

RioTinto

# Jadar Project

Facts at a Glance

July, 2021







## About the Jadar project

- The Jadar project in western Serbia near the town of Loznica, discovered in 2004, is Rio Tinto's flagship project in the batteries minerals sector.
  - The Jadar project is a world class lithium borates deposit that will produce battery-grade lithium carbonate, a critical mineral used in large scale batteries for electric vehicles and storing renewable energy.
  - With strong market fundamentals including projected double digit demand growth for lithium, the Jadar project in Serbia has the potential to contribute significantly to Europe's transition to a low-carbon future.
  - The Jadar project has been developed working with the leading universities and mining experts in Serbia and supports the Serbian Government's ambition to build a world class electric vehicle supply chain in Serbia.
  - Rio Tinto has committed US\$450 million in pre-feasibility, feasibility and other studies in Jadar to understand the nature of the Jadar deposit. The Rio Tinto Board has confirmed further development capital of \$US2.4 billion to construct the proposed mine.
- The Jadar project is a unique discovery. The high grade lithium has been discovered in a new mineral and Serbia is the only place in the world where this mineral, now known as jadarite, can be found.
- The next steps are the completion of the Feasibility Study, securing an exploitation licence granted by the Government of Serbia, regulatory approvals, an environmental impact assessment and a construction permit.
  - Construction is currently targeted to start in early 2022, would take four years and would be a significant investment for Serbia with direct and indirect economic benefits to the Serbian economy.
  - Jadar would be developed as a modern, technologically advanced mine, sensitive to the needs of the environment and local communities and a catalyst for the modernization of the Serbian economy. The mine footprint would be less than 400 hectares.



## Key statistics

- **Estimated mine life:** 40 years
- **Products:** Jadar would be capable of producing three products on an annual basis:
  - ~58,000 tonnes of refined battery-grade lithium carbonate;
  - 160,000 tonnes of boric acid (B2O3 units) and;
  - 255,000 tonnes of sodium sulphate.

These products will all be produced as powder.

Lithium is a critical mineral used in batteries for electric vehicles and in energy storages for renewable energy sources, to secure the balance in supply and demand.

Boric acid is used in many household products such as detergents and cosmetics as well as glass for cell phones, solar panels and fertilizers. Borates also will play an important role in the future development of renewable energy sources such as wind turbines.

Sodium sulphate is used in the textile industry and the production of powdered detergents and glass.

Our supply of Jadar lithium carbonate supply will be enough to support the production of over one million electric vehicles, assuming 60kWh battery size.

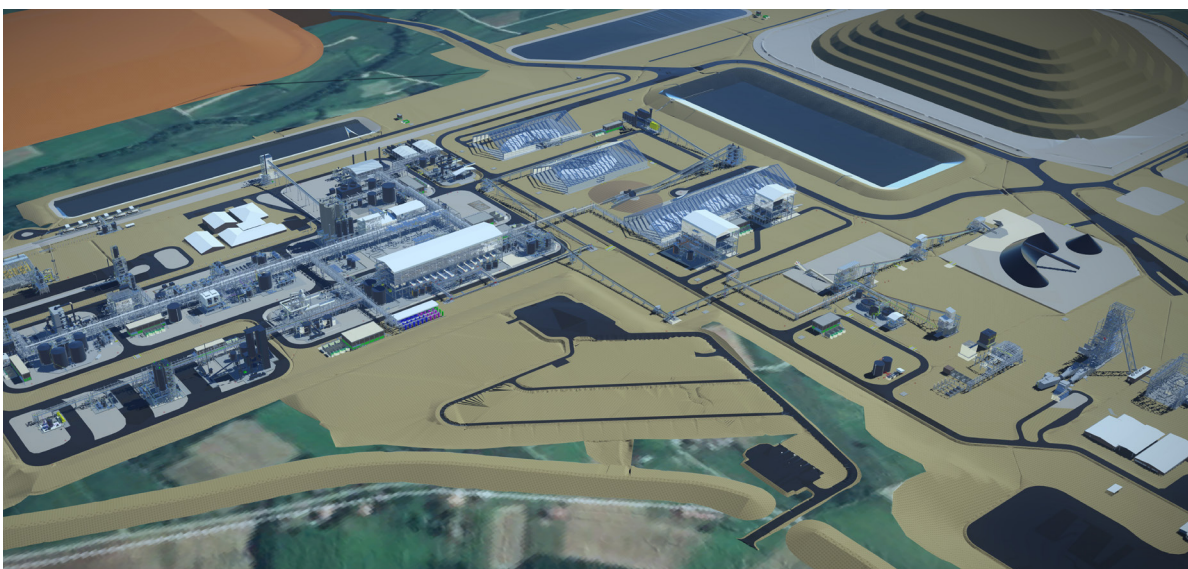


## The feasibility study

- The feasibility study, the final development stage for Rio Tinto, is on track to be completed by the end of 2021.
- A team comprising more than 100 domestic experts from all relevant scientific disciplines, including 40 professors from the University of Belgrade are working on the feasibility study to determine the impact of the project and ways to mitigate them.
- A total of 2000 chemical tests have been performed to confirm the technical viability of producing the three products from the mine together with five independent audits of the proposed processing operations. These approaches have led to numerous improvements in the production process together with health, safety and environmental protection processes.

## Environmental studies

- At Jadar, Rio Tinto has already conducted 12 environmental studies and more than 23,000 analyses of soil, water, air and noise. These will help develop the Environmental Impact Assessment Studies (EIA), allowing a comprehensive picture of the environment before mining begins, predicting the impacts, including cumulative impacts of future operations and defining measures to minimise them.



“We recognise that in progressing this project, we must listen to and respect the views of all stakeholders. We are committed to upholding the highest environmental standards and building sustainable futures for the communities where we operate, working closely with the local community, the Government of Serbia and civil society.”

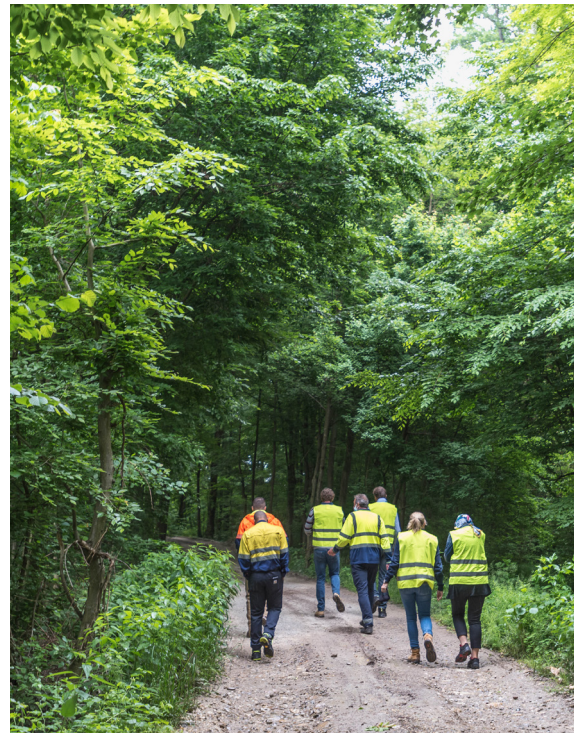
Jakob Stausholm, Chief Executive, Rio Tinto

## Land acquisition

- Rio Tinto is conducting land acquisition in line with Serbian law, best global practices and Rio Tinto’s own internal standards
- Land acquisition is a sensitive and important topic and Rio Tinto is committed to negotiated agreements that are conducted in a transparent, sensitive and fair manner
- Our goal is for landowners to have the same or better quality of life and work compared to the one they had before the move. Our procedures consider the local circumstances with great attention to livelihood impacts, vulnerable groups and transition support.

## Innovation

- The Jadar project development will include an underground mine with associated infrastructure and equipment, including electric haul trucks, as well as a beneficiation chemical processing plant to produce battery-grade lithium carbonate.
- Rio Tinto has developed a new, innovative technology for the production of lithium carbonate and boric acid from the mined Jadarite ore. A global team of experts have developed a small-scale test plant at Rio Tinto’s research centre in Australia to test the new technology. So far, some 2,000 tests have been run to secure the most optimal mineral process for extraction of industrial chemicals from the Jadarite ore.



## Employment and economic contribution

- Jadar will be a significant investment for Serbia and will be the largest greenfield mining investment in Serbia, making a 1 per cent direct and 4 per cent indirect contribution to the country’s GDP, with many Serbian suppliers being involved in the construction of the mine. Rio Tinto is committed to help develop local businesses so that they can support the operation over the coming decades. It will also be a significant employer, creating 2,100 jobs during construction and 1,000 mining and processing jobs once in production.



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