



(Formerly Zen Graphene Solutions Ltd.)

Management's Discussion and Analysis

For the three and six month periods ended  
September 30, 2021

Dated: December 20, 2021

(Expressed in Canadian Dollars)

Restated

## NOTICE TO READER

The Audit Committee, in consultation with management of Zentek Ltd. (formerly ZEN Graphene Solutions Ltd.) ("ZEN" or the "Company"), has determined that the Company's previously filed unaudited condensed interim financial statements and management's discussion and analysis ("MD&A") for the three and six month periods ended September 30, 2021 needed to be amended to reflect certain adjustments.

Accordingly, updates have been made to the Company's unaudited condensed interim financial statements and MD&A for the three and six month periods ended September 30, 2021 as previously filed to clarify and provide additional and complete disclosure regarding: 1) the recoverable amount and carrying value of the Company's exploration and evaluation assets, which was determined to be negligible and 2) amounts capitalized to exploration and evaluation assets which should have been recorded as a research and development expense.

The previously filed unaudited condensed interim financial statements and MD&A for the financial periods were originally filed by the Company on Sedar on November 29, 2021. Each of the Amended and Restated Unaudited Condensed Interim Financial Statements and Revised MD&A replaces and supersedes the respective previously filed unaudited condensed financial statements and related MD&A.

## **Introduction**

This Management Discussion and Analysis (“MD&A”) is dated December 20, 2021 and is in respect of the three and six-month periods ended September 30, 2021. The following discussion of the financial condition and results of operations of Zentek Ltd. (formerly ZEN Graphene Solutions Ltd.) (“ZEN” or the “Corporation”) constitutes management’s review of the factors that affected the Corporation’s financial and operating performance for the three and six-month periods ended September 30, 2021.

This discussion should be read in conjunction with the Corporation’s condensed interim financial statements and corresponding notes to the financial statements for the six months ended September 30, 2021 and the audited annual financial statements for the year ended March 31, 2021, the most recently completed fiscal year-end. The Corporation’s condensed interim financial statements have been prepared in accordance with International Financial Reporting Standards (“IFRS”). Unless otherwise stated, all amounts discussed herein are denominated in Canadian dollars which is the Corporation’s functional and reporting currency.

Additional information relating to the Corporation can be found under the Corporation’s profile on SEDAR at [www.sedar.com](http://www.sedar.com).

## **Forward Looking Statements**

This MD&A of the Corporation contains certain forward-looking information and forward-looking statements, as defined in applicable securities laws (collectively referred to herein as “forward-looking statements”). These statements relate to future events or the Corporation’s future performance. All statements other than statements of historical fact are forward-looking statements. Often, but not always, forward-looking statements can be identified by the use of words such as “plans”, “expects”, “is expected”, “budget”, “scheduled”, “estimates”, “continues”, “forecasts”, “projects”, “predicts”, “intends”, “anticipates” or “believes”, or variations of, or the negatives of, such words and phrases or state that certain actions, events or results “may”, “could”, “would”, “should”, “might” or “will” be taken, occur or be achieved. Forward-looking statements involve known and unknown risks, uncertainties and other factors, which may cause actual results to differ materially from those anticipated, expressed or implied in such forward-looking statements.

Factors that could affect these statements include, without limitation, availability of financing and personnel, fluctuations in graphene prices, future deposit development activities, general business and economic conditions, social and political stability, security of title, timing and receipt of permits and licenses, the impact of changes in future legislation and regulations, changes in mining or environmental regulations, competition and currency fluctuations. The forward-looking statements in this MD&A speak only as of the date of this MD&A or as of the date specified in such statement.

Readers are cautioned not to place undue reliance on forward-looking information. The Corporation undertakes no obligation to update publicly or otherwise revise any forward-looking information whether as a result of new information, future events or other such factors which affect this information, except as required by law.

These factors and other risks and uncertainties are detailed in the Corporation’s reports and disclosure documents filed by the Corporation from time to time with Canadian securities regulatory authorities.

## **Corporation Overview and Discussion of Operations**

The Corporation was incorporated in Ontario, Canada as 1774119 Ontario Limited on July 29, 2008. Pursuant to Articles of Amendment dated November 24, 2009, the Corporation changed its name to Zenyatta Ventures Ltd. On December 23, 2010, the Corporation became a reporting issuer in Ontario, Alberta and British Columbia. Following the receipt of approval at the 2018 Annual Meeting of Shareholders held on September 27, 2018, and

subsequent approval from the TSX Venture Exchange, the Corporation implemented a name change effective January 16, 2019 to ZEN Graphene Solutions Ltd. The Corporation implemented another name change effective October 27, 2021, to Zentek Ltd. The common shares of the Corporation trade on the TSX Venture Exchange under the symbol “ZEN” and in the United States on the OTCQB under the symbol “ZENYF”.

The Corporation commenced operations as a junior mineral exploration company focused primarily on mineral deposits in Northern Ontario, Canada. The Corporation was actively engaged in exploring mining projects and held an interest in exploration licenses on properties in the “Arc of Fire” area in Northern Ontario, Canada. The properties, located north of Lake Superior and west of James Bay in north-western Ontario, Canada, were unpatented, non-contiguous, and consisted of nine claim blocks, including 234 claims comprised of 3,549 claim units over a total of 56,784 ha. Within such claim blocks, the Corporation still holds a 100% undivided interest in Claim Block 4F, which hosts the igneous-hosted, fluid-derived graphite deposit (the “**Albany Graphite Project**”). The Corporation did extensive work to determine potential uses for the graphite materials extracted from the Albany Graphite Project, including engaging in testing and studies on graphene materials. However, there is no plan to continue exploration or evaluation activities on the Albany Graphite Project for the foreseeable future.

In May 2018, ZEN began to focus resources on the research and development of graphene and related applications, which was supported by shareholders of the Corporation who voted in favour of a new Board of Directors with an interdisciplinary team to augment key management personnel with expertise in business, science, marketing, and government relations. The Corporation is now an intellectual property development and commercialization company currently focused on healthcare solutions in the areas of prevention, detection, and treatment, in addition to the development of other intellectual property and products. The Corporation is currently primarily focused on the commercialization of its patent pending ZENGuard™ antimicrobial compound, as well as on the development of an aptamer-based, SARS-CoV-2 rapid detection technology.

The Corporation has successfully raised over \$13 million and received nearly \$4 million in government grants to accelerate its research and collaborations progressing to the commercial production of graphene products since May 2018. In January 2019, the Corporation changed its name from Zenyatta Ventures Ltd. to ZEN Graphene Solutions Ltd. to reflect the new direction of the Corporation. The Corporation changed its name again in October 2021 to Zentek Ltd. In March of 2020, ZEN opened a research facility in Guelph, Ontario, to support its research and development initiatives and to scale-up the production of graphene-related products. Subsequently, the COVID-19 pandemic halted research at the laboratories of ZEN’s collaborators. In response, the Corporation pivoted to focus its resources to develop graphene-based solutions for the fight against COVID-19 and developed a patent-pending graphene oxide/silver compound (ZENGuard™) that has shown to effectively inactivate over 99% of the SARS-CoV-2 virus. Follow up testing has indicated that the Corporation’s compound is also effective against bacteria including thirteen bacteria with antimicrobial-resistance (AMR), as well as multidrug-resistant variants like methicillin-resistant staphylococcus aureus (MRSA) and fungi. This research and development resulted in a patent being filed with the Patent Cooperation Treaty, two provisional patents, and a commercial supply agreement for the supply of the ZENGuard™ coating on personal protective equipment (“PPE”) including masks, and further research into the use of the graphene oxide/silver compound for other use-cases.

### Current Business

The Corporation is currently manufacturing the ZENGuard™ antimicrobial coating for application to non-woven, spunbond polypropylene material to be used in surgical mask manufacturing and potentially on other materials and products. The addition of ZENGuard™ to surgical masks has shown to increase the bacterial and viral filtration efficiency of masks and acts as an antimicrobial agent providing increased protection when compared to similar uncoated masks.

The Corporation entered into a License and Supply Agreement dated September 24, 2021, with Trebor Rx Corp. (“Trebor”), pursuant to which the Corporation granted a non-exclusive non-transferable license to Trebor to use the ZENGuard™ coating in certain specified Trebor products displaying the Corporation’s branding, including

surgical masks, Pro+ filters, nitrile gloves, surgical gowns and scrubs and other healthcare and similar such products, and an additional exclusive license to sell and distribute ZENGuard™ coated Elastomeric Respirator Mask filters, whether fixed or replaceable, such exclusive license remaining in force only so long as Trebor sells a minimum of 60,000,000 filters per year with annual growth of at least 10%. Trebor agreed to use the ZENGuard™ coating on all of its products sold unless the purchaser specifically refuses to purchase the ZENGuard™ coated products, and agreed to purchase the ZENGuard™ coating, produced by the Corporation at its facilities in Guelph, Ontario, from the Corporation by way of cash payments for a supply of ZENGuard™ coating based on demand for Trebor products. The sale of ZENGuard™ coated PPE masks received Health Canada authorization on September 22, 2021 under Interim Order No.2 - #329587 - *Respecting the Importation and Sale of Medical Devices for Use in Relation to COVID-19*.

To meet anticipated demand for its patent pending ZENGuard™ antimicrobial compound, the Corporation began sourcing graphene oxide from third parties and on November 11, 2021, the Corporation announced that it had reached an agreement to secure the necessary supply of graphene oxide to produce a sufficient amount of ZENGuard™ antimicrobial compound to meet the estimated demand, with shipments of graphene oxide scheduled to begin in December 2021 and to continue through the first six months of 2022. The Corporation is currently considering the potential future construction of a facility to produce its own graphene oxide. The Corporation believes that the ability to produce graphene oxide itself rather than relying on third party suppliers will be economically favourable to the Corporation over the long term, as well as reducing supply and shipping risk. Potential construction of a facility to produce graphene oxide would be contingent on the Corporation having sufficient capital.

The Corporation currently purchases graphene oxide from third parties, and then uses the graphene oxide to produce the ZENGuard™ coating formulation at its pilot scale production facility in Guelph, Ontario. The Corporation then ships the ZENGuard™ coating formulation to a third party for application onto spunbond material to be used for surgical masks (and potentially other products). The Corporation plans to install industrial manufacturing equipment in its Guelph, Ontario facility to produce ZENGuard™ coating formulation at a higher scale and capacity. The engineering of such equipment has been completed and is currently in the procurement phase. COVID-19 has caused significant supply issues around the world and the Corporation has seen the completion schedule delayed from calendar Q4 2021 to Q1 2022. Once this industrial process is in operation, the production capacity of ZENGuard™ is expected to increase significantly. The Corporation is currently assessing how it will increase market opportunities for the increased manufacturing capacity. The Corporation is also seeking to purchase equipment necessary to apply the ZENGuard™ coating formulation to materials at this same facility as well, rather than sending the coating formulation to a third party to apply it to material.

ZEN is currently targeting PPE manufacturers and HVAC filter material companies to include its patent pending ZENGuard™ antimicrobial coating in their products. To date, other than the License and Supply Agreement with Trebor dated September 24, 2021, the Corporation has not entered into any supply or other agreements for the sale of its products.

#### *Graphene Research and Development, and Project Development Activities*

Many corporate and academic research and development facilities around the world are currently competing to find the most effective, cost-efficient, and scalable process to produce high-quality graphene. These companies still require a consistent source (or precursor) material for conversion to graphene which is then applied to their various products for enhancement. ZEN has a competitive advantage with the ownership of a large and high-quality supply of source material, from the Albany Graphite Project, if and when the Corporation determines it cost effective to use such material. In the near future, ZEN plans to secure the necessary equipment required for a graphene oxide manufacturing (exfoliation) process and evaluate the associated costs for graphene oxide production in a vertically integrated structure. However, in the foreseeable future, there is no plan to continue further exploration or evaluation activities on the Albany Graphite Project.

Advanced testing on potential new processes for commercial graphene oxide production is underway. ZEN continues to work with universities on different processes that could potentially lead to a more efficient process for ZEN's commercialized graphene oxide production, at a lower cost than those previously anticipated. These processes are also producing high-yield results with low energy requirements and minimal environmental impacts.

ZEN's graphene research and development, and project development activities during 2021 are summarized below:

On January 13, 2021, the Corporation announced the following related to its ZENGuard™ coating that is 99.9% effective against aerobic bacteria (gram-positive and gram-negative), fungal and viral activity, including COVID-19:

- Confirmation from a major Canadian Certification company that filter material flow rates and pressure drop were not affected by the application of the coating;
- Confirmation from The BIG-nano Corporation that treated mask meltblown polypropylene mask material achieved excellent dispersion and coverage, and the coating did not block fiber pores; and
- Both findings helped validate that ZEN's coating does not inhibit breathability in polypropylene mask material or flow rates in air filtration media.

On February 4, 2021, ZEN announced very promising initial Phase 2 results of the 7-day repeated dose safety testing from Nucro Technics for potential human pharmaceutical use of its graphene-based compound. In this repeated dose study, groups of three male and three female rats were dosed with ZENGuard™ compound that was administered orally close to the throat area of the rats daily for seven days at dose levels of 50 mg/kg, 250 mg/kg, or 1,000 mg/kg. Based on the clinical observations, food consumption, body weights, blood clinical pathology and post-mortem examination, there were no test article related findings of concern in any of the dose levels evaluated in this study. Tissues from the main organs were prepared for histopathology examination, which showed no abnormal findings attributed to the test item treatment, although some minimal to mild microvesicular hepatocellular cytoplasmic vacuolation in the liver of the high dose females were shown. The findings concluded that analysis of all generated data indicated that the ZENGuard™ compound was well tolerated following a 7-day repeated oral dose administration at the dose levels of 50, 250, and 1000 mg/kg.

On March 17, 2021, ZEN reported successful testing results of its ZENGuard™ compound against four gram-positive and nine gram-negative bacteria with antimicrobial-resistance, including multidrug-resistant variants like methicillin-resistant staphylococcus aureus. Testing was completed under the direction of Dr. Tony Mazzulli, MD, FRCPC, FACP, Microbiologist-in-Chief and Infectious Disease Specialist at University Health Network/Mount Sinai Hospital, following initial breakthrough results demonstrating that the compound is 99.9% effective against bacteria, and fungi. With the goal of targeting pathogens in humans, the results were even more significant considering the extremely low minimum inhibitory concentration and the excellent safety profile established during Nucro-Technics' seven-day repeated dose study reported in early March 2021.

On March 24, 2021, ZEN announced its preliminary antimicrobial coating production plan to meet the anticipated demand in the PPE and air filtration markets. ZEN successfully transitioned from bench scale to pilot scale and began investing in additional pilot-scale capacity to help meet anticipated demands. This intermediate step was implemented to significantly increased ZEN's capacity to supply the anticipated demand from Trebor and to provide product for any potential new customers while design and construction of a proposed industrial-scale expansion of the Corporation's facilities continued.

On April 13, 2021, the Corporation provided an update that final results received from Nucro-Technics on skin irritation and sensitivity, as per ISO 10993-10, confirmed masks with ZENGuard™ did not lead to any irritation or sensitivity.

On June 1, 2021, ZEN announced that it had developed a stable diesel fuel additive, which increased the performance of diesel fuel by up to 10% in initial testing. ZEN reported that these early encouraging results could be improved further through additional optimization work and that it had filed a provisional patent for this graphene-based fuel additive technology.

On June 4, 2021, the Corporation and Trebor announced successful inhalation safety testing results of ZENGuard™-enhanced surgical masks and submission of these results to Health Canada. Testing was completed by NanoSafe Inc. in Blacksburg, Virginia and confirmed that no ZENGuard™ graphene material was released from the surgical masks with air flow rates simulating resting and light activity inhalation rates.

On September 22, 2021, the Corporation announced that the sale of ZENGuard™ coated disposable face mask had been authorized by Health Canada, and rated at an ASTM Level 3. The review process included examination of data related to shedding, inhalation safety, skin irritation, pathogen deactivation, bacterial filtration efficiency and viral filtration efficiency.

On September 23, 2021, ZEN announced that it had delivered and generated revenue from its first shipment of ZENGuard™ antimicrobial coating to Trebor. This first commercial shipment was enabled by a successful ramp up from bench scale production to pilot scale capacity. The Corporation also reported that the engineering work on its proposed industrial scale production facility, with an estimated capacity to coat the equivalent of 800 million masks per month, was complete and in the procurement stage.

On September 27, 2021, ZEN announced test results that demonstrated significantly enhanced bacterial filtration efficiency (BFE) and viral filtration efficiency (VFE) of ZENGuard™-enhanced surgical masks. The ZENGuard™ coated masks were shown to have removed 98.9% more bacteria and 97.8% more virus particles compared to a typical ASTM level 3, 3-ply uncoated mask.

Also on September 27, 2021, ZEN also announced that it has signed the License and Supply Agreement dated September 24, 2021, with Trebor for the manufacturing of ZENGuard™-enhanced personal protective equipment.

#### *Proposed Construction of ZENGuard™ Industrial Scale Production and Coating Facility*

The Corporation plans to construct industrial scale production equipment in its leased Guelph, Ontario facility to produce ZENGuard™ coating formulation at a higher scale and capacity than the Corporation's current pilot scale facility's capabilities. The Corporation also plans to purchase coating equipment so the process of applying the ZENGuard™ coating formulation to certain materials can be done on-site rather than being shipped offsite for the ZENGuard™ coating formulation to be applied to materials. The engineering of such equipment has been completed and is currently in the procurement phase. COVID-19 has caused significant supply issues around the world and the Corporation has seen the completion schedule delayed from calendar Q4 2021 to Q1 2022. Once this industrial process is in operation, the production capacity of ZENGuard™ is expected to increase significantly. The Corporation is currently assessing how it will increase market opportunities for the increased manufacturing capacity. The Corporation is also seeking to purchase equipment necessary to apply the ZENGuard™ coating formulation to materials at such facility as well, rather than sending the coating formulation to a third party to apply it to material.

Preliminary engineering study by Bantrel Co. commenced in January 2021 for graphite purification, graphene oxide production, and ZENGuard™ production equipment. Engineering efforts shifted to exclusive development of a ZENGuard™ production facility due to availability of sufficient low-cost graphene oxide from an external supplier, and long lead time for construction of the plant. The graphite purification plant was also put on hold as alternative high quality graphite sources were identified, negating the immediate need to use and process internally-sourced graphite from the Albany Graphite Project. The preliminary engineering study was

further delayed by a fundamental change in the synthesis method in March 2021, resulting in a simplified rework of the conceptual design of the proposed ZENGuard™ production equipment.

Detailed engineering of the proposed facility began in July 2021. To date, the Corporation estimates that engineering is approximately 80% complete and expects that it will be 100% complete by in or around January 2022. Procurement was initiated in September 2021, and all equipment package purchase orders are expected to be awarded by December 2021, with all equipment expected on site by in or around February 2022.

James Jordan, P.Eng., the Corporation's Vice-President – Operations is primarily overseeing the construction of the proposed ZENGuard™ production equipment. To date, approximately \$800,000 has been spent by the Corporation on this objective, and the Corporation currently estimates that approximately \$1,500,000 in additional expenditures will be required to complete construction, which would include completion of detailed engineering expected in or around January of 2022, delivery of all equipment on site by February 2022. Installation packages are expected to be awarded by December 2021, with anticipated construction to take place between January and March of 2022.

Pilot coating line equipment has been sourced by the Corporation, and the Corporation has spent approximately \$200,000. Testing and commissioning of such equipment is anticipated to be complete in December of 2021, with additional expenditures of approximately \$100,000 expected. Full-scale spray coating line equipment was researched, selected, and ordered in October of 2021 with a deposit of \$270,000 paid by the Corporation. It is expected that delivery of such equipment shall occur in or around May of 2022, and installation and commissioning will be required. The Corporation expects additional expenditures of approximately \$1,900,000 for such equipment purchase, installation and commissioning.

#### *Proposed Construction of Graphene Oxide Production Facility*

In addition to the proposed construction of a ZENGuard™ production and coating equipment, as discussed above, the Corporation intends to, subject to financing, construct a plant to produce graphene oxide. The Corporation believes that the ability to produce graphene oxide, the precursor for ZENGuard™ compound itself, rather than relying on third party suppliers of graphene oxide, will be economically favourable to the Corporation over the long term, as well as reducing supply and shipping risk. The Corporation also believes that graphene oxide produced by the Corporation could be used for other applications and/or possible sales to third-parties.

In connection with the proposed production of graphene oxide, the Corporation has conducted research and development to produce high-quality, few-layer graphene oxide via an electrochemical process designed to be scalable, low cost, low energy, and environmentally friendly. In collaboration with Prof. Aicheng Chen at the University of Guelph, the prototype electrochemical exfoliation process was designed, developed and optimized. A PCT patent has been filed for the processes to produce expanded graphite and electrochemically exfoliated graphene oxide.

The Corporation engaged Bantrel Co. in January 2021, and engineering work was initiated. Potential sites for a proposed graphene oxide production plant have been investigated. James Jordan, P.Eng., the Corporation's Vice-President – Operations is primarily overseeing the potential construction of such a facility, and possible alternatives. To date the Corporation has spent \$35,000 in preliminary investigations relating to this potential project, and expects, subject to obtaining necessary financing, that approximately \$7,500,000 would be required to complete construction of a graphene oxide production facility.

#### Business in Development

##### *Aptamer-Based Rapid Detection Technology*



June 17, 2021, ZEN announced that it had signed an exclusive agreement with McMaster University to be the global commercializing partner for a newly developed aptamer-based rapid detection technology to detect SARS-CoV-2 in patients through saliva samples. The technology was developed by a team of researchers under the guidance of Drs. Yingfu Li, John Brennan and Leyla Soleymani, who have expertise in biosensing technologies, and applications as point of care diagnostics. This patent-pending technology was validated with clinical samples from patients recruited under the supervision of two clinicians, Drs. Deborah Yamamura and Bruno Salena, who also work at McMaster University. The project was funded by the Canadian Institutes of Health Research (CIHR). This technology has shown to be accurate (similar to current PCR tests), is saliva-based, affordable and scalable, and provides results in under 10 minutes. A license fee of \$100,000, comprised of \$50,000 cash and \$50,000 in common shares of ZEN (19,157 common shares at \$2.61 per share, subject to the approval of the TSX Venture Exchange) is payable to McMaster University as consideration. Although this technology is currently being developed specifically for COVID-19, this technology platform is designed to be able to detect other diseases by changing the aptamer to match new diseases. This technology is also being used to help detect COVID-19 in wastewater and the Corporation has received \$148,000 from Innovations Solutions Canada to design and build a prototype for this application.

The Corporation has engaged a third party to reproduce the laboratory results from McMaster University, and to, among other things, develop a mathematical model to better understand the technology and results, develop a standard operating procedure for the system, perform pre-trial evaluation using saliva samples, and optimize buffers for sample preparation. The Corporation has incurred approximately \$200,000 in expenditures related to the forgoing.

Additionally, Dr. van der Kuur, the Corporation's Vice-President – Science and Research has undertaken supply chain activities including receiving samples and pricing from suppliers of hardware for the rapid COVID test including: potentiostat suppliers, screen printed electrode manufacturers and vetting the quality of chips, aptamer producers, and sample collection vials, pipettes etc.

The Corporation has also engaged a third party to conduct a product strategy alignment, usability analysis, device and architecture development; proof of concept and prototyping, and to develop a program plan towards commercialization, including regulatory engagement.

The Corporation currently intends to continue to develop this technology, including the development of software and hardware, using outsourced third party developers. The Corporation intends to spend funds to bring the product to market as soon as possible, which will require having a working prototype prepared, having conducted baseline studies, and having made application to Health Canada. The Corporation currently expects the cost to reach commercialization to be approximately \$500,000, but that enhancements and further development of the technology could cost approximately \$2,500,000.

#### *Diesel Fuel Additive*

The Corporation is also developing a stable graphene-based diesel fuel additive to improve combustion, increase burn rate and to improve fuel economy of diesel fuels, which initial testing has shown to increase the performance of diesel fuel. The Corporation expects that these early results can be improved further through additional optimization work. The Corporation has filed a provisional patent for its graphene-based fuel additive technology.

Primarily overseen by Dr. van der Kuur, the Corporation's Vice-President – Science and Research, the Corporation is developing a process to functionalize graphene oxide to produce a stable dispersion in diesel fuel. The fuel additive was tested by Conestoga College in a Gunt 159 single cylinder test engine, who reported improvement in fuel economy of over 10% under certain rpm. The Corporation's research and development team improved the synthesis of the functionalized graphene oxide additive to reduce the size of the particles and increase the functional groups, which could lead to improved combustion. An NSERC alliance proposal has

been submitted for \$110,500 cash contribution and a total budget of \$311,500 over two years to continue doped fuel research. The project will focus on measuring the combustion of doped fuel in both droplet and spray combustion. The Corporation has spent approximately \$50,000 on this research and development project.

The Corporation intends to conduct further testing in 2022 and 2023, including: testing fuel economy, brake efficiency and emissions in a diesel engine for two different graphene oxide fuel additive concentrations; conducting spray combustion tests, which will provide an initial assessment of the graphene oxide additive for the aviation industry; and testing and optimizing the graphene oxide fuel additive for diesel generator engines and marine engines. The Corporation currently estimates that the cost for such future testing is approximately \$325,000.

#### *Icephobic Coating*

The Corporation is also developing a new, patent-pending, carbon-based, nanotechnology-enhanced coating designed to prevent or reduce ice accretion for aviation (including drone) and wind energy applications. Preliminary testing demonstrated that this coating showed an adhesion strength consistently around 20 kPa.

James Jordan, P.Eng., the Corporation's Vice-President – Operations and Dr. van der Kuur, the Corporation's Vice-President – Science and Research are the primary overseers of the project, which has involved the use of dispersion technology to homogeneously mix graphene materials in elastomer. The Corporation has filed a provisional patent on the technology. The Corporation has conducted testing at National Research Council's Altitude Icing Wind Tunnel (AIWT) in Ottawa. The Corporation prepared graphene-enhanced elastomer material and coated test coupons for testing. Future testing that the Corporation expects to conduct includes testing accelerated weathering, durability (sand erosion), flight testing on a specially equipped research aircraft under real world ice-forming weather conditions, elastomer/graphene loading optimization, adhesion optimization, and coating application optimization. The Corporation has not spent significant funds on this project and anticipates additional testing and development to cost approximately \$150,000.

#### *Other Use-Cases for ZENGuard™*

The Corporation intends to continue exploring other applications and uses for its ZENGuard™ compound, including, but not limited to, use in HVAC filters. In the Corporation's information circular dated August 19, 2021, the Corporation disclosed that testing would occur over the next twelve months to demonstrate the efficacy of graphene oxide coated HVAC filters. The Corporation has spent approximately \$60,000 on testing, including preliminary testing of ZENGuard™-coated HVAC filter media for pressure drop, and increased challenge bacterial filtration efficiency on uncoated and coated MERV 8 and MERV 13 HVAC filters, overseen primarily by James Jordan, P.Eng., the Corporation's Vice-President – Operations and Dr. van der Kuur, the Corporation's Vice-President – Science and Research and Peter Wood, P.Eng., the Corporation's President. The Corporation was very recently awarded an ISC Testing Stream Contract for Phase 1 (proof of concept) testing of ZENGuard-coated HVAC filters with the goals of demonstrating the following: a net reduction in the airborne viral load with ZENGuard™ technology applied to standard filters; no modifications required to existing HVAC systems to achieve: no reduction in air flow rates, which means air exchange rates in the space will be unchanged; and no reduction in the air quality as the ZENGuard™ technology will be tested to ensure it does not contribute particles into the air stream. Testing will be performed at a third party laboratory, CREM Co Labs (Mississauga, Ontario), and will be led by Dr. Paul Lebbin, Research Council Officer at NRC's Centre for Air Travel Research (CATR). Based on the results of the above testing, the best filter will be tested by NRC in a simulated classroom environment with an HVAC system. The Corporation has approximately \$400,000 budgeted for future testing (including a \$200,000 grant). The Corporation will provide updates on this testing when available.

In addition, the active ingredient in ZENGuard™ has minimum inhibitory concentrations under 1µg/ml against several bacteria as tested by Dr. Tony Mazzulli from Mount Sinai Hospital in Toronto. The Corporation is exploring the potential to use this compound in therapeutic or pharmaceutical applications based on these results.

## *Other*

The Corporation is also working with a number of research institutions developing processes to synthesize graphene, graphene oxide and graphene quantum dots, along with other possible applications for graphene. Potential markets for graphene include composites (e.g. concrete, rubber, plastic polymers and ceramics), sensors, water purification and filtration, coatings and solid-state lubricants, silicon-graphene and graphene aerogel anode material for next generation batteries along with aerospace applications. The Corporation has other research projects commenced or contemplated including for applications in aluminum alloys, corrosion protection, battery technology, conductive polymers and others. The Corporation will report on these when it is appropriate to do so.

## Albany Graphite Project

The Corporation owns 100% of the Albany Graphite Project in Northern Ontario, Canada. The unusual nature of the graphite in the Albany deposit and its potential economic significance motivated additional exploration drilling from 2012 to 2014. The graphene nanomaterials market was not considered as part of the June 2015 Preliminary Economic Assessment model. The current claims require a total of \$195,600 worth of assessment work per year to keep them in good standing and ZEN has a total credit of approximately \$5.8M in available exploration reserves. The Corporation has no near-term plans to continue any significant work on the Albany Graphite Project in Northern Ontario and is not dependent on materials extracted from the Albany Graphite Project for its current business plans. Additionally, there is no plan to continue further exploration or evaluation activities on the Albany Graphite Project for the foreseeable future. On October 18, 2021, the TSX Venture Exchange changed the Corporation's classification from a "mining issuer" to an "industrial, technology, or life sciences issuer." The change of classification was approved by the shareholders of the Corporation on September 27, 2021, in accordance with the rules and policies of the TSX Venture Exchange.

## Future Outlook

The Corporation is currently focused on continuing to monetize its patent pending ZENGuard™ antimicrobial coating formulation, and the development of other potential graphene-based intellectual property and products. Bantrel Co. was engaged in January 2021 to carry out detail engineering for a plant and to procure the equipment for the industrial production of the ZENGuard™ antimicrobial coating formulation at 1123 York Road in Guelph, Ontario, where ZEN has leased 26,000 square feet of industrial space for a three-year term and an option for an additional three years. Additionally, the Corporation has purchased third-party graphene oxide to expedite the manufacturing process of the ZENGuard™ coating formulation and will continue to do so in the near term as and if the need arises. Furthermore, the Corporation intends to seek to manufacture graphene oxide internally to create a vertical integration structure.

ZEN is also focused on continuing research and development with multiple university research partners, for new use-cases and graphene-based products. Some of these programs are in advanced stages and the Corporation expects that some may lead to the filing of additional provisional patents.

As at September 30, 2021, the Corporation had working capital of \$2,997,720 and up to \$3,410,000 of funds available through warrant conversion, sufficient to fund the Corporation's general administration, engineering work for the manufacture of its patent-pending ZENGuard™ antimicrobial coating formulation, and other activities; however, additional financing will be required to allow the Corporation to continue to fund its ongoing project development activities.

On April 8, 2021, the Corporation completed a private placement in which a total of 1,735,199 units were issued at \$2.50 per unit for gross proceeds of \$4,337,998. The Corporation disclosed in its information circular dated August 19, 2021 (the “Information Circular”) that it had a working capital of \$4,050,000 as at the end of July, 2021. The following table sets out the uses that the Corporation planned for such funds available as disclosed in the Information Circular, and an update on the actual expenditures using such funds:

<b>Use of Available Funds</b>	<b>Expected Amount as at date of Information Circular (\$)</b>	<b>Approximate Actual Amount spent as at two months ended September 30, 2021 (\$)</b>
General and administrative costs <sup>(1)</sup>	2,550,000	427,000
Research and Development		
Enhancement of development process for ZENGuard™	100,000	297,000
Testing of GO coated HVAC filters	300,000	30,000
Research and development of other potential products	100,000	95,000
Development of graphene-enhanced polymers	80,000	36,000
Development of rapid detection technology	420,000	99,000
Albany Graphite Project Expenditures <sup>(2)</sup>	300,000	216,000
Unallocated working capital	200,000	Nil
<b>Total</b>	<b>4,050,000</b>	<b>1,200,000</b>

*Notes:*

- (1) *General and administrative expenses are expected to consist of salaries and consulting fees (which includes costs associated with the production of the Corporation anti-microbial coating for PPE), listing fees, transfer agent fees, audit fees, legal fees, office rent and other miscellaneous expenses.*
- (2) *Expenditures include environmental studies (long-term baseline watershed studies that were commenced and that the Corporation intends to complete); First Nations outreach, including travel costs and expenditures pursuant to the Implementation Agreement between the Corporation and CLFN; consulting fees relating to the Albany Graphite Project; storage facility and vehicle leases, and claims and other fees to maintain the Albany Graphite Project in good standing.*

In the months of August and September of 2021, the Corporation spent approximately \$1,200,000 of the \$4,050,000 that was available. Increased spending on the enhancement of the development process for ZENGuard™ was due to an increased scope of a commissioned engineering study for a new industrial scale facility for the Corporation to produce ZENGuard™.

## **Overall Performance**

During the six-month period ended September 30, 2021, the Corporation was mainly involved in scaling the production process of the ZENGuard™ antimicrobial coating formulation at the pilot scale along with completing the engineering work for the industrial production facility. The Corporation also continued its graphene R&D activities which led to two provisional patent filings and one provisional patent license during this six months. Overall, during the six month period ended September 30, 2021, the Corporation had cash expenditures of approximately \$4,260,000 consisting mainly of research and development costs, professional and consulting fees and general operating expenses.

## **Results of Operations**

### Net loss

The Corporation recorded a loss of \$28,999,484 with basic and diluted loss per share of \$0.32 for the three month period ended September 30, 2021 (2020 – loss of \$434,829 and \$0.01). The loss for the six month period ended September 30, 2021 was \$30,859,023 with basic and diluted loss per share of \$0.35 (2020 – loss of \$791,156 and \$0.01)

## Revenue

The Corporation generated revenue from operations for the three and six months ended September 30, 2021 totaling \$150,145 (2020 - \$nil). Interest and other income for the three month period ended September 30, 2021 was \$2,695 (2020 - \$2,451). Interest and other income for the six month period ended September 30, 2021 was \$13,296 (2020 - \$2,994). The premium on flow-through shares recognized for the three month period ended September 30, 2021 was \$1,617 (2020 - \$16,577). The premium on flow-through shares recognized for the six month period ended September 30, 2021 was \$1,884 (2020 - \$46,753). Grant income recognized for the three month period ended September 30, 2021 was \$nil (2020 - \$58,316). Grant income recognized for the six month period ended September 30, 2021 was \$45,914 (2020 - \$113,952). Grant income netted against the exploration and evaluation assets for the three month period ended September 30, 2021 was \$nil (2020 - \$29,028). Grant income netted against the exploration and evaluation assets for the six month period ended September 30, 2021 was \$72,349 (2020 - \$67,119).

## Expenses

Stock-based compensation costs were \$599,975 for the three month period ended September 30, 2021 (2020 - \$64,478) and \$1,421,825 for the six month period ended September 30, 2021 (2020 - \$172,290). Stock-based compensation was based on the fair value of the options described in Note 6(c) of the condensed interim financial statements as calculated using the Black-Scholes option pricing model. Stock-based compensation is recognized over the vesting period of the underlying options.

General and administrative expenses were \$580,509 for the three month period ended September 30, 2021 (2020 - \$212,900) and \$1,110,412 for the six month period ended September 30, 2021 (2020 - \$380,391). The most significant components of general and administrative expenses are wages and benefits. The following table details the material components of the Corporation's general and administrative expenses for the six month periods ended September 30, 2021 and 2020.

	<b>Six Months Ended September 30, 2021</b>	<b>Six Months Ended September 30, 2020</b>
Salaries and Benefits	\$568,894	\$206,411
Meals and Entertainment	28,615	8,981
Transfer Agent Fees	47,453	9,214
Accommodations	-	9,990
Investor Communications	56,978	36,359
Travel	52,980	13,483
Occupancy and Office Expenses	302,832	95,953
<b>Total</b>	<b>\$1,110,412</b>	<b>\$380,391</b>

Professional fees were \$491,153 for the three month period ended September 30, 2021 (2020 - \$98,795) and \$715,038 for the six month period ended September 30, 2021 (2020 - \$141,805). These fees consist primarily of the amounts charged for services provided by the Corporation's lawyers, auditors, and accountants.

Investor relations and promotion expenses were \$41,066 for the three month period ended September 30, 2021 (2020 - \$15,950) and \$85,778 for the six month period ended September 30, 2021 (2020 - \$23,317). These expenses consist primarily of the costs of consultants, marketing trips and other costs such as attending industry conferences.

Consulting fees were \$340,689 for the three month period ended September 30, 2021 (2020 - \$105,667) and \$513,089 for the six month period ended September 30, 2021 (2020 - \$187,752). The most significant

component of the consulting costs incurred were for consultants working on metallurgical test work, field program planning and graphene product development activities.

Amortization expense was \$79,313 for the three month period ended September 30, 2021 (2020 - \$10,529) and \$150,864 for the six month period ended September 30, 2021 (2020 - \$15,760). Amortization is taken on the capitalized cost of the Corporation's computers, equipment, leasehold improvements and right-of-use asset.

Supplies and materials expense was \$129,333 for the three month period ended September 30, 2021 (2020 - \$3,854) and \$181,353 for the six month period ended September 30, 2021 (2020 - \$33,540). These expenses mainly related to supplies and materials purchased to continue graphene development.

Research and development expenses were \$840,107 for the three and six month periods ended September 30, 2021 (2020 - \$nil). These expenses mainly related to continued research and development activities regarding graphene use and development.

Write-down of exploration and evaluation assets expense was \$26,051,796 for the three and six month periods ended September 30, 2021 (2020 - \$nil). This expense relates to the write-down taken by the Company as a result of the uncertainty regarding the recoverable value of the assets.

### Cash Flows

During the six month period ended September 30, 2021, cash increased overall by \$168,530 (2020 – increased by \$1,420,335). Operating activities resulted in a decrease in cash of \$3,134,256 (2020 – decrease of \$546,763) due to continued spending on consulting and professional fees, research and development and general and administrative expenses. Investing activities resulted in a decrease in cash of \$668,301 (2020 – decrease of \$391,832) due to equipment purchases and continued spending on graphene production scale up and application development. Financing activities resulted in an increase in cash of \$3,971,087 (2020 – increase of \$2,358,930) due to net proceeds received from a private placement issuance of units as well as proceeds received from the exercise of stock options and warrants.

### **Mineral Exploration and Development Costs**

The Company did not previously identify indicators that its exploration and evaluation assets might be impaired. However, the Company did in fact have indicators that the exploration and evaluation assets might be impaired as at September 30, 2021 as a result of the Company's change in business, among other factors. As a result, the Company conducted an impairment test and determined the recoverable amount of the exploration and evaluation assets to be negligible. As a result of this error, the Company has restated its financial statements for the six months ended September 30, 2021 to reflect this impairment by writing off the entire balance of the asset. Furthermore, the Company determined that it had previously capitalized research and development costs unrelated to the exploration and evaluation assets that should have been expensed.

Interest in mineral properties and related exploration/development costs capitalized were \$nil for the three month period ended September 30, 2021 (2020 – \$142,095) and \$364,567 for the six month period ended September 30, 2021 (2020 - \$241,762). All of these costs relate to the Albany Graphite Project. Costs capitalized relate to contracted consulting services on graphene production scale up and application development, deposit development costs, and stock-based compensation. The following table details the material components of the Corporation's exploration and evaluation assets for the six month periods ended September 30, 2021 and 2020.

<b>ALBANY PROPERTY</b>	<b>Six Months Ended September 30, 2021</b>	<b>Six Months Ended September 30, 2020</b>
Opening Balance	\$26,159,729	\$25,065,071
Consulting Services	37,500	83,125
Processing and Testing	351,547	224,084
Stock-Based Compensation	47,869	1,672
Cost recovery (grants)	(72,349)	(67,119)
Reversal of shares to be issued	(472,500)	-
Write-down of exploration and evaluations assets	(26,051,796)	-
<b>Closing Balance</b>	<b>\$-</b>	<b>\$25,306,833</b>

### Albany Graphite Project

The claims comprising the Albany Graphite Project are presently held in good standing by the Corporation and there are sufficient assessment credits available to keep all of the 4F (Albany Graphite Project) claims in good standing for at least 30 years. There are no environmental liability issues related to any previous exploration work on the claims. The Corporation has not received from any government authority, any communication or notice concerning any actual or alleged breach of any environmental laws, regulations, policies or permits. The claims are located in the traditional territory of the Constance Lake First Nation. In July 2011, ZEN and CLFN signed an exploration agreement for a mutually beneficial and co-operative relationship regarding exploration and pre-feasibility activities on the Albany Graphite Project. Under this agreement, ZEN committed to establishing a joint implementation committee and conveying preferential opportunities for employment and contracting as well as contributing to a social fund for the benefit of CLFN children, youth and elders. In 2018, although the parties signed a new Memorandum of Understanding (“MOU”) under which a project partnership structure was created in support of the development of the Albany Graphite Project, there was subsequently a delay in potential development. Further to that, there is no plan to continue further exploration or evaluation activities on the Albany Graphite Project for the foreseeable future.

Subsequent to completion of the 2015 Preliminary Economic Assessment (“PEA”), most of the Albany Graphite Project work has been focused on metallurgical process development, environmental baseline studies, market studies and research and development to determine the most attractive market opportunities for the Albany graphite products. Increasing interest in the materials produced from the Albany Graphite Project as a feed material for producing graphene or graphene oxide, is a consideration for management in potentially reconsidering the project development model conceived for the 2015 PEA, at some point in the future, however, there is no plan to continue exploration for evaluation activities on the Albany Graphite Project for the foreseeable future.

### Exploration Agreement

On July 13, 2011, the Corporation entered into an agreement with Constance Lake First Nation (“CLFN”) governing the relationship between them concerning the Corporation’s exploration on traditional lands of CLFN.

### *Cost of Implementation Committee*

On a yearly basis, commencing on the date that the implementation committee is formed, the Corporation shall make a total contribution of \$22,000, and in years following the year in which this agreement is executed, an additional amount equivalent to the increase in the Ontario consumer price index for the preceding year, to pay: the reasonable expenses of the Corporation’s implementation committee members; the reasonable costs of an archaeologist for any archaeological assessments.

### *Cost of Annual Gathering*

On an annual basis, \$1,200, and in years following the year in which this agreement is executed, an additional amount equivalent to the increase in the Ontario consumer price index for the preceding year, for CLFN and the Corporation to have a community “feast” and conduct an information session with CLFN members about the exploration, this agreement and any issues pertaining to this agreement’s implementation.

On September 24, 2018, the Corporation signed a new Memorandum of Understanding (“MOU”) with CLFN, under which a project partnership structure would be created in support of the development of the Albany Graphite Project. However, there is no plan to continue further exploration or evaluation activities on the Albany Graphite Project for the foreseeable future

On March 4, 2021, the Corporation announced collaboration with Constance Lake First Nation (CLFN) led by Chief Rick Allen. Pursuant to the July 13, 2011 Exploration Agreement, both parties signed an Implementation Agreement (“IA”).

The IA sets out the governance, roles, responsibilities, and activities for establishing the Project Partnership Structure (“PPS”) to advance the Albany Graphite Project development and the relationship between ZEN and CLFN. The PPS establishes a framework and describes a structure to govern the long-term partnership between CLFN and ZEN to advance the potential future development of the Albany Graphite Project. Building on the cooperative and respectful relationship, recognizing the importance of CLFN’s stewardship of the land and the shared benefits of the potential development, the PPS aims to establish a shared governance committee structure for identified areas of mutual interest relating to the potential development of the Albany Graphite Project. However, there is no plan to continue exploration or evaluation activities on the Albany Graphite Project for the foreseeable future.

### **Graphene Business Development Work**

ZEN’s graphene product development is being carried out under the direction of the Corporation’s CEO, Mr. Gregory Fenton, and the Corporation’s Executive Chairman, Dr. Francis Dubé. Dr. Colin van der Kuur, VP of Science and Research, continues to lead the research and development work. His work is supported by Dr. Adam MacIntosh, Research Associate and ZEN’s Senior Government Relations Director, Ms. Monique Manaire, who is coordinating collaborative research initiatives within government institutions such as the National Research Council, Clean Growth Hub, Accelerated Growth Hub, Federal Economic Development Agency for Northern Ontario (FedNor), Federal Economic Development Agency for Southern Ontario (FedDev), and others.

The business development team, led by Greg Fenton, continues to focus its efforts on applications where the Corporation has strategic advantages due to patents, trade secrets and business relationships. ZEN announced its first significant application on September 22, 2020, when it reported that after five months of optimization, it had developed a novel graphene-based antimicrobial coating with 99% effectiveness against COVID-19. Testing was conducted at Western University’s ImPaKT facility Biosafety Level 3 laboratory in accordance with ISO 18184:2019. In connection therewith, ZEN disclosed that it would move towards optimization, production scale-up and commercialization of its ZENGuard™ antimicrobial coating.

On November 9, 2020, ZEN announced that it had signed its first significant commercial agreement, a binding LOI with Trebor. The Corporation subsequently entered into a License and Supply Agreement dated September 24, 2021 with Trebor, which superseded the LOI, pursuant to which the Corporation granted a non-exclusive non-transferable license to Trebor to use the ZENGuard™ coating in certain specified Trebor products displaying the Corporation’s branding, including surgical masks, Pro+ filters, nitrile gloves, surgical gowns and scrubs and other healthcare and similar such products, and an additional exclusive license to sell and distribute ZENGuard™ coated Elastomeric Respirator Mask filters, whether fixed or replaceable, such exclusive license remaining in force only so long as Trebor sells a minimum of 60,000,000 filters per year with annual growth of at least 10%.



Trebor agreed to use the ZENGuard™ coating on all of its products sold unless the purchaser specifically refuses to the ZENGuard™ coated products, and agreed to purchase the ZENGuard™ coating from the Corporation by way of cash payments for a supply based on demand for Trebor products. The sale of ZENGuard™ coated PPE masks received Health Canada authorization on September 22, 2021 under Interim Order No.2 - *Respecting the Importation and Sale of Medical Devices for Use in Relation to COVID-19*.

ZEN is also actively pursuing the potential use of its antimicrobial coating in HVAC filter and pre-filter applications.

Additionally, the Corporation is continuing development work (i) on an aptamer-based, SARS-CoV-2 rapid detection technology, (ii) the use of graphene product in diesel fuel additive and for icephobic coating, (iii) processes to synthesize graphene, graphene oxide and graphene quantum dots, and (iv) on other possible applications or use cases for graphene.

### **Administration and Investor Relations**

ZEN's administration and investor relations activities during the six-month period ended September 30, 2021, are summarized below:

On April 8, 2021, the Corporation completed a private placement in which a total of 1,735,199 units were issued at \$2.50 per unit for gross proceeds of \$4,337,998. Each unit consisted of one common share and one-half of one common share purchase warrant with each whole warrant exercisable at \$3.00 for a period of two years. Unit issue costs associated with this private placement totaled \$82,255 of which \$38,979 was settled through the issuance of 15,592 shares.

On April 13, 2021, 100,000 stock options were issued to a number of employees and consultants. The stock options have an exercise price of \$1.76 per share. The options granted to the employees expire on April 13, 2026 and have a vesting period as follows: 1/3 at April 13, 2021; 1/3 at April 13, 2022; 1/3 at April 13, 2023. The options grants to the consultants expire on April 13, 2023 and have a vesting period as follows: 100% on August 13, 2021.

On June 30, 2021, ZEN announced that Dr. Kenneth Reed, Medical Director at DermASAP, had joined ZEN's Advisory Board effective immediately. Dr. Reed, a Harvard Medical School trained dermatologist, has 38 years of clinical experience in the state of Massachusetts. ZEN reported that Dr. Reed would devote significant time and attention to assisting in ZEN's development of topical therapeutic applications for its product. In addition to his medical practice, he is the co-founder of Early Cell, a company focused on detection of circulating fetal cells in gestational mothers, and Lispero, which focuses on fibrotic lung disorders. Dr. Reed has also been a Clinical Investigator for numerous pharma companies including Amgen, Astellas, Centocor (J&J) and Abbvie. He currently serves on the board of directors of Red Hill Biopharma – a NASDAQ-listed company – and sits on scientific advisory boards to a number of medical technology companies. Dr. Reed's expertise will lend itself immensely to identifying conditions that can be treated by ZEN's compound, potential modes of application, designing clinical trials, interfacing with contract resource organizations, involving key opinion leaders and facilitating introductions to pharmaceutical companies in the dermatology space.

Dr. Reed was awarded 150,000 stock options with an exercise price of \$3.50 per share. The options will expire on June 30, 2024 and have a vesting period as follows: 1/3 at June 30, 2021; 1/3 at June 30, 2022; 1/3 at June 30, 2023.

## **Subsequent Events**

On October 13, 2021, 100,000 stock options were issued to a number of employees. The stock options have an exercise price of \$4.92 per share. The options granted to the employees expire on October 13, 2024 and have a vesting period as follows: 1/3 at October 13, 2021; 1/3 at October 13, 2022; 1/3 at October 13, 2023.

On October 26, 2021, 50,000 stock options were issued to a consultant. The stock options have an exercise price of \$4.77 per share. The options granted to the employees expire on October 26, 2024 and have a vesting period as follows: 1/3 at October 26, 2021; 1/3 at October 26, 2022; 1/3 at October 26, 2023.

The Corporation changed its name effective October 27, 2021 to Zentek Ltd.

On October 18, 2021, the TSX Venture Exchange changed the Corporation's classification from a "mining issuer" to an "industrial, technology, or life sciences issuer." The change of classification was approved by the shareholders of the Corporation on September 27, 2021, in accordance with the rules and policies of the TSX Venture Exchange.

Subsequent to the six month period ended September 30, 2021, a total of 60,000 stock options and 2,169,601 share purchase warrants were exercised at prices ranging from \$0.53 to \$3.00 per option/warrant resulting in proceeds of approximately \$3,417,000 to the Corporation.

On November 22, 2021, the Corporation filed a preliminary prospectus dated November 22, 2021 in order to qualify the distribution of 5,129,944 common shares of the Corporation to be issued at a purchase price of \$5.85 per common share for aggregate gross proceeds of \$30,010,172. Pursuant to the terms of an underwriting agreement between the Corporation and Eight Capital, as lead underwriter and sole bookrunner, Leede Jones Gable Inc. and Research Capital Corporation (together, the "Underwriters"), the Underwriters agreed to purchase an aggregate of 3,419,000 of such common shares for aggregate gross proceeds of \$20,001,150, and 1,710,944 of such common shares are proposed to be issued to certain purchasers who have agreed to purchase the common shares on a non-brokered basis, for gross proceeds of \$10,009,022.40. The Corporation has also granted the Underwriters an over-allotment option to purchase up to an additional 512,850 common shares at at \$5.85 per share for additional gross proceeds of up to \$3,000,172.50 at any time not later than 30 days following the closing date. Closing of the proposed financing is subject to regulatory approval, including that of the TSX Venture Exchange, as well as customary closing conditions.

On November 26, 2021, the Corporation was issued a Medical Device Establishment License from Health Canada for the manufacture and distribution of class one medical devices, which will allow the Corporation to begin working with manufacturers and distributors, in addition to Trebor, to bring surgical masks, and potentially other PPE enhanced with the ZENGuard™ antimicrobial coating, to market.

## **Selected Financial Information**

The following table sets forth selected financial information with respect to the Corporation as at and for the years ended March 31, 2021 and 2020, and the six month periods ended September 30, 2021 and 2020. The selected financial information has been derived from the audited financial statements of the Corporation for the financial years indicated. The following should be read in conjunction with the said financial statements and related notes thereto.

	Six months ended September 30,	Six months ended September 30,	Year ended March 31,	Year ended March 31,
	2021 (unaudited)	2020 (unaudited)	2021 (Audited)	2020 (Audited)
Total Revenue	\$150,145	\$nil	\$nil	\$nil
Total Other Income	\$ 61,094	\$ 163,699	\$ 453,885	\$ 136,998
Net Loss	\$(30,859,023)	\$(791,156)	\$(3,868,650)	\$(1,540,877)
# Shares Outstanding	90,462,435	84,601,349	86,199,849	80,405,791
Net Loss per Share (Basic)	\$(0.35)	\$(0.01)	\$(0.05)	\$(0.02)
Net Loss per Share (Diluted)	\$(0.35)	\$(0.01)	\$(0.05)	\$(0.02)
Total Assets	\$4,900,784	\$27,942,513	\$30,250,328	\$26,238,658
Total Financial Liabilities	\$ 1,262,580	\$ 444,494	\$ 2,788,040	\$ 527,575
Total Equity	\$3,638,204	\$27,498,019	\$27,462,288	\$25,711,083

### Summary of Quarterly Results

The following table sets out selected quarterly information for the eight most recently completed quarters, for which financial statements are prepared.

	Sep. 30, 2021	Jun. 30, 2021	Mar. 31, 2021	Dec. 31, 2020	Sep. 30, 2020	Jun. 30, 2020	Mar. 31, 2020	Dec. 31, 2019
Revenue	\$150,145	\$nil	\$nil	\$nil	\$nil	\$nil	\$nil	\$nil
Other Income	\$4,312	\$56,782	\$156,279	\$133,907	\$77,344	\$86,355	\$(233,999)	\$367,932
Net Loss	\$28,999,48	\$1,859,539	\$1,229,067	\$1,848,427	\$434,829	\$356,327	\$636,146	\$157,474
Net Loss per Share (Basic)	\$0.32	\$0.02	\$0.01	\$0.02	\$0.01	\$0.00	\$0.01	\$0.00
Net Loss per Share (Diluted)	\$0.32	\$0.02	\$0.01	\$0.02	\$0.01	\$0.00	\$0.01	\$0.00

The Corporation began generating revenue during the quarter ended September 30, 2021 as a result of its License and Supply Agreement dated September 24, 2021 with Trebor. The quarterly net loss figure has been trending higher since the quarter ended September 30, 2020 due to the following factors:

1. Increased general and administrative costs due to hiring of additional staff in order to further develop intellectual property and ramp up production.
2. Increased spending on research and development activities to further develop intellectual property.
3. Increased professional fees incurred as a result of increase in legal expenditures.
4. Increased stock-based compensation expense due to granting of options to several directors, officers, employees and consultants. The Corporation has seen an increase in its stock price on the TSX Venture Exchange over the past 12 months resulting in a higher Black-Scholes valuation for options leading to increased stock-based compensation expense.

### Liquidity and Capital Resources

As at September 30, 2021, the Corporation had working capital of \$2,997,720 (2020 - \$2,049,343) and cash of \$3,260,079 (2020 - \$2,226,282). The Corporation believes that the working capital on hand as at September 30, 2021 is sufficient to fund requirements for at least the next twelve months. The Corporation funded operations during the six month period ended September 30, 2021 through the net proceeds of units issued and stock options and warrants exercised as well as through sales and the use of existing cash.

While the Corporation currently has no commitments for capital expenditures, it is expected that capital expenditures of approximately \$16,000,000 will be required over the next twenty-four months in order for the Corporation to expand its operations. Details of such contemplated capital expenditures are as follows:

<b>Expenditure</b>	<b>Amount</b>
Acquisition of Graphene Oxide Supply	\$1,000,000
Construction of GO-Silver Nanocomposite Production Plant	\$1,500,000
Purchase of Coating Equipment	\$1,000,000
Construction of GO Production Plant	\$7,500,000
Building Inventory of Rapid Detection Tests	\$3,000,000
Purchase of Research and Development Facility	\$2,000,000
<b>Total Expenditures</b>	<b>\$16,000,000</b>

The Corporation began generating sales revenue during the quarter ended September 30, 2021 and will use the proceeds of the sales to partially fund future operations. However, the Corporation will need to raise additional funding to finance future research and development (see subsequent events). The availability of equity capital, and the price at which additional equity could be issued, is dependent upon the success of the Corporation's activities, and upon the state of the capital markets generally. Additional financing may not be available on terms favourable to the Corporation or at all. If the Corporation does not receive future financing, it may not be possible for the Corporation to advance its business plans.

#### **Off-Balance Sheet Arrangements**

There are currently no off-balance sheet arrangements which could have an effect on current or future results or operations, or the financial condition of the Corporation.

#### **Transactions with Related Parties**

The remuneration of directors and other members of key management personnel during the six-month periods ended September 30, 2021 and 2020 were as follows:

- a) Short-term benefits - \$398,333 (2020 - \$307,060)
- b) Share-based payments - \$827,089 (2020 - \$75,417)

Included in the short-term benefits figure above is an amount of \$45,000 (2020 - \$83,039) which has been recorded as an increase to the exploration and evaluation assets.

As part of the private placement issued during the six months ended September 30, 2021, as disclosed in Note 6(a) of the condensed interim financial statements, Officers and Directors of the Corporation purchased 36,000 units for gross proceeds of \$90,000.

In accordance with IAS 24, key management personnel are those persons having authority and responsibility for planning, directing and controlling the activities of the Corporation directly or indirectly, including any directors (executive and non-executive) of the Corporation.

The remuneration of directors and key executives is determined by the board of directors having regard to the performance of individuals and market trends.

## **Current and Future Changes in Accounting Policy**

### Statement of Compliance

The condensed interim financial statements, including comparatives for the six month period ended September 30, 2021, have been prepared using accounting policies in compliance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB").

### Future Accounting Changes

Certain pronouncements were issued by the IASB or the International Financial Reporting Interpretations Committee ("IFRIC") that are mandatory for accounting periods beginning on or after April 1, 2021 or later periods. Many are not applicable or do not have a significant impact to the Corporation and have been excluded.

## **Financial Instruments and Other Instruments**

The Corporation's financial instruments consist of cash, amounts and other receivables, and accounts payable and accrued liabilities. Unless otherwise noted, the Corporation does not expect to be exposed to significant interest, currency or credit risks arising from these financial instruments. The Corporation estimates that the fair value of these financial instruments approximates carrying values.

Financial instruments as at September 30, 2021 included cash and amounts and other receivables, which are classified as loans and receivables and are measured at amortized cost. Accounts payable and accrued liabilities are classified as other financial liabilities, which are measured at amortized cost. As at September 30, 2021, the carrying and fair value amounts of the Corporation's financial instruments are approximately the same.

As at September 30, 2021, the Corporation does not have any financial instruments recorded at fair value and that require classification within the fair value hierarchy.

Fair value estimates are made at the balance sheet date based on relevant market information and information about the financial instrument. These estimates are subjective in nature and involve uncertainties in significant matters of judgment and therefore cannot be determined with precision. Changes in assumptions could significantly affect these estimates.

## **Disclosure of Outstanding Share Data**

The Corporation is authorized to issue an unlimited number of shares, of which 90,462,435 (2020 - 84,601,349) shares were issued and outstanding as fully paid and non-assessable as at September 30, 2021. Also, 2,183,101 warrants (2020 - 4,739,128) were outstanding as at September 30, 2021.

Refer to Note 6(c) of the condensed interim financial statements for details regarding stock options issued and exercisable as at September 30, 2021.

As at December 20, 2021, the Corporation had 92,719,196 common shares issued and outstanding as fully paid and non-assessable. The Corporation also had 7,273,334 stock options outstanding as at December 20, 2021.

## **Risks and Uncertainties**

The operations of the Corporation are speculative due to the high-risk nature of its business, which includes the development of certain intellectual property and the manufacturing of graphene related products, and which may include the future acquisition, and financing. These risk factors could materially affect the Corporation's future operating results and could cause actual events to differ materially from those described in forward-looking

information relating to the Corporation. Accordingly, any investment in securities of the Corporation is speculative and investors should not invest in securities of the Corporation unless they can afford to lose their entire investment.

The Corporation assesses and attempts to minimize the effects of these risks through careful management and planning of its operations and hiring qualified personnel, but is subject to a number of limitations in managing risk resulting from its early stage of development. Below is a non-exhaustive summary of the principal risks and related uncertainties that may impact the Corporation. Such risk factors, as well as additional risks and uncertainties set out elsewhere in the Corporation's publically filed documents or that may not presently be known to the Corporation or that the Corporation currently deems immaterial, could have a material adverse effect on the Corporation's business, financial condition and results of operations or the trading price of the common shares of the Corporation.

As at September 30, 2021, there was an increase in trade credit risk as a result of trade receivables now being generated through sales.

### Economic and Political Conditions

Worldwide financial and economic cycles or conditions are uncertain, and recovery from a business downturn or recession could be very slow and have significant impact on the Corporation's business. The Corporation's business is sensitive to changes in economic and political conditions, including interest rates, currency issues, energy prices, trade issues, international or domestic conflicts or political crises, and epidemics or pandemics, such as the strain of COVID-19.

As at the date hereof, the global reactions to the spread of COVID-19 have led to, among other things, significant restrictions on travel and gatherings of individuals, quarantines, temporary business closures and a general reduction in consumer activity. While these effects are expected to be temporary, the duration of the disruptions to business internationally and the related financial impact cannot be estimated with any degree of certainty at this time. In addition, the increasing number of individuals infected with COVID-19 could result in an even greater global health crisis that could adversely affect global economies and financial markets, resulting in a protracted economic downturn that could have an adverse effect on the Corporation's prospects.

The responses of governmental authorities and corporate entities, including through mandated or voluntary shutdowns, may also lead to a general long-term slow-down in the economy and may lead to disruptions to the Corporation's workforce and facilities, customers, sales and operations and supply chain.

Measures taken by the governments worldwide and voluntary measures undertaken by the Corporation with a view to the safety of the Corporation's employees, may adversely impact the Corporation's business.

In particular, as a result of the foregoing, COVID-19 could materially and adversely impact the Corporation's business, including without limitation, employee health, workforce availability and productivity, limitations on travel, supply chain disruptions, increased insurance premiums, and restrictions to the Corporation's ability to conduct its business. Also, the Corporation's revenues and cash resources may be negatively affected, it may need to assist potential customers with obtaining financing or government incentives to help customers fund their purchases of the Corporation's products and demand for the Corporation's products may decrease as partners and potential customers defer their projects. Any such disruptions or closures could have a material adverse effect on the Corporation's business. In addition, parties with whom the Corporation does business or on whom the Corporation is reliant may also be adversely impacted by the COVID-19 pandemic which may in turn cause further disruption to the Corporation's business. Any long-term closures or suspensions may also result in the loss of personnel or the workforce in general as employees seek employment elsewhere.

The impact of COVID-19 and government responses thereto may also continue to have a material impact on financial results and could constrain the Corporation's ability to obtain equity or debt financing in the future, which may have a material adverse effect on its business, financial condition and results of operations.

The Corporation is actively monitoring the situation and will respond as the impact of the COVID-19 pandemic evolves, which will depend on several factors set out above. The extent to which the pandemic will impact the Corporation's operations in the future is highly uncertain and cannot be predicted with confidence as at the date hereof, but could have a material adverse effect on the Corporation's business, financial condition and results of operations. These uncertainties include, but are not limited to, the duration of the outbreak, the ability of governments in countries in which the Corporation conducts business to curtail the spreading of the virus, the economic recovery as well as community and social stabilities. Any of these uncertainties, and others, could have further material adverse effects on the Corporation's business and operations.

#### Revenue from Graphene Sales; Long and Complex Sales Cycle

To date, the Corporation has recorded minimal revenue from its graphene enhanced products sales. There can be no assurance that significant losses will not occur in the near future or that the Corporation will be profitable in the future. The Corporation's operating expenses and capital expenditures may increase in subsequent years. The Corporation expects to continue to incur losses unless and until such time as it enters into long term and large volume supply agreements and generates sufficient revenues to fund its continuing operations.

#### Intellectual Property

The Corporation relies on the patent, trade secret and other intellectual property laws of Canada, and foreign jurisdictions. The Corporation may be unable to prevent third parties from using its intellectual property without its authorization. The unauthorized use of the Corporation's intellectual property could reduce any competitive advantage that it has developed, reduce its market share or otherwise harm its business. In the event of unauthorized use of the Corporation's intellectual property, litigation to protect and enforce the Corporation's rights could be costly, and the Corporation may not prevail.

Some of the Corporation's current or future technologies and trade secrets may not be covered by any patent or patent application, and the Corporation's issued and pending patents may not provide the Corporation with any competitive advantage and could be challenged by third parties. The Corporation's inability to secure issuance of pending patent applications may limit its ability to protect the intellectual property rights these pending patent applications were intended to cover. The Corporation's competitors may attempt to design around its patents to avoid liability for infringement and, if successful, could adversely affect the Corporation's market share. Furthermore, the expiration of the Corporation's patents may lead to increased competition.

In addition, effective patent, trade secret and other intellectual property protection may be unavailable or limited in some foreign countries. In some countries, the Corporation may not apply for patent or other intellectual property protection. The Corporation also relies on unpatented technological innovation and other trade secrets to develop and maintain its competitive position. Although the Corporation generally enters into confidentiality agreements with its employees and third parties to protect its intellectual property, these confidentiality agreements are limited in duration, could be breached and may not provide meaningful protection of its trade secrets. Adequate remedies may not be available if there is an unauthorized use or disclosure of the Corporation's trade secrets and manufacturing expertise. In addition, others may obtain knowledge about the Corporation's trade secrets through independent development or by legal means. The failure to protect the Corporation's processes, technology, trade secrets and proprietary manufacturing expertise, methods and compounds could have a material adverse effect on its business by jeopardizing critical intellectual property.

Where a product formulation or process is kept as a trade secret, third parties may independently develop or invent and patent products or processes identical to such trade secret products or processes. This could have a

material adverse effect on the Corporation's ability to make and sell products or use such processes and could potentially result in costly litigation in which the Corporation might not prevail. The Corporation could face intellectual property infringement claims that could result in significant legal costs and damages and impede its ability to produce key products, which could have a material adverse effect on its business, financial condition, and results of operations.

#### Product Development and Technological Change

There is no assurance that broad successful commercial applications for the Corporation's products may be feasible. Most, if not all, of the scientific and engineering data related to the Corporation's products has been generated by the Corporation's own laboratories or laboratory environments of the Corporation's partners, such as universities. There can be no assurance that laboratory data translates to or is representative in commercial applications.

Additionally, the industries in which the Corporation seeks to operate are characterized by rapid technological change and frequent new product introductions. Part of the Corporation's business strategy is to monitor such change and take steps to remain technologically current, but there is no assurance that such strategy will be successful. If the Corporation is not able to adapt to new advances in materials sciences, or if unforeseen technologies or materials emerge that are not compatible with the Corporation's or that could replace its products, the Corporation's revenues and business would likely be adversely affected.

#### Market Development and Growth

Failure to further develop the Corporation's key markets and existing geographic markets or to successfully expand its business in the future into new markets could have an adverse impact on sales growth and operating results. The Corporation's ability to further penetrate its key markets and the existing geographic markets in which it competes and/or aims to compete, and to successfully expand its business into other countries, is subject to numerous factors, many of which are beyond its control. There can be no assurance that efforts to increase market penetration in the Corporation's key markets and existing geographic markets will be successful. Failure to achieve these goals may have a material adverse effect on the Corporation's operating results.

#### Unpredictable Sales Cycles

The sales cycle for graphene products may range considerably from one to multiple years from the time a customer begins testing the Corporation's product until the time that they could be used in a commercial product. Timing of product introduction could vary significantly based on the target market. Additionally, any demand for the Corporation's products based in whole or in part on the current coronavirus (COVID-19) pandemic could materially change in the event the pandemic ends or decreases in severity. The Corporation has demonstrated little track record of success in completing customer development projects, which makes it difficult to evaluate the likelihood of future success. The sales and development cycles for the Corporation's products are subject to customer budgetary constraints, internal acceptance procedures, competitive product assessments, scientific and development resource allocations, and other factors beyond the Corporation's control. If the Corporation is not able to successfully accommodate these factors to achieve commercial success, the Corporation may be unable to achieve sufficient sales to reach profitability.

#### Government Regulation and Import/Export Controls

The Corporation's future operations, including development, and commencement and continuation of commercial production, require licenses, permits or other approvals from various federal, provincial, local and potentially foreign governmental authorities, and such operations are or will be governed by laws and regulations relating to production, exports, taxes, labor standards, occupational health and safety, waste disposal, toxic substances, prospecting, development, mining, land use, water use, environmental protection, land claims of



indigenous people and other matters. Furthermore, in certain foreign jurisdictions, these regulatory requirements may be more stringent than those in Canada. Certain export control laws or economic sanctions laws may include restrictions or prohibitions on the sale or supply of certain products and services to embargoed or sanctioned countries, governments, persons and entities. In addition, various countries regulate the import of certain technology, including import and export permitting and licensing requirements, and have enacted or could enact laws that could limit the Corporation's ability to distribute its products. Changes in the Corporation's products, or future changes in export and import regulations may prevent any potential international customers from utilizing the Corporation's products globally or, in some cases, prevent the export or import of the Corporation's products to certain countries, governments, or persons altogether.

Any change in export or import regulations, economic sanctions, or related legislation, or change in the countries, governments, persons, or technologies targeted by such regulations, could result in decreased use of the Corporation's products in the future by, or in the Corporation's decreased ability to export or sell its products to, potential international customers. Any limitation on the Corporation's ability to export or sell its products would likely adversely affect the Corporation's future business, results of operations, and financial results.

Large volume production of graphene requires permits and approvals from various government authorities, and is subject to extensive federal, provincial, state, and local laws and regulations governing development, production, exports, taxes, labour standards, occupational health and safety, environment and other matters. As graphene is a new chemical substance, production and sale of graphene may be subject to specific occupational health and safety and environment regulatory approvals in different jurisdictions including, without limitations, under the *Canadian Environmental Protection Act* (Canada), the *Food and Drug Act* (Canada), the *Toxic Substances Control Act* (USA), the *Food Drug and Cosmetic Act* (USA) and the *Registration, Evaluation, Authorization and Restriction of Chemicals* (Europe).

Health Canada also regulates certain markets into which the Corporation intends to supply products or license its intellectual property. There is no assurance that Health Canada or any other body will grant license for sales into markets it regulates. Each foreign jurisdiction for the Corporation's products is regulated and no assurance exists that sales of graphene related products will be permitted. Any inability by the Corporation to obtain approval from Health Canada and/or international bodies could have a material adverse impact of the business of the Corporation.

The Corporation is also subject to consumer protection laws that may impact its sales and marketing efforts. These laws, as well as any changes in these laws, could make it more difficult for the Corporation to sell and market its products. These laws and regulations are subject to change over time and thus the Corporation must continue to monitor and dedicate resources to ensure continued compliance. Non-compliance with applicable regulations or requirements could subject the Corporation to investigations, sanctions, enforcement actions, disgorgement of profits, fines, damages, civil and criminal penalties, or injunctions. If any governmental sanctions are imposed, or if the Corporation does not prevail in any possible civil or criminal litigation, its business, operating results, and financial condition could be materially adversely affected.

Additionally, in order for the Corporation to carry out its activities, any required licences and permits must be obtained and kept current. There can be no assurance, however, that the Corporation will obtain on reasonable terms or at all the permits and approvals, and the renewals thereof, which it may require for the conduct of its future operations or that compliance with applicable laws, regulations, permits and approvals will not have an adverse effect on the Corporation's business plans. Possible future environmental and mineral tax legislation, regulations and actions could cause additional expense, capital expenditures, restrictions and delay on the Corporation's planned exploration and operations, the extent of which cannot be predicted.

Failure to comply with applicable laws, regulations and permitting requirements may result in enforcement actions thereunder, including orders issued by regulatory or judicial authorities causing operations to cease or be curtailed, and may include corrective measures requiring capital expenditures, installation of additional

equipment, or remedial actions. Parties engaged in mining operations may be required to compensate those suffering loss or damage by reason of the mining activities and may have civil or criminal fines or penalties imposed for violations of applicable laws or regulations.

### Industry Competition

The Corporation seeks to compete with other graphene and manufacturing companies, in highly competitive markets. Some of the Corporation's competitors have substantially greater financial, marketing and other resources and higher market share than the Corporation has in certain products or geographic areas. As the markets for the Corporation's products expand, additional competition may emerge, and competitors may commit more resources to products which directly compete with the Corporation's products. There can be no assurance that the Corporation will be able to compete successfully with existing competitors or be able to develop any market for its products, or that its business will not be adversely affected by increased competition or by new competitors.

There is no assurance that the Corporation will continue to be able to compete successfully with its competitors in acquiring such properties or prospects and any such inability could have a material adverse effect on the Corporation's business and financial condition.

### Lack of Trading Market for Graphene

Unlike commodity minerals such as copper, gold or silver, industrial minerals such as graphene precursor graphene materials and graphite do not have a metals exchange or an open market upon which to trade and therefore prices are not set in an open market or publicly traded market, and there can be no assurance that certain items can be sold or purchased at any time. As prices are set with private suppliers and private customers, it is difficult to predict what market prices may be at the time of any transaction. There can be no guarantees that the Corporation will be able to sell its graphene products in a profitable manner, or at all.

### Shortages

The Corporation will be dependent on various supplies, equipment, parts and labour, and the services of contractors to carry out its business objectives. The availability and cost of such supplies, equipment, parts or labour or the services of contractors could have a material adverse effect on the Corporation's ability to successfully carry out its exploration and development activities.

### Liquidity Concerns and Future Financing

The Corporation's approach to managing liquidity risk is to ensure that it will have sufficient liquidity to meet liabilities when due. As of September 30, 2021, the Corporation had a cash balance of \$3,260,079 (2020 - \$2,226,282) to settle current liabilities of \$1,051,514 (2020 - \$444,494). The Corporation is ultimately dependent on the commercial sales of its products. Any delay in the sales of such products could require additional financing. There can be no assurance that the Corporation will be successful in obtaining the required financing as and when needed. Volatile markets may make it difficult or impossible for the Corporation to obtain debt financing or equity financing on favorable terms, if at all. Failure to obtain additional financing on a timely basis may cause the Corporation to postpone or slow down its development plans or reduce or terminate some or all of its activities.

### Reliance on Key Personnel

The Corporation's development to date has depended, and in the future, will depend largely on the efforts of key management and other key personnel. Loss of any of these people, particularly to competitors, could have a material adverse effect on the Corporation's business. Further, with respect to the future development of the

Corporation's projects, it may become necessary to attract both international and local personnel for such development. The marketplace for key skilled personnel is becoming more competitive, which means the cost of hiring, training, and retaining such personnel may increase. Factors outside the Corporation's control, including competition for human capital and the high-level of technical expertise and experience required to execute this development will affect the Corporation's ability to employ the specific personnel required. The failure to retain or attract a sufficient number of key skilled personnel could have a material adverse effect on the Corporation's business, results of operations, and financial condition. The Corporation has not taken out and does not intend to take out "key man insurance" in respect of any directors, officer or other employees.

### Qualified Employees

Recruiting and retaining qualified personnel is critical to the Corporation's success. Especially if it relates to its graphene operations, finding skilled scientists and a sales team familiar with the subject matter is difficult. As the Corporation grows further, the need for skilled labour will increase. The number of persons skilled in the high-tech manufacturing business is limited and competition for this workforce is intense. This may adversely affect the business of the Corporation if it is unable to recruit and retain qualified personnel as and when required.

### Cybersecurity Threats

The reliability and security of the Corporation's information technology ("IT") systems is important to the Corporation's business and operations. Although the Corporation has established and continues to enhance security controls intended to protect the Corporation's IT systems and infrastructure, there is no guarantee that such security measures will be effective in preventing unauthorized physical access or cyberattacks. A significant breach of the Corporation's IT systems could, among other things, cause disruptions in the Corporation's manufacturing operations (such as operational delays from production downtime, inability to manage the supply chain or produce product for customers, disruptions in inventory management), lead to the loss, destruction, corruption or inappropriate use of sensitive data, including employee information or intellectual property, result in lost revenues due to theft of funds or due to a disruption of activities, including remediation costs, or from litigation, fines and liability or higher insurance premiums, the costs of maintaining security and effective IT systems, which could negatively affect results of operations and the potential adverse impact of changing laws and regulations related to cybersecurity or result in theft of the Corporation's, its customers' or suppliers' intellectual property or confidential information. If any of the foregoing events (or other events related to cybersecurity) occurs, the Corporation may be subject to a number of consequences, including reputational damage, a diminished competitive advantage and negative impacts on future opportunities which could have a material adverse effect on the Corporation.

### Share Price Fluctuations

The market price of securities of many companies, particularly development stage companies, experience wide fluctuations in price that are not necessarily related to the operating performance, underlying asset values or prospects of such companies. There can be no assurance that fluctuations in the Corporation's share price will not occur. In particular, the fluctuations may be exaggerated if the trading volume of the Corporation's common shares is low.

### Cost Absorption and Purchase Orders

Especially as it relates to its activities in the transportation industry, and given the current trends in that industry, the Corporation is under continuing pressure to absorb costs related to product design and development, engineering, program management, prototypes and validation. In particular, OEMs are requesting that suppliers pay for the above costs and recover these costs through the piece price of the applicable component. Contract volumes for customer programs not yet in production are based on the Corporation's customers' estimates of their own future production levels. However, actual production volumes may vary significantly from these

estimates due to a reduction in consumer demand or new product launch delays, often without any compensation to the supplier by its OEM customer. Typical purchase orders issued by customers do not require that they purchase a minimum number of the Corporation's products. For programs currently under production, the Corporation is generally unable to request price changes when volumes differ significantly from production estimates used during the quotation stage. If estimated production volumes are not achieved, the product development, design, engineering, prototype and validation costs incurred by the Corporation may not be fully recovered. Similarly, future pricing pressure or volume reductions by the Corporation's customers may also reduce the amount of amortized costs otherwise recoverable in the piece price of the Corporation's products. Either of these factors could have an adverse effect on the Corporation's profitability. While it is generally the case that once the Corporation receives a purchase order for products of a particular vehicle program it would continue to supply those products until the end of such program, customers could cease to source their production requirements from the Corporation for a variety of reasons, including the Corporation's refusal to accept demands for price reductions or other concessions.

### Acquisitions

The Corporation could seek to acquire complementary businesses, assets, technologies, services or products, at competitive prices. The Corporation could pursue acquisitions in those product areas which were identified as key to the Corporation's long-term business strategy. However, as a result of intense competition in these strategic areas, the Corporation may not be able to acquire the targets needed to achieve its strategic objectives. The completion of such transactions poses additional risks to the Corporation's business. Acquisitions are subject to a range of inherent risks, including the assumption of incremental regulatory/compliance, pricing, supply chain, commodities, labor relations, litigation, environmental, pensions, warranty, recall, IT, tax or other risks. Although the Corporation seeks to conduct appropriate levels of due diligence on acquisition targets, these efforts may not always prove to be sufficient in identifying all risks and liabilities related to the acquisition, including as a result of: limited access to information; time constraints for conducting due diligence; inability to access target company facilities and/or personnel; or other limitations in the due diligence process. Additionally, the Corporation may identify risks and liabilities that cannot be sufficiently mitigated through appropriate contractual or other protections. The realization of any such risks could have a material adverse effect on the Corporation's operations or profitability. The benefit to the Corporation of previous and future acquisitions is highly dependent on the Corporation's ability to integrate the acquired businesses and their technologies, employees and products into the Corporation, and the Corporation may incur costs associated with integrating and rationalizing the facilities (some of which may need to be closed in the future). The Corporation cannot be certain that it will successfully integrate acquired businesses or that acquisitions will ultimately benefit the Corporation. Any failure to successfully integrate businesses or failure of the businesses to benefit the Corporation could have a material adverse effect on its business and results of operations. Such transactions may also result in additional dilution to the Corporation's shareholders or increased debt. Such transactions may involve partners, and the formula for determining contractual sale provisions may be subject to a variety of factors that may not be easily quantified or estimated until the time of sale (such as market conditions and determining fair market value).

### Launch and Operational Costs

The launch of new business, in an existing or new facility, is a complex process, the success of which depends on a wide range of factors, including the production readiness of the Corporation and its suppliers, as well as factors related to tooling, equipment, employees, initial product quality and other factors. A failure to successfully launch material new or takeover business could have an adverse effect on profitability. The Corporation's manufacturing processes are vulnerable to operational problems that can impair its ability to manufacture its products in a timely manner, or which may not be performing at expected levels of profitability. The Corporation's facilities and proposed facilities contain complex and sophisticated equipment that is used in its manufacturing processes. The Corporation could experience equipment failure in the future due to wear and tear, design error or operator error, among other things, which could have an adverse effect on profitability.

From time to time, the Corporation may have some operating divisions which are not performing at expected levels of profitability. Significant underperformance of one or more operating divisions could have a material adverse effect on the Corporation's profitability and operations.

#### Material and Commodity Prices

Prices for key raw materials and commodities used in the production of graphene-based products, as well as energy prices, have proven to be volatile at certain times. To the extent that the Corporation is unable to fully mitigate its exposure to price change of key raw materials and commodities, particularly through engineering products with reduced content, by passing price increases to customers, or otherwise, such additional costs could have a material adverse effect on profitability. Increased energy prices could also have an impact on production or transportation costs which in turn could affect competitiveness.

#### Uninsured Risks

The Corporation maintains insurance to cover normal business risks. In the course of its manufacturing businesses, certain risks and, in particular, unexpected or unusual catastrophic events including explosions and fire may occur. It is not always possible to fully insure against such risks as a result of high premiums or other reasons. Should such liabilities arise, they could reduce or eliminate any future profitability and result in increasing costs and a decline in the value of the common shares of the Corporation.

#### Litigation

The Corporation has entered into legally binding agreements with various third parties, including supply, license, distribution, non-disclosure, consulting and partnership agreements. The interpretation of the rights and obligations that arise from such agreements is open to interpretation and the Corporation may disagree with the position taken by the various other parties resulting in a dispute that could potentially initiate litigation and cause the Corporation to incur legal costs in the future. Given the speculative and unpredictable nature of litigation, the outcome of any such disputes could have a material adverse effect on the Corporation's business.

#### Credit risk

As at September 30, 2021, the Corporation's credit risk was primarily attributable to cash and amounts and other receivables. The Corporation has no significant concentration of credit risk arising from operations. Financial instruments included in accounts and other receivables consisted trade receivables generated through sales. The Corporation's cash is held with reputable financial institutions. Management believes that the credit risk with respect to financial instruments included in accounts and other receivables is remote.

#### Interest rate risk

The Corporation has cash balances. The Corporation's current policy is to invest excess cash in investment-grade short-term deposit certificates issued by its banking institutions. The Corporation periodically monitors the investments it makes and is satisfied with the credit ratings of its banks. The Corporation closely monitors interest rates to determine the appropriate course of action to be taken by the Corporation.

#### Price risk

The Corporation is exposed to price risk with respect to commodity prices. The Corporation closely monitors commodity prices to determine the appropriate course of action to be taken by the Corporation.

### Financial Capability and Additional Financing

The Corporation has limited financial resources and there is no assurance that sufficient additional funding will be available to enable it to fulfill its business objectives or obligations, on acceptable terms or at all. Unanticipated expenses and other developments could cause existing funds to be depleted sooner than expected. In the event that its existing cash resources are inadequate to fund general and administrative expenses, and in order to fund the planned business objectives of the Corporation, the Corporation will be required to raise additional financing from external sources, such as debt financing, equity financing or joint ventures. The Corporation's ability to raise additional equity financing may be affected by numerous factors beyond the Corporation's control, including, but not limited to, adverse market conditions, commodity price changes and an economic downturn. Failure to obtain additional funding on a timely basis could result in delay or indefinite postponement of the development of the Corporation's business and could cause the Corporation to reduce or terminate its operations. Additional funds raised by the Corporation from treasury share issuances may result in significant dilution to existing shareholders, a depressive effect on the price of the common shares and/or a change of control.

### Permits and Government Regulation

Although the Corporation believes it has all of the necessary permits to carry out the proposed business programs, the operations of the Corporation may require licenses and permits from time to time from various governmental authorities to carry out exploration and development at its projects or locations. Obtaining permits can be a complex, time-consuming process. There can be no assurance that the Corporation will be able to obtain the necessary licenses and permits on acceptable terms, in a timely manner or at all. The costs and delays associated with obtaining permits and complying with these permits and applicable laws and regulations could stop or materially delay or restrict the Corporation from continuing or proceeding with existing or future operations or projects. Any failure to comply with permits and applicable laws and regulations, even if inadvertent, could result in the interruption or closure of operations or material fines, penalties or other liabilities. In addition, the requirements applicable to sustain existing permits and licenses may change or become more stringent over time and there is no assurance that the Corporation will have the resources or expertise to meet its obligations under such licenses and permits.

### Fluctuating Prices

The profitability of the Corporation's operations will be dependent upon the market price of the ZENGuard™ masks and other products, their global acceptance and demand along with their regulatory approvals in other jurisdictions. The level of interest rates, rate of inflation, production costs, healthcare and consumer demand, and stability of exchange rates can all cause significant fluctuations in revenue. Such external economic factors are in turn influenced by changes in international purchasing patterns, COVID-19 pandemic situation, monetary systems and political developments.

### Environmental Regulation

The Corporation's Albany Graphite Project is subject to environmental laws and regulations which may materially and adversely affect its future operations. These laws and regulations control the exploration and development of the Albany Graphite Project and their effects on the environment, including air and water quality, waste handling and disposal, the protection of different species of plant and animal life, and the preservation of lands. These laws and regulations will require the Corporation to acquire permits and other authorizations for certain activities. There can be no assurance that the Corporation will be able to acquire such necessary permits or authorizations on a timely basis, if at all.

Further, environmental legislation is evolving in a manner which will require stricter standards and enforcement, increased fines and penalties for non-compliance, more stringent environmental assessments of proposed projects and a heightened degree of responsibility for companies and their officers, directors and employees. There is no

assurance that future changes in environmental regulation, if any, will not adversely affect the Corporation's operations.

The Corporation is not currently insured against most environmental risks. Without such insurance, and if the Corporation becomes subject to environmental liabilities, the payment of such liabilities would reduce or eliminate its available funds or could exceed the funds the Corporation has to pay such liabilities and result in bankruptcy.

### **Proposed Transactions**

As is typical of rapidly growing companies, the Corporation is continually reviewing partnerships, potential merger, acquisition, investment and joint venture transactions and opportunities that could enhance shareholder value. At present, there are no proposed asset or business acquisition or disposition transactions being contemplated by management or the board that would affect the financial condition, financial performance and cash flows of the Corporation.

### **Employment Agreements**

The Corporation has an employment agreement with its Chief Executive Officer. The current salary level for the individual pursuant to the employment agreement is \$200,000 annually.

The Corporation has an employment agreement with its Executive Chairman. The current salary level for the individual pursuant to the employment agreement is \$200,000 annually.

The Corporation has an employment agreement with its President. The current salary level for the individual pursuant to the employment agreement is \$180,000 annually.

The Corporation has an employment agreement with its Chief Financial Officer. The current salary level for the individual pursuant to the employment agreement is \$80,000 annually.

### **Contingent Liabilities**

In September 2018, the Corporation received a statement of claim from a former employee. The Corporation is in the process of defending the claim but views the claim as unmeritorious. On March 24, 2020, the Corporation commenced an action claim against the former employee for relief relating to contracts and transactions between that employee and the Corporation, seeking to set aside those agreements and, where applicable, seeking disgorgement of unspecified amounts relating to benefits obtained under those agreements.

### **Critical Accounting Estimates**

A detailed summary of all of the Corporation's significant accounting policies is included in Note 2 to the March 31, 2021 audited annual financial statements.

### **Internal Controls over Financial Reporting**

Management is responsible for the design of internal controls over financial reporting to provide reasonable assurance regarding the reliability of financial reporting and the preparation of the financial statements in accordance with accounting principles generally accepted in Canada. Based on regular reviews of its internal control procedures during and at the end of the period covered by this MD&A, management believes its internal controls and procedures are effective in providing reasonable assurance that financial information is recorded, processed, summarized and reported in a timely manner.

### **Changes to Internal Control over Financial Reporting**

There have been no significant changes to the Corporation's internal controls over financial reporting that occurred during the six months ended September 30, 2021 that have materially affected, or are reasonably likely to materially affect, the Corporation's internal control over financial reporting.

### **Disclosure Controls**

Management is also responsible for the design and effectiveness of disclosure controls and procedures to provide reasonable assurance that material information related to the Corporation is made known to the Corporation's certifying officers. The Corporation's Chief Executive Officer and Chief Financial Officer have each evaluated the effectiveness of the Corporation's disclosure controls and procedures as of September 30, 2021 and have concluded that these controls and procedures are effective in providing reasonable assurance that material information relating to the Corporation is made known to them by others within the Corporation.