upon each material change to the remuneration policy. If the General Shareholders' Meeting does not approve the resolution and if it has previously approved a compensation policy, the latter shall continue to apply and the Board of Directors shall submit a draft resolution presenting a revised remuneration policy to the next General Shareholders' Meeting for approval. In the absence of a previously approved compensation policy, if the General Shareholders' Meeting does not approve the draft resolution, remuneration shall be determined in accordance with the remuneration assigned in the previous year, or, in the absence of remuneration assigned in the previous year, in accordance with existing practices within the Company.

"Say on Pay Ex Post"

Pursuant to the provisions of Article L. 225-37-3 paragraph I of the French Commercial Code, the General Shareholders' Meeting is called in **resolution 9**, to approve the information mentioned in Article L. 225-37-3 paragraph I of the French Commercial Code. These disclosures are provided in Chapter 7 of the 2019 Universal Registration Document, "Remuneration of the management and administration bodies". Pursuant to the provisions of Article L. 225-100 paragraph III of the French Commercial Code, the General Shareholders' Meeting is called in **resolution 10**, to approve the fixed, variable and exceptional components of the remuneration and benefits of any kind, paid in the past financial year or assigned in the same financial year to Ms Christel Bories, Chief Executive Officer in respect of the 2019 financial year. These disclosures are provided in Chapter 7 of the 2019 Universal Registration Document, "Remuneration of the management and administration bodies".

Seventh resolution

(Approval of the remuneration policy applicable to the members of the Board of Directors – "Say on Pay *Ex Ante*")

Pursuant to the provisions of Article L. 225-37-2 paragraph II and of Article R. 225-29-1 of the French Commercial Code, the General Shareholders' Meeting, acting with the quorum and majority required for ordinary shareholders' meetings, approves the remuneration policy applicable to the members of the Board of Directors, as presented in the Company's corporate governance report described in Article L. 225-37 of the French Commercial Code and in the 2019 Universal Registration Document, section 7 "Remuneration of the management and administration bodies", paragraphs 7.1.2.2 and 7.1.1.3.

Eighth resolution

(Approval of the remuneration policy applicable to Ms Christel Bories, Chief Executive Officer – "Say on Pay *Ex Ante*")

Pursuant to the provisions of Article L. 225-37-2 paragraph II and of Article R. 225-29-1 of the French Commercial Code, the General Shareholders' Meeting, acting with the quorum and majority required for ordinary shareholders' meetings, approves the remuneration policy applicable to Ms Christel Bories, Chief Executive Officer, as presented in the Company's corporate governance report described in Article L. 225-37 of the French Commercial Code and in the 2019 Universal Registration Document, section 7 "Remuneration of the management and administration bodies", paragraph 7.1 and notably 7.1.2.1.

Ninth resolution

(Approval of the information mentioned in Article L. 225-37-3 paragraph I of the French Commercial Code – "Say on Pay *Ex Post*")

Pursuant to the provisions of Article L. 225-37-3 paragraph I and of Article L. 225-100 paragraph II of the French Commercial Code, the General Shareholders' Meeting, acting with the quorum and majority required for ordinary shareholders' meetings, approves the information mentioned in paragraph I of Article L. 225-37-3 of the French Commercial Code as presented in the Company's corporate governance report described in the last sub-paragraph of Article L. 225-37 of the French Commercial Code appearing in the 2019 Universal Registration Document, section 7 "Remuneration of the management and administration bodies", paragraphs 7.2.1 and 7.2.2.

Tenth resolution

(Approval of the fixed, variable and exceptional components of the total remuneration and the benefits of any kind paid or assigned in respect of the 2019 financial year to Ms Christel Bories, Chief Executive Officer – "Say on Pay *Ex Post*")

Pursuant to the provisions of Article L. 225-100 paragraph III of the French Commercial Code, the General Shareholders' Meeting, acting with the quorum and majority required for ordinary shareholders' meetings, approves the fixed, variable and exceptional components of the total remuneration and benefits of any kind paid or assigned in respect of the 2019 financial year to Ms Christel Bories, Chief Executive Officer, as presented in the Company's corporate governance report described in Article L. 225-37 of the French Commercial Code appearing in the 2019 Universal Registration Document, section 7 "Remuneration of the management and administration bodies", paragraph 7.2.3.

The purpose of **resolution 11,** in the context of the provisions of Article L. 225-209 of the French Commercial Code, is to request authorisation from the General Shareholders' Meeting to renew, in accordance with applicable laws and regulations, the Company's share buyback programme, using any and all means, including during a public offering. The maximum buyback amount is 10% of the capital and the maximum purchase price per share is €200. This resolution concerns the annual renewal of this authorisation. The main purpose of this authorisation is to allow the existing liquidity agreement to continue, and the employee bonus share plans to be implemented through the award of existing shares.

Eleventh resolution

(Authorisation to act on the Company's shares)

The General Shareholders' Meeting, acting with the quorum and majority required for ordinary shareholders' meetings, after acknowledging the Board of Directors' report and the description of the Company's share buyback programme, using the option provided by Article L. 225-209 of the French Commercial Code, authorises the Board of Directors to purchase or arrange for the purchase of the Company's shares within the limit of 10% of the share capital, with a view to:

- supporting the share price via a liquidity agreement with a market maker, in accordance with the market practice accepted by the AMF;
- the delivery of shares upon the exercise of rights attached to securities giving access to the share capital by redemption, conversion, exchange or otherwise;
- the implementation of any stock option plan of the Company pursuant to the provisions of Articles L. 225-177 *et seq.* of the French Commercial Code;
- the allocation of bonus shares under the provisions of Articles L. 225-197-1 *et seq.* of the French Commercial Code;
- the allocation or the transfer of shares to the employees with respect to their participation in the benefits of the expansion of the Company, or the implementation of any employee savings plan under the conditions stipulated by the law, in particular, the Articles L. 3332-1 *et seq.* of the French Labour Code;
- their cancellation, in accordance with the 26th resolution of this General Shareholders' Meeting of 23 May 2019, authorising the reduction of the Company's share capital for a period of 26 months.

These shares may be purchased, disposed, transferred or exchanged by any and all means, on the market or over the counter, including as applicable, through derivatives and the maximum share may be acquired or transferred in the form of share blocks, which may comprise the entirety of the authorised share buyback.

They may also be made during a period of public offering if the purchase offer for the Company's securities is fully settled in cash.

The payment may be made as follows.

The maximum purchase price shall not exceed **€200** per share.

This authorisation is given for a period ending with the General Shareholders' Meeting called to approve the financial statements for 2020.

On the basis of the number of shares comprising the share capital at **31 December 2019,** the maximum theoretical investment shall, assuming a share price of **€200,** amount to **€532,720,000.**

In order to ensure this resolution is executed, all powers are granted to the Board of Directors, which may delegate them for the purpose of:

- executing all stock exchange orders, entering into all agreements concerning in particular, keeping share purchase and sale registers;
- making all declarations to the French financial markets authority;
- assigning or reassigning the shares acquired to the different objectives pursued in accordance with the applicable laws and regulations;
- fulfilling all other formalities and, generally, doing whatever is needed.

Within the authority of the Extraordinary Shareholders' Meeting

Resolution 12 concerns the amendment of Article 11 of the Articles of Association and is proposed in order to insert in the Articles of Association the opportunity to appoint a Lead Director.

Twelfth resolution

(Amendment of Article 11 of the Articles of Association)

The General Shareholders' Meeting, acting with the quorum and majority required for extraordinary shareholders' meetings, after reviewing the Board of Directors' report resolves to amend Article 11 of the Articles of Association in order to adopt the following text.

Present version	New version
ARTICLE 11- OFFICES OF THE BOARD OF DIRECTORS **1.** The Board may decide to create committees. **2.** On the proposal of the Chairman, the Board may decide to appoint two Vice Chairmen from among its members. If the Chairman is unable to preside over the Board, one of the Vice-Chairmen shall preside over the Board of Directors and the General Meetings of Shareholders. **3.** The Board may furthermore appoint, for the duration that it sees fit, a Secretary, who is not required to be chosen from among the Board members. **4.** The Board shall draw up a charter to which each Director or permanent representative shall subscribe upon taking office and that recalls or defines the mission of the Directors, the principles that govern their action and the rules of conduct that they establish for themselves in that respect.	**ARTICLE 11 – OFFICES OF THE BOARD OF DIRECTORS** **1.** The Board may decide to create committees. **2.** On the proposal of the Chairman, the Board may decide to appoint two Vice Chairmen from among its members. If the Chairman is unable to preside over the Board, one of the Vice-Chairmen shall preside over the Board of Directors and the General Meetings of Shareholders. **3.** The Board may furthermore appoint, for the duration that it sees fit, a Secretary, who is not required to be chosen from among the Board members. **4.** The Board shall draw up a charter to which each Director or permanent representative shall subscribe upon taking office and that recalls or defines the mission of the Directors, the principles that govern their action and the rules of conduct that they establish for themselves in that respect. **5.** The Board may decide to appoint a lead director whose missions are defined by the Board in accordance with the Afep-Medef code of gouvernance

Resolution 13 concerning the amendment to Article 13 of the Articles of Association is proposed in order to incorporate the new provisions on the broader social interest in taking into consideration the social and environmental issues of the activity set out in Article L. 225-35 sub-paragraph 1 of the French Commercial Code (from Pacte law 2019-486 of 22 May 2019).

Thirteenth resolution

(Amendment of Article 13 of the Articles of Association)

The General Shareholders' Meeting, acting with the quorum and majority required for extraordinary shareholders' meetings, after reviewing the Board of Directors' report and the provisions of Article L. 225-35 of the French Civil Code resulting from law 2019-486 of 22 May 2019 (known as the "Pacte law") resolves to amend Article 13 of the Articles of Association to adopt the following text.

Present version	New version
ARTICLE 13 – POWERS OF THE BOARD OF DIRECTORS	**ARTICLE 13 – POWERS OF THE BOARD OF DIRECTORS**
The Board of Directors determines the orientations of the Company's activity and ensures that they are implemented.	The Board of Directors determines the orientations of the Company's activity and ensures that they are implemented <u>by taking into consideration the social and environmental issues of its activity</u>.
Subject to the powers expressly assigned to Shareholders' Meetings and within the limit of the corporate purpose, it reviews any issue pertaining to the smooth operation of the Company and through its deliberations settles any business within its purview.	Subject to the powers expressly assigned to Shareholders' Meetings and within the limit of the corporate purpose, it reviews any issue pertaining to the smooth operation of the Company and through its deliberations settles any business within its purview.
No resolution regarding the strategic, economic, financial or technological orientations of the Company may be passed without the prior deliberation of the Board.	No resolution regarding the strategic, economic, financial or technological orientations of the Company may be passed without the prior deliberation of the Board.
The resolutions of the Board of Directors limiting the powers of general management are not binding on third parties. Securities, endorsements and guarantees on company assets must be authorised by the Board of Directors under conditions set out by law.	The resolutions of the Board of Directors limiting the powers of general management are not binding on third parties. Securities, endorsements and guarantees on company assets must be authorised by the Board of Directors under conditions set out by law.
Acts concerning the Company are signed either by the Chief Executive Officer, the Deputy Chief Executive Officer or by any person specially authorised to do so.	Acts concerning the Company are signed either by the Chief Executive Officer, the Deputy Chief Executive Officer or by any person specially authorised to do so.

Resolution 14 concerning the amendment of Article 10.8 of the Articles of Association is proposed in order to integrate the new provisions of Article L. 225-45 of the French Commercial Code (resulting from Pacte Law 2019-486 of 22 May 2019): the notion of directors' fees is replaced by the notion of directors' compensation.

Fourteenth resolution

(Amendment of Article 10.8 of the Articles of Association)

The General Shareholders' Meeting, acting with the quorum and majority required for extraordinary shareholders' meetings, after reviewing the Board of Directors' report and the provisions of Article L. 225-45 of the French Civil Code resulting from law 2019-486 of 22 May 2019 (known as the "Pacte law") resolves to amend Article 10.8 of the Articles of Association in order to adopt the following text.

Present version	New version
8. The General Shareholders' Meeting may allocate to the directors an annual fixed sum in directors' fees. The Board of Directors shall allocate these fees among its members in the manner it sees fit. The Board may allocate exceptional compensation for missions or mandates entrusted to directors.	**8.** The General Shareholders' Meeting may allocate an annual fixed sum to directors <u>as compensation for their activity</u>. The Board of Directors shall allocate these fees among its members in the manner it sees fit. The Board may allocate exceptional compensation for missions or mandates entrusted to directors.

Resolution 15 concerning the amendment of Article 10.9 of the Articles of Association is proposed in order to integrate the new provisions of Article L. 225-27-1 of the French Commercial Code (resulting from Pacte Law 2019-486 of 22 May 2019): the threshold for appointing a second director representing employees has been lowered from twelve to eight members. This article does not in any way amend the current composition of the Eramet Board of Directors, which currently has a total of more than eight members.

Furthermore, as Eramet had set up a Social and Economic Council in Spring 2019 instead of a Works Council, Article 10.9 of the Articles of Association is also amended accordingly.

Fifteenth resolution

(Amendment of Article 10.9 of the Articles of Association)

The General Shareholders' Meeting, acting with the quorum and majority required for extraordinary shareholders' meetings, after reviewing the Board of Directors' report and the provisions of Article L. 2312-75 of the French Labour Code and Article L. 225-27-1 of the French Commercial Code resulting from law 2019-486 of 22 May 2019 (known as the "Pacte law") resolves to amend Article 10.9 of the Articles of Association in order to adopt the following text.

Present version	New version
9. Apart from the directors whose number and method of appointment are set out in Articles L. 225-17 and L. 225-18 of the French Commercial Code, when the Company meets the criteria set in Article L. 225-27-1 paragraph I of the French Commercial Code, the Board of Directors, as required by Article L. 225-27-1 of the French Commercial Code, shall include directors representing employees.	**9.** Apart from the directors whose number and method of appointment are set out in Articles L. 225-17 and L. 225-18 of the French Commercial Code, when the Company meets the criteria set in Article L. 225-27-1 paragraph I of the French Commercial Code, the Board of Directors, as required by Article L. 225-27-1 of the French Commercial Code, shall include directors representing employees.
Two directors shall be appointed to represent employees when the number of directors mentioned in Articles L. 225-17 and L. 225-18 of the French Commercial Code exceeds twelve and one director shall be appointed to represent employees when there are twelve or fewer directors.	Two directors shall be appointed to represent employees when the number of directors mentioned in Articles L. 225-17 and L. 225-18 of the French Commercial Code is more than eight and one director shall be appointed to represent employees when there are eight or fewer directors.
Directors representing employees are appointed as follows:	Directors representing employees are appointed as follows:
a) where two directors are to be appointed, one of the directors is appointed by the Central Works Council as specified in Articles L. 2327-1 et seq. of the French Labour Code, and the other director is appointed by the European Works Council.	a) where two directors are to be appointed, one of the directors is appointed by the Social and Economic Council as specified in Articles L. 2311-1 et seq. of the French Labour Code, and the other director is appointed by the European Works Council.
b) where a single director is to be appointed, he or she is appointed by the Central Works Council as specified in Articles L. 2327-1 et seq. of the French Labour Code.	b) where a single director is to be appointed, he or she is appointed by the Social and Economic Council as specified in Articles L. 2311-1 et seq. of the French Labour Code.
If the number of directors mentioned in Articles L. 225-17 and L. 225-18 of the French Commercial Code, after being less than or equal to twelve, becomes more than twelve, the Chair of the Board of Directors shall, within a reasonable period, consult the European Works Council in order to appoint a second director to represent employees.	If the number of directors mentioned in Articles L. 225-17 and L. 225-18 of the French Commercial Code, after being less than or equal to eight, becomes more than eight, the Chair of the Board of Directors shall, within a reasonable period, consult the European Works Council in order to appoint a second director to represent employees.
If the number of directors mentioned in Articles L. 225-17 and L. 225-18 of the French Commercial Code, after exceeding twelve, were to fall to twelve or less, the term of office of the director representing employees appointed by the European Works Council will continue until its term, but shall not be renewed if the number of directors remains less than or equal to twelve as at the renewal date.	If the number of directors mentioned in Articles L. 225-17 and L. 225-18 of the French Commercial Code, after exceeding eight, were to fall to eight or less, the term of office of the director representing employees appointed by the European Works Council will continue until its term, but shall not be renewed if the number of directors remains less than or equal to eight as at the renewal date.
Article 10.7 of these Articles of Association are not applicable to directors representing employees. Directors representing employees are not taken into account to determine the maximum number of directors set out in Article 10.1 of these Articles of Association.	Article 10.7 of these Articles of Association are not applicable to directors representing employees. Directors representing employees are not taken into account to determine the maximum number of directors set out in Article 10.1 of these Articles of Association.
The term of office of directors representing employees is four years from the date of their appointment. Newly appointed directors representing employees take up office at the expiry of the term of office of the outgoing directors representing employees.	The term of office of directors representing employees is four years from the date of their appointment. Newly appointed directors representing employees take up office at the expiry of the term of office of the outgoing directors representing employees.
The term of office of the directors representing employees shall legally end in the event of termination of their employment contract with the Company or one of its direct or indirect subsidiaries, dismissal in accordance with Article L. 225-32 of the French Commercial Code, or if an event of incompatibility arises as stated in Article L. 225-30 of the French Commercial Code.	The term of office of the directors representing employees shall legally end in the event of termination of their employment contract with the Company or one of its direct or indirect subsidiaries, dismissal in accordance with Article L. 225-32 of the French Commercial Code or if an event of incompatibility arises as stated in Article L. 225-30 of the French Commercial Code.

9

Present version	New version
In the event that during his or her term of office, for any reason whatsoever (such as death, resignation, dismissal, termination of employment contract), a the seat of a director representing employees becomes vacant, it shall be filled using the same appointment procedures as those described in the third sub-section of this Article 10.9. The term of office of the director thus appointed shall end at the completion of the normal term of office of his or her predecessor. Until the date on which the director representing employees is replaced, the Board of Directors may meet and validly deliberate.	In the event that during his or her term of office, for any reason whatsoever (such as death, resignation, dismissal, termination of employment contract), a the seat of a director representing employees becomes vacant, it shall be filled using the same appointment procedures as those described in the third sub-section of this Article 10.9. The term of office of the director thus appointed shall end at the completion of the normal term of office of his or her predecessor. Until the date on which the director representing employees is replaced, the Board of Directors may meet and validly deliberate.
The provisions of this section 10.9 shall cease to apply when at the closing of a financial year, the Company no longer fulfils the prior conditions for the appointment of directors representing employees, on the understanding that the term of office of any director representing employees appointed pursuant to this Article 10.9 shall expire at its term.	The provisions of this section 10.9 shall cease to apply when at the closing of a financial year, the Company no longer fulfils the prior conditions for the appointment of directors representing employees, on the understanding that the term of office of any director representing employees appointed pursuant to this Article 10.9 shall expire at its term.

Resolutions 16 and 17 concern the amendment of Article 21 and Article 22 of the Articles of Association and is proposed for the purpose of incorporating the new provisions of Articles L. 225-96 and L. 225-98 of the French Commercial Code (resulting from Act 2019-744 of 19 July 2019 (known as the "simplification, clarification and update of company law" Act): now Ordinary and Extraordinary General Shareholders' Meetings vote by majority of votes cast.

Sixteenth resolution

(Amendment of Article 21 of the Articles of Association)

The General Shareholders' Meeting, acting with the quorum and majority required for extraordinary shareholders' meetings, after reviewing the Board of Directors' report and the provisions of Article L. 225-98 of the French Civil Code resulting from Act 2019-744 of 19 July 2019 (known as the "simplification, clarification and update of company law" Act) resolves to amend Article 21 of the Articles of Association in order to adopt the following text.

Present version	New version
ARTICLE 21 – ORDINARY GENERAL SHAREHOLDERS' MEETINGS	ARTICLE 21 – ORDINARY GENERAL SHAREHOLDERS' MEETINGS
1. The Ordinary General Shareholders' Meeting may validly deliberate when first called only if the shareholders present, represented or having voted by mail within the prescribed time, hold at least one-fifth of the shares with voting rights. When called a second time, no quorum is required, but shareholders may deliberate only on issues featured on the agenda of the first meeting.	**1.** The Ordinary General Shareholders' Meeting may validly deliberate when first called only if the shareholders present, represented or having voted by mail within the prescribed time, hold at least one-fifth of the shares with voting rights. When called a second time, no quorum is required, but shareholders may deliberate only on issues featured on the agenda of the first meeting.
The Ordinary General Shareholders' Meeting adopts resolutions on the majority of the votes held by the Shareholders present or represented, including Shareholders who voted by mail within the prescribed time.	The Ordinary General Shareholders' Meeting acts by a majority <u>of the votes cast</u> by the Shareholders present or represented, including Shareholders who voted by mail within the prescribed time.
2. The Ordinary General Shareholders' Meeting listens to the reports of the Board of Directors and of the Statutory Auditors; it discusses, approves or rectifies the parent company financial statements, and as appropriate, the consolidated financial statements, sets the dividends, appoints or dismisses directors and Statutory Auditors, discharges them from their missions, ratifies co-optations of directors, rules on the agreements submitted for authorisation and passes all resolutions on its agenda and which are not within the purview of the Extraordinary General Shareholders' Meeting.	**2.** The Ordinary General Shareholders' Meeting listens to the reports of the Board of Directors and of the Statutory Auditors; it discusses, approves or rectifies the parent company financial statements, and as appropriate, the consolidated financial statements, sets the dividends, appoints or dismisses directors and Statutory Auditors, discharges them from their missions, ratifies co-optations of directors, rules on the agreements submitted for authorisation and passes all resolutions on its agenda and which are not within the purview of the Extraordinary General Shareholders' Meeting.

Seventeenth resolution

(Amendment of Article 22 of the Articles of Association)

The General Shareholders' Meeting, acting with the quorum and majority required for extraordinary shareholders' meetings, after reviewing the Board of Directors' report and the provisions of Article L. 225-96 of the French Civil Code resulting from law 2019-744 of 19 July 2019 (known as the "simplification, clarification and update of company law") resolves to amend Article 22 of the Articles of Association in order to adopt the following text.

Present version	New version
ARTICLE 22 – EXTRAORDINARY GENERAL SHAREHOLDERS' MEETINGS **1.** The Extraordinary General Shareholders' Meeting may validly deliberate when first called only if the shareholders present, represented or having voted by mail within the prescribed time, hold at least one-quarter at first call, and one-fifth at second call of the shares with voting rights. Absent this last quorum, the second Shareholders' Meeting may be postponed by at most two months after the date on which it was called. The Extraordinary General Shareholders' Meeting adopts resolutions on the majority of two-thirds of the votes held by the Shareholders present or represented, including Shareholders who voted by mail within the prescribed time. **2.** The Extraordinary General Shareholders' Meeting may amend all the clauses of the Articles of Association, provided that they do not increase the commitments of shareholders, subject to the requirement that shareholders purchase or sell fractional shares, in the event shares are combined capital is increased or reduced, or a merger or split occur.	**ARTICLE 22 – EXTRAORDINARY GENERAL SHAREHOLDERS' MEETINGS** **1.** The Extraordinary General Shareholders' Meeting may validly deliberate when first called only if the shareholders present, represented or having voted by mail within the prescribed time, hold at least one-quarter at first call, and one-fifth at second call of the shares with voting rights. Absent this last quorum, the second Shareholders' Meeting may be postponed by at most two months after the date on which it was called. The Extraordinary General Shareholders' Meeting adopts resolutions by a two-thirds majority of <u>the votes cast</u> by the Shareholders present or represented, including Shareholders who voted by correspondence within the prescribed time. **2.** The Extraordinary General Shareholders' Meeting may amend all the clauses of the Articles of Association, provided that they do not increase the commitments of shareholders, subject to the requirement that shareholders purchase or sell fractional shares, in the event shares are combined capital is increased or reduced, or a merger or split occur.

Within the Authority of the Ordinary Shareholders' Meeting

Resolution 18 allows the formalities involved in implementing the other resolutions voted by the combined General Shareholders' Meeting to be fulfilled.

Eighteenth

(Powers)

The General Shareholders' Meeting, acting with the quorum and majority required for ordinary shareholders' meetings, endows the bearer of any original, excerpt or copy of the minutes of this Shareholders' Meeting with full powers to carry out all the necessary filings or formalities.

10 Additional information

10.1 PERSONS RESPONSIBLE FOR THE UNIVERSAL REGISTRATION DOCUMENT

10.1.1 Name and status of officials

Christel Bories

Chairman and CEO of Eramet.

Thomas Devedjian

Deputy CEO in charge of Finance and Digital Transformation

10.1.2 Declaration by the persons responsible for the universal registration document

We declare that to the best of our knowledge, having taken all reasonable measures in this regard, the information in this Universal Registration Document is accurate and does not contain any omission that could affect its scope.

We certify that, to the best of our knowledge, the financial statements have been prepared in accordance with the applicable accounting standards and give a true and fair view of the financial position and results of the Company and of all the companies included in the consolidation, and that the management report (presented in Chapters 1 "Presentation of the Group", 2 "Activities", 4 "Corporate governance", 5 "Risk management", 6 "Non-financial performance statement", 7 "Remuneration of the management and administration bodies" and 8 "Eramet and its shareholders") faithfully reflects the changes in the business, earnings and the financial position of the Company and all of the companies included in the basis for consolidation, while presenting the main risks and uncertainties faced by them.

Paris, 31 March 2020

Thomas Devedjian

Deputy CEO in charge of Finance and the Digital Transformation

Christel Bories

Chairman and CEO

10.2 STATUTORY AUDITORS

The Company's corporate and consolidated financial statements are audited by the Auditors listed below:

10.2.1 Statutory Auditors

Ernst & Young Audit

Address: Tour First – 1, place des Saisons, 92400 Courbevoie, 344 366 315 RCS Nanterre.

Partner in charge of audit: Jean-Roch Varon.

Date of appointment: General Shareholders' Meeting of 29 May 2015, replacing Ernst & Young and Others.

Term expiry date: General Shareholders' Meeting called in 2021 to approve the 2020 financial statements.

The Ernst & Young network has been Eramet's Statutory Auditor since 1991.

KPMG

Address: Immeuble Tour EQHO – 2, avenue Gambetta – CS 60055 92066 – Paris La Défense Cedex, 775 726 417 RCS Nanterre.

Partner in charge of audit: Denis Marangé.

Date of appointment: General Shareholders' Meeting of 29 May 2015.

Term expiry date: General Shareholders' Meeting called in 2021 to approve the 2020 financial statements.

10.2.2 Deputy auditors

Auditex

Address: Tour First – 1, place des Saisons, 92400 Courbevoie, No. 377 652 938 in the RCS Nanterre.

Date of appointment: General Shareholders' Meeting of 13 May 2009, renewed at the General Shareholders' Meeting of 29 May 2015.

Term expiry date: General Shareholders' Meeting called in 2021 to approve the 2020 financial statements.

Salustro Reydel

Address: Immeuble Le Palatin – 3, cours du Triangle, 92800 Puteaux, 652 044 371 RCS Nanterre.

Date of appointment: General Shareholders' Meeting of 29 May 2015.

Term expiry date: General Shareholders' Meeting called in 2021 to approve the 2020 financial statements.

10.3 FINANCIAL INFORMATION – AVAILABLE DOCUMENTS

10.3.1 Name of Information Officer

Head:	Philippe Gundermann.
Position:	Director of Strategy, Innovation and Investor Relations
Address:	Eramet
	10, boulevard de Grenelle – CS 63205
	75015 Paris
	Telephone: 33 (0) 1 45 38 42 78

10.3.2 Communication methods

Periodicity: in accordance with regulations, Eramet publishes its annual and interim results and releases quarterly sales figures.

Information release: in addition to legal publication in financial publications, press releases and all regulated financial information are made available to the public on the Company's website (http://www.eramet.com – in the Investors section) and released in accordance with AMF regulations.

The Articles of Association, minutes of AGMs, Company and consolidated financial statements, reports by the auditors and all documents made available to shareholders can be consulted at the Company's headquarters.

All data indicated in this document for which no source is specifically indicated is from the Company's internal reporting and data.

Copies of all documents included in this Universal Registration Document may be viewed on the Eramet website (http://www.eramet.com) or consulted by making a request to the Company's Director of Legal Affairs at its headquarters.

During an embargo period (quiet period) of 15 calendar days before the quarterly sales publications or annual or interim results, the Company refrains from contact with analysts, investors or brokers who operate both in securities and credit.

10.4 CONCORDANCE TABLE WITH THE ANNUAL FINANCIAL REPORT

This Registration Document contains all the information required in annual financial reports pursuant to Article L. 451-1-2 of the French Monetary and Financial Code and Article 222-3 of the General Regulations of the AMF.

In order to facilitate the reading of this annual financial report, the concordance table below identifies the sections contained herein.

No.	Information in the annual financial report	Registration Document
1	Statement by management on the accuracy of the information	Section 10.1
2	Consolidated financial statements	Section 3.1
3	Auditors' Report on the consolidated financial statements	Section 3.1
4	Financial statements of the parent company	Section 3.2
5	Auditors' report on the financial statements	Section 3.2
6	Management report:	See management report reconciliation table
7	Fees of the Statutory Auditors	Section 3.1
8	Report by the Board of Directors on Corporate Governance attached to the management report	Chapter 4

10.5 MANAGEMENT REPORT RECONCILIATION TABLE

The reconciliation table below identifies the main sections required by the French Commercial Code, the French Monetary and Financial Code, the French General Tax Code and the AMF's General Regulations.

Activity	Registration Document
Major events after the reporting date	Chapter 1
Foreseeable outlook	Chapter 1
Results of subsidiaries and companies controlled, by areas of activity	Chapter 2 – Chapter 3
Research and development	Chapter 2
Description of the main risks and uncertainties	Chapter 3 – Chapter 5
Group policy concerning management of financial risks, exposure to price, credit, liquidity and cash risk	Chapter 3
Analysis of business developments, results and the financial position of the Company in the course of the year	Chapter 3
Stakes or controlling interests in companies based in France	Chapter 3
Information on supplier payment terms	Chapter 3
Table of the financial results of the Company over the past five years	Chapter 3
Reincorporation of general costs and sumptuary expenses	Chapter 3
Legal information and information concerning shareholder structure	
Sum of dividends paid out over the last three financial years	Chapter 3
Identity of shareholders with more than 5% of equity	Chapter 8
Employee shares held on the last day of the year	Chapter 8
Information on share buybacks during the year – treasury shares	Chapter 8
Table summarising valid authorisations granted to the Board by the General Shareholders' Meeting concerning share capital increases, and the use made of these authorisations during the year	Chapter 8
Elements likely to have an impact in the event of a public offer	Chapter 8
Information concerning corporate officers	
Terms and functions of members of the Board of Directors and General Management	Chapter 4
Total remuneration and any benefits granted to each corporate officer	Chapter 7
Information provided for in Article L. 225-102-1-II of the French Commercial Code – Non-Financial Performance Declaration	
1/ The Group's CSR issues and approaches	**6.1**
2/ Environmental protection	**6.2**
Challenges, objectives, organization and resources for the prevention of environmental risks	6.2.1
ISO 14001 certification and environmental compliance indicators	6.2.2
Emissions reduction (air emissions, water emissions, site remediation/restoration)	6.2.3
Circular economy (waste, water consumption)	6.2.4
Fight against climate change	6.2.5
Mining environment (water management, waste rock and tailings management, mine site remediation)	6.2.6
Preservation of biodiversity	6.2.7
Responsibility for chemicals	6.2.8
3/ Social and societal commitments	**6.3**
Commitments to human rights	6.3.1
Social commitments to employees	6.3.2
Employee safety	6.3.2.1
Employee health	6.3.2.2
Employee security	6.3.2.3
Promotion and development of employees	6.3.2.4
Social indicators	6.3.2.5
Commitments to communities	6.3.3
Management of impacts on local communities	6.3.3.1
Development of opportunities for communities	6.3.3.2
4/ Governance	**6.4**
Fight against corruption	6.4.1
Responsible value chain (purchasing, sales)	6.4.2
Combating tax evasion	6.4.3
Sustainable development governance of projects	6.4.4

10.6 RECONCILIATION TABLE WITH EUROPEAN REGULATION (EU) 2017/1129

The following reconciliation table identifies the main sections required under Annexes 1 and 2 of European Regulation No. 2019/980 of 14 March 2019, implementing Regulation (EU) 2017/1129, known as the "Prospectus" directive.

Chapter	Information	Universal Registration Document (URD)
1	**Persons responsible**	**10.1**
1.1	Identification of persons responsible	10.1
1.2	Statement of responsible persons	10.1
1.3	Expert declaration or report	N/A
1.4	Third-party testimonial	N/A
1.5	Declaration without prior approval	AMF insert on the first page
2	**Statutory Auditors**	**10.2**
2.1	Information on Statutory Auditors	10.2
2.2	Changes	10.2
3	**Risk factors**	**5**
4	**Information concerning the issuer**	**8**
4.1	Company name	8
4.2	Place of registration, registration number, LEI	8
4.3	Date of incorporation and duration of the Company	8
4.4	Registered office, legal form, legislation governing the Company's activities, country of incorporation, address of statutory head office, website	8
5	**Business overview**	
5.1	Main activities	2
5.1.1	Main products sold or services provided	2
5.1.2	Any major new product or service under development or recently launched	2
5.2	Main markets (allocating the total revenues by activity type and geographic market for each financial year)	2
5.3	Important events in the development of the issuer's activities	2
5.4	Strategy and objectives (financial and otherwise), taking account of prospects and future challenges.	1
5.5	Likely dependence on patents or licences; industrial, commercial or financial contracts; if this impacts the issuer's activities or financial viability	2
5.6	Information upon which any declaration by the issuer concerning their competitive position is based	2
5.7	Investments	2
5.7.1	Description and amount of important investments	2
5.7.2	Description of current investments and how they have been financed (internal or external sources of funding)	2
5.7.3	Information regarding joint ventures in which the issuer holds a portion of the capital likely to have a significant impact on the value of its assets and liabilities, its financial position or its outcomes	2
5.7.4	Environmental issues which may have a bearing on the use of Company property, plant and equipment	6
6	**Organizational structure**	
6.1	Brief overview of the Group to which the issuer belongs (organization chart)	2
6.2	List of important subsidiaries	3 (scope of consolidation)

Chapter	Information	Universal Registration Document (URD)
7	**Review of financial position and results**	
7.1	Financial position	1
7.1.1	Review of shifts in activities and key indicators	1
7.1.2	Probable future shifts in Company activities	1
	R&D	2
7.2	Operating revenue	1
7.2.1	Important factors influencing the operating revenue	1
7.2.2	Explanations for major changes in turnover or net revenue	1
8	**Cash and equity**	
8.1	Short- and long-term capital	1
8.2	Cash Flow	1
8.3	Funding requirements and structure	1
8.4	Potential restrictions on capital use	1
8.5	Sources of financing	1
9	**Regulatory framework**	
	Description of the regulatory framework which may have a significant impact on activities, making mention of any factor – be it administrative, economic, budget-related, monetary or political – that has influenced or may significantly influence the issuer's activities, either directly or indirectly	5
10	**Information on trends**	
10.1	Trends having affected production, sales, costs between year's end and the document date	1
10.2	Any likely influencing factor	1
11	**Projected or estimated profit**	
11.1	Assumptions	not applicable
11.2	Declaration as to assumptions	not applicable
11.3	Declaration as to comparability of projections or estimations	not applicable
12	**Administrative, management and supervisory bodies and General Management**	
12.1	Information on members	4
12.2	Conflicts of interest	4
13	**Compensation and benefits**	
13.1	Compensation	7
13.2	Pensions, retirement or other benefits	7
14	**Functioning of the administrative and management bodies**	
14.1	Date of expiry of mandates	4
14.2	Service contracts	4
14.3	Committees (composition and duties)	4
14.4	Declaration on corporate governance	4
14.5	Potential significant impacts on future modifications to the composition of the administrative and management bodies (where such changes have already been decided upon)	not applicable
15	**Employees**	
15.1	Employee information	6
15.2	Profit-sharing and options to subscribe shares held by the administrative and management bodies	4
15.3	Employee sharing in the issuer's capital	6 and 8

10.7 CONCORDANCE TABLE WITH THE GLOBAL COMPACT PRINCIPLES – ERAMET COP

In the context of the commitments made by Eramet as a signatory to the UN's Global Compact, each year, the Group publishes its Progress Report. Thus, Eramet publishes information about its contribution to the Global Compact principles, through its *Déclaration de performance extra-financière* (DPEF – Non-Financial Performance Report) and Vigilance Plan. These two annual publications allow Eramet to reflect the policies, actions and results which the Group implements as part of its approach to CSR.

UN GLOBAL COMPACT
NOUS SOUTENONS LE PACTE MONDIAL

Ceci est notre **Communication sur le Progrès** sur la mise en œuvre des principes **du Pacte mondial des Nations Unies.**

Nous apprécions vos commentaires sur son contenu.

Global Compact Principles	Eramet DPEF		Eramet Vigilance Plan	
HUMAN RIGHTS	6.3.1 6.3.2 6.3.3	Commitment to Human Rights Social commitments to employees Commitments to communities	2.2.1.a 2.3.2.a 2.5	Risks of violations of human rights and fundamental freedoms Management of risks of human rights violations Identification and management of risks related to suppliers and subcontractors
INTERNATIONAL LABOUR STANDARDS	6.3.2	Social commitments to employees	2.2.1.b 2.3.2.b 2.5	Risks of harm to the health and safety of people Management of risks of harm to human health and safety Identification and management of risks related to suppliers and subcontractors
ENVIRONMENT	6.2	Environmental protection	2.2.1.c 2.3.2.c 2.5	Risks of damage to the environment Management of risks of damage to the environment Identification and management of risks related to suppliers and subcontractors
FIGHT AGAINST CORRUPTION	6.4.1	Ethics, Compliance and Anti-Corruption	/	

11

2017 Vigilance Plan – Eramet Group

I. SCOPE AND OBJECTIVES

The aim of this vigilance plan is to meet the requirements of Law No. 2017-399 of 27 March 2017 on the duty of care of parent companies and contracting companies.

The scope of this plan primarily covers all Group entities: the parent company, Eramet SA, and the companies it directly or indirectly controls. This scope is also described in the chapter on Corporate Social Responsibility (CSR) in the Group's Universal Registration Document. The measures concerning the in-scope entities are set out in sections 2, 3, 4 and 6 of this plan.

The scope of the plan also covers suppliers and sub-contractors of Group entities (parent company or controlled subsidiaries). Risks related to entities are discussed in section 5 of this plan, as the assessment and management of risks in the supply chain is subject to specific measures.

The Eramet Group

(See also www.eramet.com.)

Eramet is one of the world's leading producers of:

- manganese and nickel, used to improve the properties of steels, mineral sands (titanium dioxide and zircon);
- parts and semi-finished products in alloys and high-performance special steels used by industries such as aerospace, power generation, and tooling.

Eramet is also developing activities with strong growth potential, such as lithium mining and recycling, which will play a key role in the energy transition and mobility of the future.

The Group employs around 13,000 people in 20 countries.

A more detailed description of the Eramet Group is provided in Chapters 1 and 2 of the management report in which this vigilance plan is published.

II. RISK MAPPING AND ASSESSMENT OF SUBSIDIARIES

As part of its risk identification and control process, the Group compiles every three years and annually updates its major risk map, the implementation of which is managed by the Risk Management Department. The risk map is presented to the Executive Committee and to the Audit, Risks and Ethics Committee of the Group's Board of Directors. The map identifies major strategic, operational, financial and compliance risks. It is complemented by more detailed risk mappings focusing on specific cross-functional themes, such as human rights, the environment and health and safety of people.

1. Risk mapping

a. Risks of violations of human rights and fundamental freedoms

In 2017, the Group formalised its mapping of the risks of violations of human rights and fundamental freedoms, with the support of external expertise.

A risk universe was established by matching the impacts of the Group's activities with the list of rights contained in the UN Universal Declaration of Human Rights of 1948, the two UN International Covenants of 1966 (International Covenant on Civil and Political Rights; International Covenant on Economic, Social and Cultural Rights), as well as the European Convention on Human Rights of 1950. Sector benchmarks on the identification and management of risks of human rights abuses were also taken into account. The criteria for assessing these risks, in terms of severity of harm and probability of occurrence, were also defined. They involve an assessment of the severity of the impact, not directly for the Group, but for the potentially affected third party(ies) (employees, local residents or other people).

The assessment of the level of severity and probability of occurrence of these risks was carried out by a representative panel of the different corporate functions and Group entities across all geographical areas.

The risk universe of human rights violations defined during this exercise for the Eramet Group can be broken down into the following three broad categories, and the main risks were assessed for each of them:

- risks for Group employees, mainly those related to health and safety at work, and to a lesser extent those related to discrimination and harassment. The risks to the health and safety of employees are described in more detail in the following section (II.1.b);

- risks to communities bordering the Group's sites, whether related to potential environmental impacts, or resulting from other activities (acquisition of land or, to a lesser extent, safety measures implemented for the protection of certain installations);
- the risks generated by contributors to the Group's supply chain, such as, for example, non-compliance with the fundamental conventions of the International Labour Organization. These risks are addressed in the section of the Vigilance Plan that focuses on the supply chain (section V).

The risk mapping will be updated regularly, based in particular on continuous assessments of the situation of the Group's sites and entities with regard to these risks.

b. Risks of harm to the health and safety of people

This section focuses on the risks of harm to the health and safety of employees. Risks to the health and safety of other people, such as residents close to the sites, are discussed in the sections on human rights and environmental risks and the associated control measures.

Risks of undermining the safety of employees

The prevention of risks of work-related accidents is based primarily on the analysis of risks in the workplace, conducted within the plants. This highly operational analysis makes it possible to secure a specific operation by identifying all the risks to which the operators are exposed and the means of control implemented to manage them. These local analyses are compiled in the risk register of each site (known as the "single risk assessment document" for French sites). These risks are assessed according to a scale based on the frequency x gravity pair, taking into account the protection measures in place. This methodology makes it possible to identify the most critical risks and thus feed into the site's Safety Improvement Plan. Risk registers make it possible to group the risks by standard activities specific to each site. For example, they include mechanical handling, machine driving, walking, etc.

At Group level, the risk analysis is based on this segmentation by type of activity. Risk assessment is based on actual accident statistics taken from the reporting of accidents over a period of several years, according to the frequencies actually observed and the average potential severity estimated on a case by case basis.

The Group's risk analysis of workplace accidents allowed the risks identified to be grouped into three distinct categories:

- **Technological risks** associated with processes and installations present the most serious potential hazards. An explosion, a toxic gas leak, or equipment failure can impact several people in a single incident. The frequency of occurrence of these events is the lowest in our history.
- **Critical activities** are dangerous tasks that are carried out on a daily basis as part of the operation of our facilities. They include machine work, work at height, vehicle traffic, working in confined spaces and working with liquid metal. Failure to control these risks can lead to serious accidents. In 60% of cases, the consequence of lack of control of these critical activities is work stoppage and, in a little over 10% of cases, serious injury.
- Finally, the Group's operations involve many routine activities, such as walking, lifting and moving objects and using hand tools. About two-thirds of the Group's accidents involve these activities, but the severity of the accidents associated with them is statistically less serious than for critical activities. For these routine activities, the accident rate that triggers a work stoppage is only 40%, while the rate of serious accidents is less than 1%. Eramet groups these activities which are difficult to categorise under the heading **"non-standardised activities".**

Risks of undermining the health of employees

Based on the analysis of risks in the workplace recorded in the risk registers of each site, occupational health professionals identify the risks that may have a lasting or deferred impact on the health of employees. These risks may relate to physical health (noise, vibrations, awkward postures, repetitive movements, night or alternating work, electromagnetic fields, extreme temperatures, exposure to dangerous chemical agents, including asbestos) or psychological health (workload, organization of work, autonomy).

Deferred risks are risks of occupational diseases, which are reported separately based on reports sent to the employer or which result in investigations by internal or regulatory prevention services. In France, a Table of Occupational Diseases is regularly updated and specific regulations are implemented in the other countries where the Group operates.

These risk maps and analyses of the risks to the health and safety of employees are regularly updated.

c. Risks of damage to the environment

As part of its environmental protection commitments and objectives, the Group maps the environmental damage risks for each of its sites. Environmental impact and risk assessment studies are carried out as part of the sites' exploration licences, ISO 14001 management systems and the Group's HSE audits. They are supplemented by industrial risk assessments carried out with insurers.

In 2017, the assessments resulting from these various activities were aggregated and harmonised in order to formalise a Group-wide risk map of damage to the environment. This mapping of environmental risks will be updated on a regular basis.

The main risks and challenges for the Group's sites are related to the following potential impacts:

- water consumption/pressure on water resources (for industrial and mining sites);
- emissions into water (for industrial sites);
- atmospheric emissions (for industrial sites);
- energy consumption and greenhouse gas emissions (for industrial sites);
- production of hazardous waste (for industrial sites);
- risks of historical soil pollution (for industrial sites);
- impact on biodiversity (for mining sites);
- erosion (for mining sites);
- production of waste rock and tailings (for mining sites).

The details of the nature of the risks associated with these impacts are described along with the corresponding control measures in section III.2 of this plan.

Furthermore, industrial risks (the occurrence of an industrial accident) can also lead to environmental damage.The main industrial risks to which the Group's sites may be exposed are fire, explosion (including, for certain sites, related to the risk of contact between water and molten metal), machine breakdown on critical equipment, and natural events (floods, storms/cyclones, etc.).

2. Procedures for the regular risk assessment of subsidiaries

In terms of environmental and health/safety risks, the risk situation of the subsidiaries is regularly assessed through two main mechanisms: internal environmental and safety information systems, and the HSE (Health, Safety and Environment) audit system.

A dedicated environmental information system (EraGreen) has been fully deployed in all industrial and mining sites, allowing for the collection and consolidation of environmental performance indicators. These indicators are mostly derived from the sampling and analysis plans developed by the sites as part of their operating permits. Information and reporting systems dedicated to the management of human resources and Health/Safety, including the reporting of accidents resulting in work stoppage, are also deployed at all sites.

The Group also relies on a demanding internal audit system for the performance of its entities in the areas of Environment, Health, Safety and Energy. The common audit guidelines are structured around three pillars: human involvement, operational control and prevention. They fully take into account the requirements of ISO 14001, OHSAS 18001 and ISO 50001. Mixed teams of the Group's Internal Auditors (corporate departments, Division coordination, and site representatives) trained according to an internal guidelines system, conduct these audits which last several days and make it possible to situate in detail the performance of the sites. This involvement strengthens the cross-functional level of expertise of HSE managers and promotes experience sharing between operational teams.

Corrective action plans are defined at the end of each audit, and for all risks considered significant, a quarterly report on the implementation of corrective actions is consolidated at Group level.

In particular, with regard to the risk assessment of subsidiaries in terms of industrial risk, the control system is based primarily on the programme of biennial insurance engineering visits (insurance prevention audits) to its industrial sites in close collaboration with insurers, brokers and the Group Insurance Department. Any significant risk detected during these audits results in a corrective action plan by the site concerned.

In terms of risks of human rights violations, the risk situation of sites will be assessed each year in light of the risks identified by the risk mapping exercise performed in 2017. This assessment must be based on data from the annual site CSR reports, covering specific Human Resources management indicators, and indicators related to the management of potential impacts on communities bordering our sites. This assessment will also take into account data from the monitoring of the social and environmental management of Group projects, carried out as part of the provision of project support.

III. RISK MANAGEMENT

1. Risk management policies and organization

a. Policies and commitments

The management of risks related to human rights, health, safety and the environment is first and foremost the focus of a clear commitment by the Group in all of these areas. Eramet has adopted an Ethics Charter and a Sustainable Development Policy, both of which set the standard for its social responsibility. These two fundamental documents have been translated into the languages of the countries where the Group operates and are implemented across all Divisions and sites.

- **The Group's Ethics Charter** sets out the Group's commitments and the rules and principles of action and behaviour of employees in many areas, including respect for human rights (with reference to the UN Universal Declaration of Human Rights and all the fundamental conventions of the International Labour Organization), the protection of the health and safety of persons, and the respect for and protection of the environment.
- The Eramet Group's **Sustainable Development Policy** sets out a number of these commitments. It is structured around four priorities:
  - *the protection and development of the Group's employees*, with commitments relating in particular to employee health and safety and social dialogue;
  - *the management of risks and impacts on health and the environment*, with commitments relating to the control of the impacts of industrial processes at the Group's sites, the reduction of energy consumption, the fight against climate change, better use of natural resources, and the development of recycling;
  - *the use of sustainable development opportunities for the benefit of customers*, with commitments related to the integration of sustainable development in the Company's business innovation and diversification policy, product responsibility (development of their environmental benefits and risk reduction) and a responsible purchasing approach;
  - and *finally, maintaining a relationship of trust with stakeholders*, by meeting their expectations through dialogue and cooperation actions, by contributing to the development of the areas where we operate, and by sharing the Group's non-financial performance in a transparent manner.

These thematic commitments are set out in more specific policies, such as the **Safety Charter**, the **Health Policy**, the **Environment Charter**, the **Biodiversity Policy**, the **Energy Policy** and the **Climate Change Policy.** The complete texts of these charters and policies are available on the Eramet Group's website.

b. Organization

The Group's commitment translates into involvement at the highest level of the Company. The Communication and Sustainable Development Director and the Human Resources, Health, Safety and Security Director, both members of the Group's Executive Committee propose, support and monitor the multi-year objectives and associated action plans. They report to the Executive Committee.

The effective integration of CSR topics into the Group's activities is also closely monitored by Eramet's Board of Directors, in particular through two of its Committees, the Strategy and CSR Committee, and the Audit, Risks and Ethics Committee.

The Communication and Sustainable Development Department (DC2D) has an Environment, Industrial Risks and Product Department (DERIP) and a Public Affairs Department (DAP), while the Human Resources Department (DRH) includes a Social Relations Department, a Safety and Prevention Department (SP), a Security Department and a Medical Advisor, responsible for promoting the Group's Health Policy. The Group Ethics Officer and the Divisions' Purchasing Departments complete this system.

These corporate functions are organised and structured around practices and processes aimed at continuously strengthening their commitment and efficiency, highlighting a strong culture of risk identification and control.

The objectives and action plans are available in all of the Divisions and operational entities of the Group. Their effective execution and the good coordination between the Corporate functions and the Divisions have been strengthened by the establishment of working groups and cross-functional committees focusing on various themes (biodiversity, mining environment, responsible purchasing).

Furthermore, the Group pays particular attention to the integration of social, environmental, health and safety, cultural and societal criteria at the earliest stages of their projects. Sustainable development experts and specialists are integrated into the industrial, technical, legal and financial teams, and participate in the various steering committees, from pre-project phases to feasibility studies and pre-construction. Likewise, they participate in acquisition audits in the case of merger or acquisition projects, as well as in due diligence related to the transfer of assets.

2. Risk management actions

a. Management of risks of human rights violations

Human rights in the workplace

Health and safety is an integral part of fundamental human rights, and as such has been integrated into the Group's risk mapping exercise on human rights violations. Due to the nature of their industrial and mining activities and their countries of operation, the Group's sites may incur risks related to the health and safety of employees, the management of which is one of the Group's priorities. These measures are described in section III. 2. b of this plan.

In order to strengthen the control of local workplace discrimination and harassment risks identified during the Group mapping exercise, an e-learning course is gradually being rolled out to all Group employees to raise awareness about the Ethics Charter, including a section dedicated to these issues. More generally, information is sent to all employees, through infographics displayed at all the Group's sites concerning the organization of ethical compliance and in particular the existence of the professional whistleblowing system, presented in section VI of this plan. In addition, as part of a trade union agreement related to the prevention of psychosocial risks, monitoring units have been set up at the various sites in mainland France to anticipate risk situations and give warning if an employee with psychological difficulty is identified. Training on the prevention of psychosocial risks has also been deployed for all Group managers. Actions to reinforce these mechanisms are planned, with the appointment of a Group Diversity Officer, whose role is to promote and coordinate all actions in favour of diversity and the fight against discrimination.

Measures to manage risks to the rights of workers in the supply chain, which were also identified during the mapping exercise, are presented in section V of this plan.

Rights of communities bordering Group sites

Most of the Eramet Group's sites have a permanent presence in the areas in which they operate, which with they develop highly interdependent relationships. The local integration of sites, particularly with regard to neighbouring communities, is therefore a key element in the sustainability of the Group's activities. As a result, the Group has built long-term relationships of trust with neighbouring communities, and works to prevent any risk of violation of their fundamental rights.

The prevention of such risks is primarily achieved through the implementation of dialogue mechanisms with the relevant stakeholders or their representatives. Information and consultation activities with local residents are set up according to the level of impact and risk of each site. The scope of these actions is most often adequately defined by national or local regulations. In France, for example, because of their Seveso “High Threshold” status or their ICPE (Installation Classified for the Protection of the Environment) status, several sites participate in "Site Monitoring Commissions", composed of representatives of the State, local authorities, local residents, farmers and employees. As part of authorisation processes and studies of societal and environmental impacts, the projects establish mechanisms for consulting with local residents and other stakeholders in order to take into account their expectations in controlling these impacts at all stages of the project. In consultation with the Communication and Sustainable Development Department, some sites may go beyond the regulatory requirements for dialogue with local residents. In particular, the sites exercise greater vigilance with regard to the indigenous or vulnerable populations that may reside in the surrounding area. In addition, and depending on their potential impacts, some sites also set up dedicated systems to receive and respond to concerns, questions or complaints from local populations, as presented in section VI of this plan.

As part of a process of continuous improvement, actions to reinforce these dialogue mechanisms with the affected people are included in a multi-year action plan drawn up by the Group.

More targeted control measures are also put in place to manage specific risks related to the acquisition of land, environmental impacts and systems to ensure the safety of certain facilities.

The activities of certain Group sites require the acquisition of land from communities that reside or carry out economic activities (agricultural or commercial) in the area. These operations may present risks of human rights violations (property rights or the right to an adequate standard of living of these communities). In terms of preventing these violations, the Group refers to the principles set out in the Performance Standards of the International Finance Corporation (World Bank Group) relating to these relocation activities, with particular focus on the implementation of resettlement action plans.

Some sites also present environmental impact risks that may affect local residents. These may be pollution risks or risks of reducing communities' access to the natural resources they use. All these risks are covered by risk-management strategies, presented in section III. 2. c. of this plan, on management of risks of damage to the environment. Depending on the nature of these impacts or risks, local residents may be involved in the definition or execution of these control measures. In particular, local communities are associated with baseline characterisation studies that include their knowledge of biodiversity, its uses and ecosystem services.

In addition, some of the countries or regions in which the Eramet Group operates may experience unstable political, security or climate situations (terrorism, information theft, crime, earthquakes, cyclones, etc.). In this context, the Group Security Department implements measures to ensure the protection of employees (whether travelling for business reasons, or foreign or local residents), intellectual property and Eramet facilities. Eramet is aware that these measures must be established in respect of the rights of communities bordering the Group sites, therefore it has established a Group Security Policy that respects international law, French law and the laws of the countries in which the Group operates. As part of this policy, in accordance with the principles of the Eramet Group Ethics Charter, the prevention of safety risks first requires dialogue and a relationship of mutual respect with local communities. Similarly, training and rules governing the use of force and the equipment of the security personnel are decided, designed and controlled by a Site Security Officer, who acts within the framework defined by the Group Security Director.

b. Management of risks of harm to the health and safety of people

Actions to prevent risks to the health and safety of employees are coordinated by the Safety and Prevention Director and the Group Medical Advisor, who report directly to the Director of Human Resources, Health, Safety and Security. Together, they establish and propose to the Executive Committee the Group's health and safety policies and guidelines. Once validated, these guidelines are defined in the Divisions by the Division Managers, assisted by Health and Safety coordinators, and then by the Site Managers, who are themselves assisted by a site Health and Safety coordinator.

Prevention of damage to health and accidents is at the heart of the system, and concerns Eramet employees and temporary workers and subcontractors who work on the sites. It is based on the analysis of risks in the workplace, which determines the actions and preventive measures to be implemented.

Management of risks related to employee safety

In relation to Safety, actions at Group level are coordinated within the framework of the "Group Safety Committee" which includes the Human Resources, Health, Safety and Prevention Director, the Division Directors, the Safety and Prevention Director, and the Health and Safety coordinators of the Divisions.

Prevention tools are adjusted to the three major risk groups identified:

- the prevention of technological risks is based on the implementation of barriers (technical, organizational and human) as a result of hazard studies. Prevention depends greatly on the technical expertise of the teams that has been acquired over years of operations and their ability to identify and respond to weak signals;
- the risks associated with critical activities are too important to leave the choice of method of operation to the stakeholders; these activities are also strongly governed by rules. Eramet has compiled a set of minimum essential rules – "Essential Safety Requirements" – that are required by all sites, in compliance with local legal requirements. Limited in number, they are communicated as part of a Group communication campaign. They are auditable and audited as part of corporate audits;
- finally, non-standardised activities cannot reasonably be governed by simple rules. For the work situations concerned, Eramet develops the situational intelligence of its teams so that the stakeholders learn to make safety-related decisions. Team awareness, feedback, and especially interactions with the chain of command in the field are all systematically used to guide decisions towards safer behaviour.

Management of risks related to employee health

In terms of prevention of health risks,the Group's strategy is based on the Group's Health policy, which covers four main areas, broken down into specific priority actions. The strategic areas are:

- reducing and managing the effects and impacts of the Group's activities on the health of employees and local residents;
- continued employment for all employees during their professional career, including when affected by poor health;
- participation in general public health and chronic disease prevention campaigns;
- the prevention of risks to psychological health and the implementation of actions for the Quality of Working Life.

For the management of risks related to products, a centralised structure, the Group Products Committee defines the rules and standards for the management of chemical products and provides support and services to the Divisions and sites in order to help them comply with the many regulations. The action of this structure has three main objectives:

- improve the technical and scientific knowledge of Group products;
- provide support and information to internal and external clients;
- harmonise the chemical risk management methods on the sites.

Harmonising the chemical risk management on the sites is a major challenge. Eramet Group production sites are found on five continents, and they must, therefore, follow and respect various regulations concerning hygiene and controls of chemical exposures in the workplace. In this area of regulation, there may be significant differences from country to country for the same substance. Harmonisation and communication between sites on these subjects is therefore important for exchanging, explaining and implementing practices and references, ensuring a corresponding protection that is the same or higher than the regulations in force in the relevant country. In concrete terms, a steering committee brings together the Group Prevention and Safety Department, the Group Medical Advisor, the Group

Environment, Industrial Risks and Products Department and the Hygiene, Health and Safety Coordinators of the Divisions. It defines and monitors the priority actions for the year. One of these actions is the production and circulation of practical toxicological sheets that identify the references and good practices, accompanied by a methodological guide for the measurement of exposure. A consolidated chemical risk assessment method is also available and is being deployed across the sites.

In particular, the asbestos-related risk for the Group is divided into environmental asbestos at nickel mines and also the management of asbestos products at industrial sites.

In New Caledonia, specific operating procedures exist to control veins of asbestos-containing ores in the event that the mining activity uncovers them. The operators are trained in the precautions to be taken, and special medical monitoring has been set up, in consultation with the authorities, social partners, and other mining operators.

No industrial site of the Group has ever produced or processed asbestos, nor marketed composite materials made up entirely or partially of asbestos. This material has never been used as a raw material by Eramet but rather only as a component of certain materials of thermal protection equipment. In accordance with applicable regulations, particularly in France, the Group has carried out asbestos technical diagnostics (DTA) on its industrial sites, by authorised firms, the conclusions and recommendations of which are then translated into detailed action plans.

c. Management of risks of damage to the environment

To manage its environmental risks, the Group relies on a network of internal experts and on a structured organization: The Environment, Industrial Risks and Products Department defines the Group's benchmarks, coordinates the general dynamics of continuous improvement, implements the control mechanisms of the internal standards and provides expert technical support to the sites and projects. The monitoring and anticipation of regulatory changes are performed jointly with the Public Affairs Department. In addition, more than 80 people make up the network of HSE functions at the sites with a reporting line to their senior management for the vast majority of them. Training and awareness activities on the essentials of environmental responsibility management are also developed at the sites, within the Divisions and at Corporate level.

The management of environmental risks begins with the implementation of environmental management systems. This is why the Group pursues the objective of ISO 14001 certification for all its sites, except those that have no significant impact on the environment. The latter category includes sites with purely administrative activities, such as offices, distribution centres or sites in project or closure phase.

In terms of controlling risks specific to mining sites, teams dedicated to taking into account environmental requirements in mining are present on the sites and in the subsidiaries concerned, and implement formalised tools for the environmental management of mines. All mining subsidiaries have formalised a Mining Environment plan of action and the progress of these action plans is reviewed regularly with the Group Environment, Industrial Risks and Products Department. In addition, a community of experts on the mining environment has been set up and meets regularly. Its role is to formalise good practices guidelines applicable throughout the Group and to encourage the exchange of expertise between sites. Finally, Environmental Management Systems compatible with the requirements of ISO 14001 have been deployed by the mining subsidiaries.

The more targeted measures and actions to control each of the environmental risks are described below.

Water consumption/pressure on water resources (industrial and mining sites)

Mining, metallurgy and hydrometallurgy activities consume water in several ways: for the cooling of furnaces and other metallurgical plants, for the washing of ores, raw materials and by-products, and finally for hydrometallurgical processes (solubilisation and reactive environments).

None of the Group's industrial sites is located in a country confronted with "water stress" according to the definition adopted by the UN, that is to say, whose water resource per inhabitant, for all uses combined, is generally less than 1,700 m^3 per person per year. Although this water resource is often substantial or abundant on its sites, the Group attaches real importance to its preservation. Multiple actions are taken to use only the required amount.

Whenever technically possible, the sites encourage internal recycling of the water consumed. The cooling of furnaces and other metallurgical facilities, as well as other high-consumption uses, are mainly done in a closed circuit. The water consumption is then essentially supplemented in order to compensate for evaporation or losses in the system. Where possible, the sites also source water from a nearby industrial site.

With regard to mining sites, the issue of water consumption mainly concerns the Grande Côte Operations (GCO) site in Senegal. The subject of water management is sensitive there, as the operation of the mine uses two aquifers, one of which is very important for the people and the country in general. Given this situation, every precaution is taken to ensure that the impact of the mine is as low as possible. GCO has an expert team in hydrogeology, and the water management system was designed and authorised by the competent department of the Senegalese Government to avoid additional pressure on the surface water table used to supply agricultural crops for local residents. All mining installations are controlled to ensure minimal variations in the level of this water table.

Emissions into water (industrial sites)

Hydrometallurgical sites are the sites that present relatively the most significant risks of water pollution, due to the use of chemicals and an aqueous process. Eramet is committed to reducing its aqueous emissions, and all industrial water is managed in accordance with applicable regulations.

In addition to preventive systems, such as basins and double-walled storage tanks, curative mechanisms, such as effluent treatment plants using physico-chemical processes or hydrocarbon separators (separation by decantation) are used to allow discharges that are in accordance with the statutory limit values.

The Group's sites also closely monitor the quality of groundwater and the impact of the activity on soils and subsoils. Several hundred piezometers are distributed throughout the Group's various sites, both within and outside of the Company, to support the initial phases of any new project (characterisation of the initial state) and also to monitor any impacts on ground and surface water.

Atmospheric emissions (industrial sites)

Pyrometallurgical activities with their fusion plants and heat treatment furnaces contribute the most to channelled air emissions, including power plants. The CO_2 emissions are discussed below.

Air emissions are a function of the nature of raw materials and ores used, the transfer and loading technologies in place, the installed capacity of the equipment and especially the level of activity of the sites.

In pyrometallurgy, channelled emissions are generated in the handling of materials, furnaces, grinding and milling operations, as well as operations involving molten liquid metal and slag. In hydrometallurgy, channelled dust emissions most often occur during the handling, grinding, drying or transfer of materials.

The effluent purification systems generally used in the Group's factories are electrostatic precipitators, baghouses and washing towers. Specific treatment systems for certain pollutants can also be used, such as activated carbon filters. The different items of equipment are installed according to the characteristics of the industrial processes, the targeted purification performances and regulatory constraints.

Energy consumption and greenhouse gas emissions (industrial sites)

Sites that have metallurgical furnaces and/or electricity generation facilities are the sites that represent the bulk of energy consumption and greenhouse gas emissions. Thus, around four-fifths of the energy requirements are consumed by 14 Group pyrometallurgical plants.

Through its Climate Change policy, the Group is committed to reducing its greenhouse gas emissions, in particular by reinforcing its approach to improving energy efficiency, by promoting and developing the recycling of raw materials in a circular economy approach, and prioritising low-carbon energy sources and processes under economically acceptable conditions.

The Group Energy Policy, which incorporates the principles of the ISO 50001 standard, is deployed by the Group Energy Centre across all sites, where ISO 50001 certification is being progressively extended. The Group Coordinator, an ISO 50001 auditor certified by AFNOR, leads the process, providing the sites with expertise in several business areas and ensuring regulatory and technological monitoring. The site energy contacts, representatives of site management in relation to the ISO 50001 standard, locally implement the continuous improvement process in relation to energy. Finally, the site management is committed to an energy management system based on the principles of the ISO 50001 standard and to allocating resources that are adapted to the challenges of each site. Division management is called upon to support site management.

As part of the energy efficiency initiative, energy performance indicators are set up at the sites and are integrated into the management of industrial performance. The values and developments of these indicators are analysed in relation to each local process. Because of the variety of jobs and processes, consolidation of these indicators at the Group level would have no purpose. Consequently, and for reasons of confidentiality and protection of our processes, the Group decided not to communicate more precisely on these indicators.

Production of hazardous waste (industrial sites)

The activities that generate hazardous waste are mainly derived from the pyrometallurgical processes of the Group's mining divisions. The High Performance Alloys Division sites that are significant in terms of their size also generate significant quantities of hazardous waste.

These activities produce dust recovered by filtration systems, sludge and sodium-calcium slag which, depending on their intrinsic properties and the location of the operation, can be considered hazardous waste. The hazardous waste is treated through specific, authorised channels. Controls are put in place to ensure the proper management of this waste throughout the process (transport of waste, delivery to approved centre and final treatment).

Impact on biodiversity (mining sites)

In terms of controlling biodiversity risks, Eramet has formalised its commitments through a dedicated policy, which is structured around three main areas:

1. better awareness and understanding of biodiversity and its features;
2. acting to preserve biodiversity;
3. raising awareness, exchanging and sharing.

These principles are to be adapted at sites in a manner proportionate to local issues.

In New Caledonia, Société Le Nickel (SLN) operates nickel deposits on various sites in the heart of a region renowned for its rich biodiversity and the high rate of endemism among its flora and fauna species. It has developed reliable and environmentally friendly rehabilitation methods including revegetation by hydraulic seeding and plantations. The naturally low fertility of the soils, rich in metals and poor in organic elements, as well as the extreme rainfall conditions, make it difficult to see the results of this work in the short term because of the very slow growth.

SLN has implemented a global biodiversity management plan derived from a Biodiversity Strategy that incorporates international preservation standards in this area. Through this strategy, SLN implements its global biodiversity management plan.

In this context, SLN is working on the reintroduction of rare and threatened plant species through inventories of mining centres, as well as phenological monitoring to better control the reproduction of these species. SLN also monitors the wildlife (reptiles, birds, bats), the marine environment and the water quality of its mining creeks on all of its active sites.

In Gabon, the mining procedure includes a remodelling step and the progressive upgrading of the topsoil. The gradual reshaping of historically disturbed surfaces has also been completed.

In Senegal, the exploitation of mineral sands involves the clearing of vegetation as a floating dredge moves along the deposit. Biodiversity is of medium sensitivity in the areas currently being exploited. The issues are mainly related to the rehabilitation and revegetation of large areas when the exploited sites are made available. Revegetation (sowing/planting of local species) occurs after the reshaping of slag heaps to maximally reflect the original landscape (dunes). An additional irrigation system is also in place to allow the continuity of revegetation operations during the nine months of the dry season.

Erosion and water runoff (mining sites)

At mining sites in New Caledonia, and to a lesser extent in Gabon, the major issue of water management is to prevent the entry of suspended solids (SS) into the receiving environment through run-off caused by erosion due to surface stripping.

To avoid this, the sites are equipped with sedimentation ponds that trap suspended matter to prevent their transport into the natural environment. Upstream from these works, many precautions are taken to minimise erosion: roofing of sites to prevent water entry, minimisation of open areas, conservation of natural embankments at the edges of stripping sites, organization of runoffs to reduce speed, implementation of hydraulic locks, etc. These measures are documented in the Water Management Plan.

In Gabon, the subject of erosion is less significant given the topography of the plateau deposit and the draining characteristics of the upper geological layers of the plateau. This topic still attracts attention due to the ongoing extension of the deposit into the sloping part. A specific water management plan associated with the extension of the deposit has been developed. As part of this plan, a specific environmental monitoring system is in place, which confirms the effectiveness of the measures taken and makes it possible to verify that the very limited and localised phenomenon of acid mine drainage does not have a significant impact on the natural environment.

In Senegal, protecting the dunes reconstituted after dredging against wind and water erosion is an issue. This risk of erosion is controlled by means of regeneration of the reconstituted dunes, as the revegetation stabilises the sands.

Production of waste rock and tailings

Given the considerable volume of tailings being handled at SLN operations, the storage of tailings in appropriate structures and their revegetation is a vital environmental task in order to minimise erosion and the impacts on the ecosystem and landscape.

SLN has implemented effective techniques that have been validated by the authorities, one of which is to create tailings stockpiles. The stability of these structures is guaranteed in the long term, even during exceptionally heavy rains. These tailings stockpiles are subject to continuous monitoring and regular audits by an external third party. Moreover, in order to minimise land clearing and promote site rehabilitation, SLN privileges flat-top piles in old mining pits, when the environmental conditions are favourable.

In Gabon, the problem is less sensitive since, on the one hand, the volumes of tailings being handled are much less, and on the other hand because the technique of exploitation by the successive opening/closing of extraction compartments allows the majority of tailings to be placed directly into the compartments after extraction.

The Senegal mine is not at all affected by this problem, since the sand dune is reconstituted after passing the dredge and extracting the recoverable part.

Mine tailings, which are produced in ore concentration plants at the mines in Gabon and in New Caledonia, are chemically stable and therefore are not hazardous waste within the definition of the regulations. In New Caledonia, all processing residues from enrichment plants are also commercially exploited as by-products of the mine. In Gabon, mine tailings are stored in eight basins, consisting of closed dykes. The residues of the metallurgical enrichment plant are stored in a retaining dyke. These structures are continuously monitored for their stability.

The GCO plant in Senegal produces a very small amount of residues. The residual products have characteristics which allow their return to the natural environment when the dune is reconstituted.

Risks of historical soil pollution (industrial sites)

The Group exercises the utmost vigilance against potential impacts on soils and subsoils resulting from its past, current or future activities, both in the area of its industrial and mining activities.

Over several years, the Group has developed expertise to support the cessation of activity of certain industrial sites. This expertise concerns the investigation, identification, monitoring and management of potentially impacted sites through various projects, such as the rehabilitation of industrial sites and the end-of-life of landfills or old mines. This expertise is also consulted in the context of internal audits or in advance of acquisitions and disposals. It is important to mention the implementation of a policy of systematic characterisation of soil conditions before any new project, in accordance with the Group's Sustainable Development policy.

IV. SYSTEMS TO MONITOR THE MEASURES IMPLEMENTED AND ASSESS THEIR EFFECTIVENESS

Several of the Group's systems make it possible to monitor the implementation of the measures presented in this plan and to evaluate their effectiveness.

The Group's HSE and CSR reporting system, described in section II.2 of this plan, measures the resources deployed and their results on each site. The data is collected and controlled by the Communication and Sustainable Development Department and the Human Resources Department. In the case of risk management related to the use of products across several Group departments, the Group Product Committee (described in section III.2.b.) is the body responsible for monitoring the implementation of actions.

The HSE audit system, also described in section II.2 of this plan, is a monitoring tool for each of the Group's sites, resulting in the development of recommendations. The implementation of the recommendations resulting from audits and defined as high priority is monitored on a quarterly basis by the Environment, Risk and Products Department. To supplement this HSE audit system, the Group plans to integrate human rights-related elements and develop a multi-year programme of dedicated audits, prioritising the most sensitive sites identified as part of the human rights risk mapping exercise. For this type of risk, as well as for those related to suppliers and subcontractors, the multi-year programme also provides for the intervention and recommendations of the Group Risk Management Department and the Internal Audit Department.

In the specific case of Group projects, the implementation of environmental and societal impact management action plans is monitored on a continuous basis as part of project support provided by the Environment, Industrial Risks and Products Department.

Finally, all the reinforcement measures described in this Vigilance Plan are included in multi-year action plans validated by the Group's Executive Committee, and their implementation is subject to a mid-year review. The Group's Board of Directors, through the Strategy and CSR Committee and the Audit, Risk and Ethics Committee, also monitors the implementation of these measures on an annual basis.

In accordance with the requirements of French law, the report on the effective implementation of the Vigilance Plan will be published annually in the Group's Management Report.

V. IDENTIFICATION AND MANAGEMENT OF RISKS RELATED TO SUPPLIERS AND SUBCONTRACTORS

The Eramet Group's activities involve the significant use of external purchasing and, to a lesser extent, outsourcing. The entire Eramet Group spends about 60% of its turnover on the purchase of goods and services. As a result, the Group pays particular attention to CSR issues related to its upstream value chain.

1. Risk mapping and supplier and subcontractor assessment procedures

Risk mapping

As part of its responsible purchasing approach, in 2017, the Group conducted a risk mapping exercise to identify the risks generated by the activities of its suppliers and subcontractors in relation to human rights and fundamental freedoms, health and safety of people, and the environment ("CSR risks").

In order to develop this risk map, an approach based on the business categories of the various suppliers and subcontractors was chosen. The ISIC (International Standard Industrial Classification of All Economic Activities) nomenclature developed by the UN was used. This nomenclature contains several hundred categories. The Group's suppliers fall into 66 of them, each of which was assessed according to two criteria: the CSR risk of the category and the importance of the category for the Eramet Group:

- for the assessment of the CSR risk of the business categories, Eramet availed of the expertise of an external company, proposing a CSR risk rating for each business sector. This rating is the result of data analysis and sectoral studies on the impacts and practices specific to each business category. These risks are analysed in the four areas: working conditions and respect for human rights, the environment, ethics and fair practices, and issues related to the supply chain of the sector itself;
- the assessment of the importance of the purchase categories for Eramet is based on several Group-specific criteria. These criteria include the purchase volume, the number of potential suppliers or subcontractors in the purchase category, or the impact of the purchased product on the quality of the products marketed by the Group.

The combination of these two assessments made it possible to position the 66 categories into four risk areas, and in particular to identify seven purchase categories that are both important for the Group and pose CSR risks:

- manufacture of non-metallic mineral products;
- manufacture of coke and refined petroleum products;
- metallurgy and processing of basic precious and non-ferrous metals;
- recovery of materials (waste treatment consisting of secondary raw materials, recovery by sorting material from non-toxic waste);
- wholesale trade of solid, liquid and gaseous fuels and related products;
- wholesale trade of metals and ores;
- mining of coal and lignite.

This mapping exercise, whose methodology will evolve as part of a continuous improvement approach, will be renewed every year.

Procedure for assessing the situation of suppliers and subcontractors with regard to CSR risks

The Eramet Group also has a procedure defining the methods for assessing suppliers according to the risk level of the business category to which they belong.

Eramet has chosen to focus its assessment efforts on the Group's 180 or so suppliers in the seven highest-risk business categories. These assessments will be gradually extended to suppliers belonging to lower-risk but potentially sensitive categories as part of a multi-year action plan. In the event that a new supplier or subcontractor belonging to one of these categories applies to be listed with Eramet, the same rules apply.

For all suppliers in these seven categories and for which purchases exceed a certain amount, the assessment is in the form of a questionnaire whose answers are analysed by an external third party. This questionnaire, adapted according to the sector of activity and the size of the Company, covers the four areas: working conditions and respect for human rights, the environment, ethics and fair practices, and the supply chain of the sector. The companies questioned are required to provide documents to support their declarations (certifications for example). For the other suppliers in these seven high-risk categories, the CSR assessment is being progressively incorporated into the global supplier assessment standards (quality, financial rating, HSE management, etc.) already used by the Group's entities.

In parallel with this process involving all Group purchases, specific assessments are made for tungsten purchases. Some of the Group's activities require the use of tungsten in metallic form, in limited quantities, in their manufacturing processes. This metal comes from ores that can be called "conflict" ores if their exploitation is used to finance armed groups and fuel civil wars in some parts of the world. Eramet is therefore very attentive to the conditions of supply of these materials and in particular to compliance with the specific provisions of the "US Dodd Frank Act", as well as the guidelines set by the OECD for multinational companies.

The Eramet buyers in charge of these supplies thus systematically require their suppliers to provide information concerning the origin of the ores used for the manufacture of tungsten metal sold to Eramet. They are also asked what due diligence measures they have put in place to verify this origin. To this end, the Group's buyers use the "Conflict Minerals Reporting Template" (CMRT), supplied and updated regularly by the Responsible Minerals Initiative (RMI), previously known as the Conflict Free Smelter Initiative.

2. Risk management

Risk management policy and organization

Eramet has adopted a Responsible Purchasing Charter, which formalises the Group's desire to strengthen the integration of sustainable development issues related to procurement, and promotes a dynamic of continuous improvement. Eramet's expectations with regard to its suppliers, subcontractors and service providers primarily target three main areas: Human Rights and working conditions, environment and products, and good business practices. The Charter is also available on the Eramet website.

In order to oversee the Group's responsible purchasing approach, Eramet has established a Responsible Purchasing Committee, bringing together the Division's Purchasing Managers and representatives of the Communication and Sustainable Development Department and the Group Legal Department. This Committee is an integral part of the Group's ethics compliance organization, led by the Ethics Officer.

Risk management actions

Compliance with the principles set out in the Eramet Group's Responsible Purchasing Charter forms part of Eramet's contractual requirements for all its suppliers and subcontractors. The charter specifies that audits may be carried out by Eramet at suppliers' premises to verify compliance with the principles stated therein.

All subcontractors operating on Eramet's sites must also comply with the rules in force at these sites in relation to environmental, health and safety risk management.

Moreover, at the end of CSR assessments, more targeted risk management actions must be implemented for suppliers whose rating is below a certain threshold. The Group first of all engages in discussions with the supplier with a view to defining corrective measures to be implemented by the supplier according to a defined schedule. In case of refusal or the impossibility of the supplier to implement corrective actions, Eramet reserves the right to terminate the contractual relationship, this case being also provided for in the Responsible Purchasing Charter.

3. System to monitor the measures implemented and assess their effectiveness

For actions related to responsible purchasing, the monitoring of the implementation of measures and the assessment of their effectiveness is carried out both on the supplier side (risk management measures) and internally (implementation of the approach).

In the first place, compliance by suppliers with the requirements of the Responsible Purchasing Charter or the corrective measures requested as a result of CSR assessments is monitored by means of supplier audits. The procedure and the audit reference framework for suppliers and subcontractors of the Alloys Division include components relating to environmental management, and employee health and safety. These audits are carried out with a sample of suppliers in accordance with an annual audit plan. In order to supplement this existing system, supplier audit procedures and an audit reference framework must also be developed for the sites of the Nickel and Manganese Divisions, by integrating feedback from the audits conducted by the Alloys Division sites.

Internally, performance indicators relating to the updating of risk maps, the roll-out of assessments, and audits of suppliers are monitored by the Responsible Purchasing Committee. Some of these indicators are associated with objectives that are part of the Group's multi-year CSR plan, the implementation of which is the subject of a mid-year report to the Group's Executive Committee and the Strategy and CSR Committee of the Board of Directors.

VI. WHISTLEBLOWING AND REPORTING MECHANISM

The Ethics Charter and the Group's ethics programme have formulated a set of rules and principles for actions and behaviours that apply to everyone and include a professional whistleblowing system. This system allows each employee to notify the Group Ethics Officer or the Ethics Compliance Officer (ECO) of his/her entity of any events that may violate the principles and commitments of the Ethics Charter and the laws or rules relating to ethics. In particular, the Group encourages employees to disclose acts of discrimination and harassment at work, any conduct contrary to the Group's policies and standards in relation to health, hygiene, safety at work and the protection of the environment, and any violation or risk of violation of human rights of Group employees or external persons affected by the Company's business activity.

The whistleblowing procedures are made available to employees in the Ethics Charter available on the Group's intranet and are displayed on the premises of each entity. These alerts can be submitted anonymously.

The alert is managed according to a procedure that can be viewed on the Group intranet. This procedure guarantees that the employee initiating the alert has complete confidentiality, and insofar as the employee acts selflessly and in good faith, it also guarantees that no action can be taken against him or her as a result of the use of this mechanism.

In addition to the Group's whistleblowing mechanism, and depending on their potential impacts on the environment and local residents, some sites have also set up dedicated systems to receive and respond to concerns, questions or complaints from local residents. These site-level mechanisms ensure the local management of complaints, whose receipt, processing and resolution procedures are adapted to the cultural context of the entity and the nature of the impacts that may affect local residents. To complement existing systems and harmonise practices across the Group, the Group Standard for Responsible Project Management, currently under development, includes criteria for setting up these local complaint management mechanisms.

VII. REPORT ON THE EFFECTIVE IMPLEMENTATION OF THE VIGILANCE PLAN IN 2019

The purpose of this publication is to comply with the obligations of Law No. 2017-399 of 27 March 2017 on the duty of vigilance of parent companies and contracting companies relating to the publication of the report on the effective implementation of the plan published in 2017 and reproduced above.

The risk assessment work used by Eramet to formalise its Non-Financial Performance Statement has provided the Group with a very precise view of the challenges it faces. The material risks for which the Group must annually present risk control policies and measures and their results include violations relating to the environment, human health and safety, human rights and fundamental freedoms, for the Group and its supply chain (see 6.1.2 "CSR risk assessment").

The table below presents for each category of risks expected in the vigilance plan and the risks identified, the elements of the Non-Financial Performance Statement, published in the management report, making it possible to report on risk control actions and their results, supplementing or amending the information presented in the vigilance plan above.

CROSS-REFERENCE TABLE VIGILANCE PLAN – NON-FINANCIAL PERFORMANCE STATEMENT

Items vigilance plan	Risks identified	Integration with the Non-Financial Performance Statement	
Environment	Water consumption (industrial and mining sites)	6.2.4.3 6.2.6.3	Optimisation of water consumption Water management
Environment	Emissions into water (industrial sites)	6.2.3.2 6.2.6.3	Aqueous waste Water management
Environment	Atmospheric emissions (industrial sites)	6.2.3.1	Airborne emissions
Environment	Energy consumption/greenhouse gas emissions (industrial sites)	6.2.5	Fight against climate change
Environment	Production of hazardous waste (industrial sites)	6.2.4.1 6.2.4.2	Optimisation of the consumption of primary raw materials Waste prevention and recovery
Environment	Risks of historical soil pollution (industrial sites)	6.2.3.3	Rehabilitation of closed industrial sites
Environment	Production of waste rock and tailings (mining sites)	6.2.6.2 6.2.6.4	Responsible resource management Tailings and mine waste management
Environment	Impact on biodiversity (mining sites)	6.2.7	Preservation of biodiversity
Environment	Erosion (mining sites)	6.2.6.3 6.2.6.4 6.2.6.5	Water management Tailings and mine waste management Rehabilitation of mining sites
Health and Safety	Safety	6.3.2.1 6.3.2.1.1 6.3.2.1.2 6.3.2.1.3 6.3.2.1.4	Employee safety Main safety issues and risks Safety governance Risk prevention strategy Safety performance
Health and Safety	Health	6.3.2.2 6.3.2.2.1 6.3.2.2.2 6.3.2.2.3 6.3.2.2.4	Employee health Main health issues and risks Health Governance Risk prevention strategy Health Performance
Human rights and fundamental freedoms	Human rights in the workplace: Discrimination and harassment	6.3.2.4.4	Equal opportunities – measures to foster non-discrimination and diversity
Human rights and fundamental freedoms	Rights of communities bordering Group sites	6.3.3 6.3.3.1 6.3.3.2 6.3.3.3	Commitments to host communities Objectives, organization and instruments Impact management and risk prevention for local communities Dialogue with local communities
Risks for suppliers and subcontractors	Non-compliance with ILO conventions in the supply chain	6.4.2 6.4.2.1 6.4.2.2	Responsible value chain Governance Responsible purchasing
Whistleblowing and reporting mechanism	N/A	6.4.1.3 6.3.3.2.4	Risk prevention strategy/Whistleblowing system Local complaint management mechanisms

Appendix – Glossary

Financial Glossary

Consolidated performance indicators

The consolidated performance indicators used for financial reporting of the Group's revenue and financial performance, and presented in this document, are restated data taken from the Group Reporting and monitored by the Comex. In accordance with the accounting principles adopted for the Group's Reporting, the operating performance of the joint ventures have been accounted for under proportionate consolidation until 2018: the TiZir subgroup (Mineral Sands BU, Mining and Metals Division) until 30 June and UKAD (High Performance Alloys Division) until 31 December.

A comparison of the Group's sales figures against the reported data is given in Chapter 3 up to 31 December.

Sales figures on a like-for-like basis, with constant scope and exchange rates

The sales figures on a like-for-like basis correspond to the sales figures adjusted for the effect of changes of scope and exchange rate variations from one financial year to the next.

The scope effect is calculated as follows: for companies acquired during the year, by eliminating the sales figure for the current period, and for companies acquired in the previous period, by integrating the full-year sales figure for the previous period; for companies divested, by eliminating the sales figure for the period in question and the previous financial period.

The exchange effect is calculated by applying the exchange rates from the previous financial year to the sales figure for the year in question.

EBITDA *(Earnings before interest, taxes, depreciation and amortisation)*

Earnings before financial income and expenses and other operating income and expenses, income tax, provisions for liabilities and charges, and depreciation of property, plant and equipment and amortisation of intangible assets.

Cash-cost of the SLN

The cash-cost of the SLN is defined as all production and structural costs (R&D including exploratory geology, administration costs, logistical and sales costs), net the credits of the byproducts (including exports of nickel ore) and local services, which cover all stages of the industrial production of the finished product, right up to the point of delivery to the end client, and impact the EBITDA in the corporate financial statements, expressed in relation to the tonnage sold.

Break-even cost of the SLN

The break-even cost of the SLN is defined as the cash cost of the SLN (as defined above) plus the investments (investments made, expressed in relation to the tonnage for the year for the annual statements; projected investments and projected tonnage for the current year) non-current income and expenses and financial costs (recorded in the corporate accounts of the SLN).

Financial glossary consolidated financial statements

See Chapter 3.

Technical glossary

Processes

Hot Isostatic Pressing (HIP)

A process of pressing of powdered inoxidisable alloys, into an iron alloy mould made in the shape of the desired part. Hot pressing takes place in a closed chamber, at a pressure of 1,000 bars and a temperature of 1000°C, but below the alloy's melting point. This produces a fine grain of inferior quality to that which is produced by forging. The alloys used are extremely pure, ensuring optimal resistance to corrosion and oxidation. In addition, Hot Isostatic Pressing (HIP) can produce mechanical characteristics with no prevailing spatial orientation (i.e. Isotropic properties), and can be used to make complex shapes and optimise thickness from the earliest stage of a design. Another advantage of HIP is the option of making bimetallic parts with two different types of surface, with a seamless join between them and no need for welding.

Ore enrichment

Used by Société Le Nickel-SLN, this innovative technology is capable, by sorting matter by particle size distribution and density, of increasing ore content, in order to be able to exploit a greater proportion of the source and thus improve the life span of the resource reserves.

Drawing

Drawing is a cold shaping process, which involves passing a layered stub through a narrower channel, the shape of which is appropriate for the profile and dimensions we wish to obtain. This transformation exploits the plasticity of steel, and can be used to make circles, hexagons, squares and flat products, as well as more complex profiles.

Forging

Plastic deformation of the metal between two flat implements. By forging, we can make parts with simple geometry.

HIP

See Hot Isostatic Pressing.

Hydrometallurgy

Reduction of metal oxides and separation of metal from oxide by chemical means (dissolution, solvent-based extraction, electrolysis).

Rolling

Reduction of the thickness of an ingot, a bar, a sheet of metal, etc., by passing it between the rotating cylinders of a rolling mill.

Acid leaching

Exploitation of nickel oxide ores (laterites) by dissolving them in acid.

Swagging

Shaping of a metal stub into complex shapes by pressing it between two etched instruments simultaneously, at slow speed.

Alloy metallurgy

- Air metallurgy: done in an electric arc furnace, metal is melted, followed by metallurgic processing to add alloy metals, eliminate impurities and obtain the desired chemical composition.
- Vacuum metallurgy: used for alloys capable of withstanding higher stress levels (nitrogen content, oxygen-reactive alloy elements, etc.), this process, carried out in special furnaces, is known as Vacuum Induction Melting (VIM).
- Remelting: this process is crucial for certain critical parts designed for use in the aeronautics and energy sectors. It facilitates fuller control of the segregations and the inclusion morphology, and helps lower the gas content, thereby significantly improving the characteristics and mechanical reliability of the finished product.
- Powder metallurgy: Production of alloys with excellent properties by pulverisation of a jet of liquid metal.

PM HSS

powder metallurgical high-speed steel: a process of producing high-speed steel (HSS), combining powder metallurgy with shaping processes. The process consists of placing the high-speed steel powder, produced by gas atomisation, into a vacuum, welded capsule, then applying hot isostatic pressing, and transforming it by forging, hot or cold rolling and drawing, to produce bars, rings, blades and sheets.

Press

An industrial tool used for forging and swagging (see definitions of these terms). The pressure it applies is measured in thousands of tonnes.

Pyrometallurgy

Reduction of metal oxides and separation of metals from their oxides by melting (blast furnace or electric furnace).

Products

High-speed steel

Highly wear-resistant steels, extremely hard in both hot and cold conditions, designed primarily for the production of cutting tools (drill bits, taps, reamers, saws, etc.) and cold work tools.

Alloys

Metallic materials composed of different metals, having specific properties suited to particular uses, such as wear-resistance or corrosion-resistance, mechanical strength at high temperatures, etc.

Ferroalloys

Alloys containing iron and at least one other metal, added to the liquid metal during the steel production process, to adjust its composition to deliver the desired properties.

Manganese

Used in alloys (such as ferromanganese and silicomanganese), this metal is used in the composition of steel in a proportion of between 6% and 7%. It improves the product's hardness, abrasion resistance, elasticity and surface state during rolling. It is also used in production processes for deoxidation/ desulphurisation. Other applications: chemistry, cells and batteries, electronic circuits, fertiliser, hardening agent for aluminium, and so forth.

Leucoxene

A heavy mineral whose composition is between those of ilmenite and rutile.

Nickel

An essential element in alloys, this metal lends steel numerous properties which range depending on nuances: resistance to atmospheric corrosion in combination with chromium (stainless steel), high temperature resistance, ductility, mechanical strength, electrical resistivity, magnetic properties, etc. Nickel can be recycled an infinite number of times.

Nuances

Different alloy qualities obtained by varying the mixture of metals in their composition, to produce specific characteristics. Each nuance is suited to particular needs.

Long products

Unfinished alloy products with high characteristics, designed to be transformed subsequently.

Rutile

Natural titanium dioxide (TiO_2).

Superalloy

Alloys of multiple metals where nickel is generally the chief ingredient (nickel-based superalloys). They exhibit excellent mechanical strength at high temperatures and corrosion resistance. Superalloys are used to manufacture parts for the aeronautics and space industries, energy production, the chemical industry, and environmental protection.

Risk management glossary

Risk

"A risk is the threat that an event, action or lack of action could significantly impact on:

- our ability to achieve our objectives and discharge our duties;
- our ability to detect development opportunities, in any and all areas, connected to our activity;
- the principal assets which are the fundamentals for our activity (be they tangible or intangible, financial, human resources, image, etc.);
- a critical process for our activity;
- the Eramet Group's ability to comply with its values, ethics and the laws and regulations in force."

Criticality (of a risk)

The criticality of a risk is the assessment of the degree of seriousness of that risk, weighted by the estimated probability of that risk becoming a reality. Criticality may be high, medium or low.

Design and production: côtécorp.

Photo credits: Eramet, Laurent Chamussy / SIPA, Julien Goldstein, Thomas Laisné, Desirey Minkoh/Afrikimages.

This report is printed on paper the manufacture of which complies with requirements defined in the FSC wood control application regulations (Forest Stewardship Council).

10 Boulevard de Grenelle
CS 63205
F-75015 Paris
www.eramet.com