Minerva Intelligence Inc.

Management Discussion and Analysis
of
Financial Position and Results of Operations
for the Six-Month Period ended June 30, 2021

This report is dated August 30, 2021.
(The "Report Date")

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Introduction

The following information should be read in conjunction with the unaudited condensed consolidated interim financial statements of Minerva Intelligence Inc. (the "Company") for the six-month period ended June 30, 2021 and the consolidated financial statements for the year ended December 31, 2020.

The unaudited condensed consolidated interim financial statements are prepared in accordance with International Financial Reporting Standards ("IFRS").

Note 3 to the consolidated financial statements of the Company at December 31, 2020 describes the Company's significant accounting policies, as well as new accounting pronouncements not yet effective. During the year ended December 31, 2020, the Company's critical accounting estimates and significant accounting policies have remained substantially unchanged.

All amounts presented in this document are stated in Canadian dollars, except where otherwise noted.

Forward Looking Statements

This Management's Discussion and Analysis ("MD&A") is intended to supplement and complement the unaudited condensed consolidated interim financial statements of the Company for the six-month period ended June 30, 2021 and the consolidated financial statements for the year ended December 31, 2020 and the notes thereto (the "Financial Statements"). Readers are encouraged to review these Financial Statements in conjunction with a review of this MD&A. Certain notes to the Financial Statements are specifically referred to herein, and such notes are incorporated by reference herein. Forward-looking statements are subject to known and unknown risks, uncertainties and other factors that may cause actual results to differ materially from those implied by the forward-looking statements. These forward-looking statements are based on, but not limited to, material assumptions including: Company performance; the ability of the Company to successfully execute on its growth and new business strategies, including attracting new clients; the demand for its products continuing to increase; stable currency valuations; a sufficiently stable and healthy global economic environment; and other expectations, intentions and plans contained in this MD&A that are not historical fact. When used in this MD&A, the words "plan," "expect," "believe," and similar expressions generally identify forward-looking statements. These statements reflect current expectations. They are subject to a number of risks and uncertainties, including, but not limited to, changes in technology and general market conditions. In light of the many risks and uncertainties, readers should understand that the Company cannot offer assurance that the forward-looking statements contained in this analysis will be realized. **Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date the statements were made, and readers are advised to consider such forward-looking statements in light of the risks as set forth below.**

Corporate Overview and Description of the Business

Minerva Intelligence Inc. (formerly Two Owls Ventures Corp.) (the "Company" or "Minerva") was incorporated on August 16, 2017 pursuant to the *Business Corporations Act* of British Columbia and was classified as a Capital Pool Company as defined in the TSX Venture Exchange ("TSX-V") Policy 2.4. On March 14, 2018, the Company completed its Initial Public Offering ("IPO") and on March 26, 2018, the Company's shares commenced trading on the TSX-V.

Minerva Intelligence (Canada) Ltd. ("Minerva Canada") was incorporated on May 17, 2017 pursuant to the Business Corporations Act of Ontario. On April 23, 2019, Minerva Canada continued its jurisdiction of incorporation from Ontario to British Columbia, to become subject to the B.C. Business Corporations Act ("BCBCA"). During the year ended December 31, 2019, the Company acquired Minerva Canada through a wholly owned subsidiary, 1198574 B.C. Ltd., which was incorporated on February 22, 2019 to facilitate this acquisition.

Minerva Intelligence Gmbh was incorporated on September 24, 2019 as the German subsidiary of the Company.

The head office of the Company is located at Suite 301, 850 West Hastings Street, Vancouver, British Columbia V6C 1E1. The registered office of the Company is located at 2900 - 595 Burrard Street, Vancouver, B.C. V7X 1J5.

Description of the Business

Minerva aims to bring the benefits of artificial intelligence technology to industries dependent on reasoning with complex technical and scientific data by building proprietary evidence-based decision-making software. We are knowledge engineers using artificial intelligence ("AI") and standards to describe, reason, explain and provide actionable and auditable advice for our customers. Minerva's AI combines machine intelligence with human intelligence to reach conclusions faster than possible with humans alone, but with the explanations needed to trust the results. The Company is currently pursuing two industries: Geology and Climate Risk.

Minerva's proprietary AI platform (the "Software") consists of the AI software acquired from Georeference Online Ltd. ("Georeference"), as enhanced and re-engineered by Minerva to take advantage of recent developments in various related software technologies. The Software combines human domain expertise (e.g., mineral exploration or climate risk models) with information from public and private databases in a cognitive computer reasoning system to carry out complex tasks faster and more thoroughly than can be done by human beings. Knowledge engineering, logic programming and reasoning with uncertainty are key elements of Minerva's Software. Minerva has also developed in-house expertise in complementary areas, such as Geographic Information Systems (GIS), database schema design, taxonomy development for knowledge representation, and has assembled a team of software and earth science professionals knowledgeable in the technologies it uses.

Minerva's Software has been developed to function in multiple diverse problem domains. In each domain in which it is deployed, a key element of its effective operation is the domain knowledge base and models deployed alongside the available voluminous and otherwise unwieldy data to which such knowledge base and models are applied.

Minerva initially applied its technology to minerals exploration due to its extensive knowledge-base in economic geology; however, the Software is applicable to other industries with complex problem domains, such as environmental protection, geohazards, land use planning, insurance and healthcare.

Minerva believes that there will be significant growth in Artificial Intelligence Software-as-a-Service (AI-SaaS) over the next decade. Due to relatively limited and unique datasets and scarce AI talent, it is unlikely that a large number of enterprises will build their own proprietary software. Instead, AI service providers, such as Minerva, will emerge with the necessary AI expertise and domain specific knowledge base to provide value-added AI services.

Principal Products

The principal existing products have been structured within two industry specific product suites: TERRA Mining AI Suite and GAIA Climate Risk AI Suite. Non industry specific products are promoted as Cross-Industry applications. In addition to the software suites, Minerva also provides consulting services to aid customers.

Cross – Industry

Reasoner

The Reasoner is the crux of Minerva's product offering, it is a cognitive AI system which integrates human knowledge with large datasets to create predictions. The Reasoner is proprietary to Minerva and is continuously undergoing refinement and expansion of capabilities. Predictions from the Reasoner are explainable and auditable, a unique advantage over many AI applications. As detailed further in the "Intellectual Property" section below, Minerva applied for two patents to protect the core technology and processes underpinning Minerva's core technology.

SOLACE

SOLACE standardizes disconnected data to ensure interoperability. SOLACE enables organizations to create and curate standards and design self-improving workflows to align current and future datasets. Controlled vocabularies are built and validated by Minerva's ACE software, and project data is aligned and transformed with Minerva's DBConverter. With each alignment, the system learns common misspellings, alternative labels, and legacy codes making each sequential alignment quicker.

SOLACE was developed internally as a workflow for taking unstandardized, disorganized data and harmonizing that data into a form that we could use within the Reasoner. When approached by clients who only desired this data cleaning service, we bundled the workflow and necessary tools into one cohesive workflow product.

ACE

The Aristotelian Class Editor (ACE) is an open access taxonomy creation tool provided by Minerva. Providing ACE for free creates inroads with customers who are interested in knowledge engineering, semantics and standard terminology.

Knowledge Capture

Minerva's Knowledge Capture tool allows experts to input knowledge in the form of conceptual models which are used in Minerva's Reasoner. Recent work has advanced the breadth of information that can be represented using Knowledge Capture.

TERRA Mining AI Suite

TERRA represents a collection of AI products addressing challenges in mineral exploration and mining.

Target

While a significant amount of capital has been spent on collecting exploration data over the years, it has led to databases that are too vast and complex for geologists to effectively evaluate. At the same time there is not enough data characterizing existing mineral deposits for machine learning techniques to be broadly successful. Mineral deposits are rare and complex with many different attributes.

Minerva's Target system is powered by Minerva's Reasoner, the core AI technology developed by Minerva. Target addresses both discovery difficulty and data volume problems. Minerva optimizes mineral deposit discovery by leveraging the computational efficiency along with proven legacy technologies such as geological modelling. This optimum combination of AI technologies allows Minerva to find the best locations at which to conduct exploration, and the Reasoner allows us to explain why each location was identified, and to provide advice on what additional exploration information to look for at such locations.

The principal market for Minerva's Target system lies with mineral exploration companies and institutions, both governmental and non-governmental, that promote mineral exploration, such as geological surveys, government bodies and major mining companies.

The latest version of the Target system was tested during 2020, producing maps for a number of client companies. Minerva intends to apply its Target system as a software service for enhancing the success rate of mineral exploration.

DRIVER

DRIVER is a tool for interpreting drilling data for entire suites of multi-element assays in dozens of different directions and then comparing the results for significance against known mineral deposit zonation characteristics. This approach facilitates the identification of alteration and mineralization zones that may relate to economic mineralization, which are very difficult and time-consuming to identify any other way. Interrogation of multi-element data and evaluation of their high and low zones can refine an exploration hypothesis and focus the drilling decision process. It can also provide critical information about associated deleterious elements and their spatial relationship to ore.

Many mineral deposits models, such as the Porphyry Cu model, have element zonation patterns that are well-documented and characteristic of the model, but require a multi-element approach to identify. DRIVER uses a combination of geostatistical methods and spatial statistics to create hundreds of realizations of any input drilling data set. It then searches all these realizations for zones of high and/or low values which match documented zonation around known deposits, which therefore may be useful exploration vectors for the user to investigate. DRIVER provides a user-friendly interface for human evaluation of the relationships between the different zones flagged by DRIVER as potentially important.

LEO

LEO (Language Extender and Organizer) is a semantics-based system for managing digital knowledge assets. The LEO system provides users with rapid, intelligent discovery of documents by indexing these documents against a standards-based taxonomy and a document repository. This platform addresses the need within mining companies to achieve interoperability between their exploration, mining, metallurgical and environmental remediation knowledge assets, which is achievable only through implementation of semantic standards, the latter being a field within which Minerva has specialist expertise.

<u>GAIA Climate Risk AI Suite</u>

GAIA represents a collection of products addressing the need to identify areas affected by physical climate risks such as landslides, floods, and wildfires. GAIA Climate Risk AI is the re-branded evolution of GAIA Natural Hazard AI that is being marketed to support climate-related financial disclosures as part of companies' environmental, social and governance ("ESG") performance.

Worldwide, regulatory bodies are starting to provide guidance to businesses on how to provide climate risk disclosure in the context of ESG reporting. The EU is taking the lead and, since April 2019, has embedded in the Non-Financial Reporting Directive ("NFRD"), which obligates companies to disclose climate-related information. This obligation applies to listed companies, banks, and insurance companies. Since 2021, the Corporate Sustainability Reporting Directive ("CSRD") extends the NFRD to cover all large companies and all companies listed on regulated markets. These new standards are targeted for adoption by 2022.

In the U.S., major regulatory bodies such as the Securities & Exchange Commission, the Federal Reserve banks, and the Treasury Department, who traditionally avoid mandating disclosure rules for publicly-traded corporations, are considering and will likely adopt measures to support ESG, especially with respect to climate issues. Canada is also moving forward with the Canadian Security Administrators ("CSA"), providing guidance on climate risk disclosure, and also recently announcing a requirement for crown corporations' annual reports to comply with the Task Force for Climate-related Financial Disclosures (TCFD) in the coming years.

In the opinion of Management, these new regulations and guidelines represent a significant potential market opportunity for Minerva, as traditional businesses lack the necessary climate risk data and knowledge to properly assess and disclose the climate-related risks relevant to their operations.

Minerva has developed unique expertise in physical climate risk with GAIA landslide and GAIA flood demonstration products. Minerva has also recently completed consulting projects for the Government of Canada to organize national-scale flood hazard data and hydrological network, expanding its data modeling knowledge and capabilities. Building on its physical climate risk expertise, Minerva has started to gather national and global-scale datasets to build a platform to support businesses understanding their physical climate risk.

These applications are currently in the definition and development stages. While data is being collected, Minerva is conducting stakeholder engagement to guide the platform development and is also designing a cloud-based data storage backend capable of supporting AI functionalities and analytics. The platform will be accessible on a freemium SaaS-based model to general users, while Minerva's climate risk data will be made available through API to more sophisticated users.

Future Applications

Demand for minerals and elements that can support the renewable energy transition is projected to increase in the coming years, representing an opportunity for Minerva as the mining and metals industry grows to build upon our previously accepted mining related products and services to provide climate related products. Minerva also believes that there are opportunities in other industries affected by climate risk as government and other regulators mandate companies across the globe to evaluate and disclose their climate risks.

A potential risk associated with these initiatives is the development of regulations that may hinder Minerva's ability to deliver products and services in this area, as standards and regulations are still a work in progress. Minerva is therefore engaging with industry experts to better understand trends in climate disclosure regulation.

Minerva's Proprietary AI software is applicable to a wide range of problem domains and industries. Far too many for Minerva to pursue on its own. In this regard, Minerva is actively identifying partners and developing relationships with external organizations who could benefit from using Minerva's tools such as SOLACE, Knowledge capture and the Reasoner while building applications in a variety of industries. Minerva sees this opportunity to license its tools for the development of new applications as a potentially much larger market than Mining and mineral exploration and climate risk are on their own.

This strategy will allow Minerva's unique cognitive AI tools to see their full potential in a wide array of applications and markets. While management indents to pursue this strategy, there is no assurance that additional products will be developed and marketed through the means of software licensing.

Awards

In August, 2020, Minerva was honored to have been named one of the five most promising companies in mining technologies by StartUs Insights, a European data science company monitoring start-ups, technologies & industry trends.

Operations

Minerva conducts its operations using a combination of full and part-time employees, supplemented by independent contractors where additional part-time, short term, or specialized services are required. As of July 2021, the Company had 17 employees. In addition, certain individuals or companies are regular consultants to the Company, providing services as required.

The R & D development team is based at the Company's principal operating office in Vancouver, British Columbia. The Minerva team has adapted to working throughout a pandemic and many staff members are working remotely, despite this the Company continues to foster a collaborative and social work environment through online and in office environments. This has been accomplished by establishing a COVID-19 protocol limiting the number of staff within the office and ensuring social distancing is maintained. Minerva itself is not materially directly affected by climate risks, as our operations are largely diversified due to COVID protocols and are therefore somewhat independent of our tangible assets and physical office.

Potential impact of the Pandemic on Corporate Operations and Activities

On March 11, 2020, the World Health Organization categorized COVID-19 as a pandemic. The potential economic effects within the Company's environment and in the global markets, possible disruption in supply chains, and measures being introduced at various levels of government to curtail the spread of the virus (such as travel restrictions, closures of non-essential municipal and private operations, imposition of quarantines and social distancing) had a material impact on the Company's operations to the extent that clients deferred purchases of the Company's services.

Marketing, including travel-based marketing had to be adjusted, resulting in delay's of approximately six months in expected sales and revenues from earlier estimates. The Company is continuing in its marketing efforts, utilizing videoconferencing as a means of reaching out to clients. However, certain marketing initiatives have been curtailed due to travel bans in effect. During the periods involved, the Company experienced significant interest in its products as clients adapted their business strategies. Management believes that its marketing efforts have created renewed interest in the Company and its products.

The Company also implemented a number of operational changes, with the majority of employees continuing to work from home. Staffing continues to be reviewed with replacements or additions to staff being on a case-by-case basis as needs arise. The Company continues to work to reduce costs and has implemented cost control and reduction procedures wherever possible, subject to the needs of our clients and allowing for our scheduled product development updates.

Marketing Plans and Strategies

The Company's products are being marketed to pre-qualified leads around the world. The Business Development team is actively reaching out to promising candidates for Minerva's various software applications, identified using Minerva's existing database of industry contacts, as well as those identified via industry events, publications, and intelligence initiatives.

Minerva's efforts include direct digital marketing and advertising, conference attendance, trade publications, media engagement, and active communication with various media outlets. The Company continues to expand its network and establish mutually beneficial strategic relationships which will also allow Minerva to expand by future acquisition and/or partnership opportunities, including new technologies that may complement its business. The Company has also established a subsidiary office in Germany to assist with its marketing efforts in Europe.

Intellectual Property

In accordance with industry practice, Minerva protects its proprietary rights through a combination of copyright, trade-mark, trade secret laws and contractual provisions. The source code for its Software is protected under Canadian and applicable international copyright laws. Minerva licenses its Software pursuant to agreements that impose restrictions on customers' ability to use the technology, such as prohibiting reverse engineering, limiting the use of software copies and restricting access and use of source code. Minerva also seeks to avoid disclosure of intellectual property and proprietary information by requiring employees and consultants to execute non-disclosure and assignment of intellectual property agreements. Such agreements require employees and consultants to assign to Minerva all intellectual property developed in the course of their employment or engagement. Minerva utilizes non-disclosure agreements to govern interaction with business partners and prospective business partners and other relationships where disclosure of proprietary information may be necessary. The Company has applied for two patents on its intellectual property related to diagnosticity.

Changes in Operations and Activities during the Period

On February 17, 2021, Minerva announced the appointment of Mr. Jason Petralia as an adviser to the company. Mr. Petralia is spearheading a new initiative aimed at leveraging Minerva's cognitive AI-powered reasoning tools. Mr. Petralia is a technology innovation pioneer, investor and adviser, having led product initiatives in a number of spaces including commerce, health care, fitness, games, e-sports, education, usability, analytics and data capture, productivity, entertainment, and more, ranging from Fortune 500 companies to emerging start-ups. Recently Mr. Petralia was senior vice-president of content at Skillz Inc.

On February 19, 2021, the Company announced the successful implementation of its Target software for Giga Metals Corporation ("Giga") in conjunction with the recent release of its Parnaiba basin project results. Giga enlisted Minerva's cognitive artificial-intelligence-powered prospect-generation software Target to identify and evaluate new prospective exploration targets. Giga, after validating the results produced by Minerva's Target software, made the decision to acquire exploration permits covering significant new regional sediment-hosted copper anomalies along the southern perimeter of the Parnaiba sedimentary basin in southern Piaui, Nordeste, Brazil. Using Minerva's Target software, Giga was able to sift through, organize and evaluate large data sets that were subsequently used to analyze the validity of the prospective exploration region. Target's mapping technology was able to determine, based on existing comprehensive data sets, that the project in Brazil had a high likelihood of success and, as a result, Giga should pursue investment in the region. The final result of the analysis was a list of AI-produced target areas throughout Brazil that are completely auditable and explainable, and, most importantly, actionable by Giga.

On April 1, 2021, the Company announced that Mr. Jason Petralia had joined the board of directors of the company. Mr. Petralia replaced long-time board member Kevin Thomas.

On April 30, 2021, the Company announced the signing of a contract with Natural Resources Canada ("NRCan") to identify and prioritize opportunities for geoscience information and databases integration and harmonization within a standardized framework for national access and distribution.

On May 3, 2021, the Company and Freeport Resources Inc. shared results from an evaluation of Freeport's Star Mountains data. Minerva utilized Driver to perform an evaluation of multielement drilling data. In addition, Minerva reinterpreted existing geophysical information on the project and completed traditional K-Means Cluster analysis on the multielement data. Freeport engaged Minerva to apply its cognitive AI-powered Driver technology to subsurface geochemical data available for the Star Mountains project to enhance its next phases of surface and subsurface evaluation of the extensive property, located 25 kilometres from the Ok Tedi mine in Papua New Guinea.

On May 25 2021, the Company, in partnership with 4DM Inc. ("4DM"), announced the signing of a contract with NRCan to design an updated Canadian hydrographic data model to enhance essential water resource information. This project will mark the first major update to the National Hydro Network ("NHN") since 2004. The National Hydro Network is the only pan-Canadian geospatial data product that details Canada's inland surface waters. Minerva (in partnership with Ebbwater Consulting) is currently completing another NRCan project to create a National Flood Hazard Data Layer, which represents the largest flood-hazard database ever compiled for Canada. The successful harmonization of Canadian flood data under a single standard highlights Minerva's knowledge-engineering approach and software tools as well as NRCan's resolve to address flood risk challenges across Canada.

On June 9, 2021, the Company announced the signing of a service provision contract with Clarity Gold Corp. ("Clarity") for the use of Minerva's proprietary DRIVER technology, enabling precision drill targeting and insights into drilling data from Clarity's Destiny Project, a gold focused project in the Abitibi region of Quebec.

Results of Operations

Results for the six-month period ended June 30, 2021

During the three and six-month period ended June 30, 2021, the Company recorded revenue of $269,351 (Year to date: $821,748) (June 30, 2020: $nil and $53,000, respectively). The change in revenue was due to major government contracts, together with mining client contracts completed during the period. The Company continues to compete for government contracts, and also continues to pursue mining company contracts, however management believes that other project areas are possible. In the opinion of management, these activities and contracts may result in ongoing projects.

Expenses from operations were $967,730 (YTD: $1,985,681) (2020: $746,529 and $1,664,446), and the comprehensive loss for the six-month period was $710,999 (YTD: $1,179,192) (2020: $784,098 and $1,397,548).

The most significant elements of the Company's expenses are:

- Advertising and promotion of $46,018 (YTD: $109,690) (2020: $53,677 and $117,747) was comparable and reflects the amounts being spent on the promotion of the Company and investor relations activities;
- Amortization of $45,071(YTD: $89,974) (2020: $45,312 and $90,514) is similarly comparable and reflects the amortization of leasehold improvements, computer equipment and furniture acquired, the amortization of intangible assets, and the amortization of the right of use asset;
- Consulting – Corporate development of $5,000 (YTD: $29,000 (2020: $nil and $26,198) was due to the use of outside advisors for certain non-core activities related to corporate structuring and financing;
- Consulting – Product development of $93,409 (YTD: $150,956) (2020: $68,693 and $107,856) shows the use of outside consultants in specific areas to develop specific products and product inputs where that capability was not in-house. Certain projects, require additional temporary resources that reasonably would not be brought in-house on a permanent basis. Product enhancements and developments were emphasized during the period;
- Director's fees of $21,000 (YTD: $52,500) (2020: $16,200 and $47,700) are paid to independent directors only and reflect the composition and level of fees paid to those directors;
- General and administrative expenses of $19,562 (YTD: $55,328) (2020: $28,345 and $63,389) reflect the operations of the Company, and include the cost of diverse items such as insurance, internet and telephone and other general office expenses. Insurance expense is increasing generally, however the Company continues to contain other general expenses;
- Outsourced services expense of $8,850 (YTD: $47,035) (2020: $nil and $31,800) consists of the cost of third-party service providers which were contracted and directly related to a specific project based on their expertise;
- Professional fees were $52,195 (YTD: $58,045) (2020: $36,470 and $61,589) consisting of legal, accounting, tax and other professional advisory expenses. Expenses vary due to the level of corporate activities and the timing of billing by professional advisors, and were higher in the quarter due to legal expenses incurred with respect to intellectual property activities;
- Salaries and wages of $615,978 (YTD: $1,268,662) (2020: $444,523 and $1,105,681) reflect the increase in the number and professional standing of employees, and also relate to the level of activity in the Company, as well as modest salary increases granted in late 2020. While this represents the single largest expense of the Company, management is of the opinion that staffing levels are low for a Company of our size and stage of development. Management anticipates that expansion into additional product areas will require additional staffing;

- Share-based compensation of $9,882 (YTD: $20,450) (2020: $44,085 and $48,378) results from the timing of the grant and vesting of options, including previously issued options, and reflect the number of options, vesting terms and the market price of the Company's shares among other factors. In Q1 2021, certain adjustments in vesting schedules are reflected in the cost as a one-time adjustment;
- Software application subscriptions of $35,907 (YTD: $78,059) (2020: $8,142 and $24,670) reflect the cost and timing of renewals of licensed software and software services used by the Company in the development of products, consulting services and its operations. During the period, there was a significant amount of additional subscription software use, as well as new software subscriptions to meet the growing needs of staff;
- Transfer agent and filing fees of $11,441 (YTD: $21,438) (2020: $999 and $7,383) are incurred as a result of administering a public Company, holding annual general meetings and making appropriate regulatory filings;
- Travel of $3,417 (YTD: $4,544) (2020: $83 and $21,541) reflects the tentative restart of meetings with clients, potential funders and strategic partners, compared to the reduced Q2 client meetings and the cancellation of trade shows which the Company was to attend to promote the products in Q1 2020;
- A foreign exchange gain of $241,714 was recorded in Q1 2020 (Q2 2020 – a loss of $45,312 for a YTD gain of $196,402), as the Company converted the majority of its US dollar holdings to Canadian dollars to lock in positive exchange rates. During 2021 there was no comparable activity, and the foreign exchange activity of the Company reflects normal variations with a loss of $12,388 in Q2 and a YTD loss of 15,928). Future results will be subject to fluctuation based on balances held and converted to Canadian funds;
- Interest expense of $514 (YTD: #1,195) (2020: $1,171 and $2,502) was incurred with respect to the lease liability; and
- Interest income of $282 (YTD: $1,864) (2020: $8,914 and $19,998) was recorded due to investments in term deposits.

Selected Annual Information

	Year ended December 31,		
	2020 (Audited) $	2019 (Audited) $	2018 (Audited) $
Revenue	340,584	184,600	27,750
Operating expenses	(3,329,438)	(3,163,980)	(1,491,342)
Other items	215,057	(1,110,618)	337,054
Net income (loss)	(2,773,797)	(4,089,998)	(1,126,538)
Current assets	1,482,200	4,106,287	6,684,578
Total assets	1,866,288	4,648,231	7,139,270
Total liabilities	724,198	427,769	110,343
Shareholders equity	1,501,771	4,220,462	7,028,927

Quarterly Summary

The following table summarizes selected financial information of the Company for the periods available.

	Fiscal 2021		Fiscal 2020	
	6/30/2021	**3/31/2021**	**12/31/2020**	**9/30/2020**
	Q2	**Q1**	**Q4**	**Q3**
	(Unaudited)	**(Unaudited)**	**(Unaudited)**	**(Unaudited)**
	$	$	$	$
Revenue	269,351	552,397	138,600	148,984
Operating expenses	(967,730)	(1,017,951)	(888,616)	(776,376)
Other items	(12,620)	(2,639)	(132)	1,291
Net Income (Loss)	(710,999)	(468,193)	(750,148)	(626,101)
Current Assets	715,562	1,381,076	1,482,200	2,091,190
Total Assets	1,011,259	1,721,844	1,866,288	2,501,956
Total Liabilities	348,331	352,693	364,517	252,139
Shareholders' Equity	662,928	1,369,151	1,501,771	2,249,817

	Fiscal 2020		Fiscal 2019	
	6/30/2020	**3/31/2020**	**12/31/2019**	**9/30/2019**
	Q2	**Q1**	**Q4**	**Q3**
	(Unaudited)	**(Unaudited)**	**(Unaudited)**	**(Unaudited)**
	$	$	$	$
Revenue	-	53,000	12,000	-
Operating expenses	(746,529)	(917,917)	(1,025,875)	(708,255)
Other items	(37,569)	251,467	(58,180)	67,775
Net Income (Loss)	(784,098)	(613,450)	(1,072,055)	(640,480)
Current Assets	2,617,808	3,396,915	4,106,287	4,886,906
Total Assets	3,072,241	3,896,658	4,648,231	5,418,532
Total Liabilities	200,949	285,353	427,769	286,715
Shareholders' Equity	2,871,292	3,611,305	4,220,462	5,418,532

Financing Activities

During the six-month period ended June 30, 2021, the Company completed the following share transactions:

- 966,700 units were issued pursuant to a non-brokered private placement at price of $0.15 per unit for gross proceeds of $145,005. Each unit comprised one common share of the Company and one common share purchase warrant of the Company. Each warrant is exercisable at a price of $0.20 per share for a period of 24 months until February 17, 2023; and
- 1,200,000 units were issued pursuant to a non-brokered private placement at a price of $0.15 per unit, for gross proceeds of $180,000. Each unit comprised one common share of the Company and one common share purchase warrant of the Company. Each warrant is exercisable at a price of $0.20 per share for a period of 24 months until March 24, 2023.

During the year ended December 31, 2020, there were no share issuances.

As of June 30, 2021, the Company had 46,841,705 shares issued and outstanding (December 31, 2020 - 44,675,005). As of December 31, 2020, a total of 5,745,003 common shares were subject to escrow restrictions (2019: 9,575,003). All escrowed shares will be released from escrow as to 10% on completion of the QT (released), and an additional 15% every six months thereafter over 36 months.

On August 18, 2021, the Company announced its intention to complete a private placement to raise a minimum of $1,000,000 and up to a maximum of $3,000,000, through the sale of units at $0.15 per unit; each unit to consist of one common share and one-half warrant (each full warrant exercisable at $0.25 for 24 months).

Proceeds received from the offering will be used, as to roughly one-third each, for general working capital purposes, to fund the Company's sales and marketing strategy, and to make key hires within the Climate Risk group. The Company may pay finders' fees in accordance with the policies of the TSX Venture Exchange.

On August 26, 2021 the Company announced that the maximum offering had been increased to $3,500,000.

Liquidity and Capital Resources

The Company's aggregate operating, investing and financing activities for the six-month period ended June 30, 2021 resulted in a cash decrease of $828,641 (June 30, 2020: $,492,530). As at June 30, 2021, the Company's cash balance was $530,870 (December 31, 2019: $1,359,511), and the Company had working capital of $367,231 (December 31, 2020: $1,122,519).

During the six-month period ended June 30, 2021, the Company paid $1,583 to acquire equipment (December 31, 2020: $17,310). $150 was received related to the sale of redundant furniture in Q1 2020.

No other material capital expenditures were incurred.

Transactions with Related Parties

Related parties include those persons having authority and responsibility for planning, directing and controlling the activities of the Company as a whole. The Company has determined that key management personnel consist of executive and non-executive members of the Company's Board of Directors and corporate officers. The remuneration of key management personnel during the periods ended June 30, 2021 and 2020 were as follows:

	Three-month period ended June 30,		Six-month period ended June 30,	
	2021	2020	2021	2020
Director's fees	$ 21,000	$ 16,200	$ 52,500	$ 47,700
Salaries and wages	150,518	112,103	341,452	253,428
Professional fees & Consulting	9,000	14,400	27,000	31,200
Share-based compensation	2,059	39,093	4,377	39,169
	$ 182,577	$ 181,796	$ 425,329	$ 371,497

Amounts due to related parties at June 30, 2021 and December 31, 2020 are unsecured and interest free. As at June 30, 2020 accounts payable and accrued liabilities include $3,150 (December 31, 2020 - $6,000) owing to the Chief Software Architect of the Company, and $5,250 (December 31, 2020 - $10,500) owing to directors for director's fees.

Off Balance Sheet Arrangements

To the best of management's knowledge, there are no off-balance sheet arrangements that have, or are reasonably likely to have, a current or future effect on the results of operations or financial condition of the Company.

Critical Accounting Estimates

The preparation of the consolidated financial statements requires management to make judgments and estimates and form assumptions that affect the reported amounts of assets and liabilities at the date of the consolidated financial statements and reported amounts of expenses and gains or losses during the reporting period. On an ongoing basis, management evaluates its judgments and estimates in relation to assets, liabilities, revenue and expenses, gains and losses. Management uses historical experience and various other factors it believes to be reasonable under the given circumstances as the basis for its judgments and estimates. Actual outcomes may differ from these estimates under different assumptions and conditions.

Estimates and assumptions that have the most significant effect on the amounts recognized in the consolidated financial statements include:

Share-based Payment Transactions related to Equities

The Company measures the cost of equity-settled transactions with employees by reference to the fair value of the equity instruments at the date at which they are granted. Estimating fair value for share-based payment transactions requires determining the most appropriate valuation model, which is dependent on the terms and conditions of the grant. This estimate also requires determining the most appropriate inputs to the valuation model including the expected life of the stock option, volatility and dividend yield and making assumptions about them.

Deferred tax assets

Deferred tax assets, including those arising from un-utilized tax losses, require management to assess the likelihood that the Company will generate sufficient taxable earnings in future periods in order to utilize recognized deferred tax assets. Assumptions about the generation of future taxable profits depend on management's estimates of future cash flows. In addition, future changes in tax laws could limit the ability of the Company to obtain tax deductions in future periods. To the extent that future cash flows and taxable income differ significantly from estimates, the ability of the Company to realize the net deferred tax assets recorded at the reporting date could be impacted.

Economic recoverability and probability of future economic benefits of intangible assets and amortization

Management has determined that intangible asset costs incurred which were capitalized may have future economic benefits and may be economically recoverable. Management uses several criteria in its assessments of economic recoverability and probability of future economic benefits including anticipated cash flows and estimated economic life. The amortization expense related to intangible assets will be determined using estimates relating to the useful life of the intangible assets.

Determination of functional currency

The functional currency of the Company is the currency of the primary economic environment in which it operates. Determination of the functional currency may involve certain judgments to determine the primary economic environment. The functional currency may change if there is a change in events and conditions which determine the primary economic environment. The functional currency of the Company and its principal operating subsidiary is the Canadian dollar. The functional currency of the German subsidiary is the Euro.

Changes in Accounting Policies

The accounting policies applied in the consolidated financial statements are the same as and unchanged from those applied in the Company's annual audited financial statements for the year ended December 31, 2020. The reader is referred to those notes for a detailed discussion of the Company's accounting policies.

Financial Instruments

The Company is exposed to various financial risks resulting from its operations. The Company's management manages financial risks. The Company has not entered into financial instruments agreements, including derivative financial instruments for speculative purposes. The Company's main financial risk exposures and its financial policies are as follows:

Credit risk

Credit risk is the risk that one party to a financial instrument will cause a financial loss for the other party by failing to discharge an obligation. The Company's cash and accounts receivable are exposed to credit risk, with the carrying values being the Company's maximum exposure. The Company's cash consists of deposit accounts with chartered banks. The Company's accounts receivable consists of contract payments due from governments and companies, with the carrying amounts also being the Company's maximum exposure. Management believes the Company's exposure to credit risk is not significant.

Liquidity risk

Liquidity risk is the risk that the Company will encounter difficulty in meeting obligations associated with financial liabilities. The Company's accounts payable and accrued liabilities are all current and due within 90 days of the consolidated statement of financial position date. The Company seeks to ensure that it has sufficient capital to meet short term financial obligations after taking into account its operating obligations and cash on hand.

Market risk

Market risk is the risk of loss that may arise from changes in market factors such as interest rates, foreign exchange rates, and equity prices.

Interest rate risk

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. The Company maintains certain cash balances in term deposits which renew periodically, and which rates reflect the market at the time of renewal. Management believes that the interest rate risk on these investments is nominal. The Company is not exposed to any other significant interest rate risk aside from the term deposits noted. Cash is comprised of bank balances as of June 30,2021 and December 31, 2020.

Foreign exchange risk

Foreign exchange risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates. The Company is exposed to foreign exchange risk as it engages in transactions in other foreign currencies, from time to time. As at June 30, 2021, the Company held US cash of $150,917 (December 31, 2020: $26,617), converted to CAD at a rate of 1.2395 (2020: 1.2741). A 10% change in the foreign exchange rate would have an impact on profit or loss of $15,092 (2020: $2,662).

Price risk

Equity price risk is defined as the potential adverse impact on the Company's earnings due to movements in individual equity prices or general movements in the level of the stock market. The Company does not have any financial instruments which are exposed to this risk.

Outstanding Share Data

As at June 30, 2021, and the date of this MD&A the following table summarizes the outstanding share capital of the Company:

	June 30, 2021	**Report Date**
Common Shares	46,841,705	46,841,705
Stock Options	3,775,000	3,775,000
Warrants	2,166,700	2,166,700
Total, Fully Diluted	**52,783,405**	**52,783,405**

During the period ended June 30, 2021, 2,166,000 warrants were issued as part of the private placements (December 31, 2020: nil):

Expiry Date	**Outstanding**	**Exercise Price $**
2023-02-17	966,000	0.20
2023-03-23	1,200,000	0.20
	2,166,000	$ 0.20

See Financing Activities, page 12 for a description of the proposed private placement announced August 18, 2021, as amended August 26, 2021
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Risks and Uncertainties

An investment in the Company's shares should be considered highly speculative due to the nature of the Company's business and the present stage of its development. In evaluating the Company and its business, the Reader should carefully consider the following risk factors in addition to the other information contained in this management discussion and analysis. These risk factors are not a definitive list of all risk factors associated with the Company. It is believed that these are the factors that could cause actual results to be different from expected and historical results. Investors should not rely upon forward-looking statements as a prediction of future results.

Effect of COVID-19 on Business operations

On March 11, 2020, the World Health Organization categorized COVID-19 as a pandemic. The potential economic effects within the entity's environment and in the global markets, possible disruption in supply chains, and measures being introduced at various levels of government to curtail the spread of the virus (such as travel restrictions, closures of non-essential municipal and private operations, imposition of quarantines and social distancing) could have a material impact on the entity's operations. The ongoing impact of this outbreak and related containment measures on the Company's operations cannot be reliably estimated at the date this report was prepared.

Business Model

The industry in which the Company operates is characterized by rapidly-changing Internet media, evolving industry conditions and standards, and changing user and client demands. Any evaluation of the Company's business and its prospects must be considered in light of these factors and the risks and uncertainties often encountered by companies in an evolving industry.

Some of these risks and uncertainties relate to the Company's ability to maintain and expand client relationships and respond effectively to competition and potential negative effects of competition on profit margins. If the Company is unable to address these risks, its business, results of operations and prospects could suffer.

Significant future capital requirements, future financing risk and dilution

No assurances can be provided that the Company's financial resources will be sufficient for its future needs. Revenues from current operations are insufficient to meet the Company's expected capital requirements. As such, the Company may be required to undertake future financings which may be in the form of a sale of equity or debt secured by assets. No assurances can be made that the Company will be able to complete any financing arrangements or that the Company will be able to obtain the capital that it requires. In addition, the Company cannot provide any assurances that any future financings will be obtained on terms that are commercially favourable to the Company.

Any such sale of Company shares, or other securities will lead to further dilution of the equity ownership of existing shareholders. Additionally, options and warrants or other conversion rights issued or granted by the Company may adversely affect future equity offerings, and the exercise of those options and warrants may have an adverse effect on the value of the Company shares. If any such options, warrants or conversion rights are exercised at a price below the then current market price, if any, then (i) the market price of the Company shares could decrease, and (ii) shareholders may experience dilution of his or her investment. The issuance of Company shares in the future will result in a reduction of the book value and market price of the then outstanding Company shares. If any such additional Company shares are issued such issuances will result in a reduction in the proportionate ownership and voting power of all current shareholders. Further, such issuance may result in a change of control of the Company.

A prolonged decline in the price of the Company shares could result in a reduction in the liquidity of the Company shares and a reduction in the Company's ability to raise capital. As a significant portion of the Company's operations will probably be financed through the sale of equity securities a decline in the price of the Company shares could be especially detrimental to liquidity.

Technological Change

The Company operates in business segments that are entirely dependent on technology. As such, technological change will impact the ability of the Company to expand and grow its business and will also affect the costs and expenses incurred by the Company, including capital requirements. The artificial intelligence market continues to experience rapid technological change. There is a risk that new technologies and standards may render the Company's software applications obsolete. The Company may be required to invest significant capital in new technology and software development to remain competitive. Failure to do so may adversely affect demand for the Company's products and services.

Share price volatility and liquidity

There is a limited market for the Company's shares, and the trading price may increase or decrease in response to a number of events and factors, both known and unknown. In addition, the market price of the Company shares will be affected by many variables not directly related to the Company's success and will therefore not be within the Company's control, including other developments that affect the market for all software and/or AI sector securities, the breadth of the public market for the common shares, and the attractiveness of alternative investments. The effect of these and other factors could cause the Company's share price to be volatile in the future.

The market price for the Company shares may also be affected by the Company's ability to meet or exceed expectations of analysts or investors. Any failure to meet these expectations, even if minor, may have a material adverse effect on the market price of the Company shares.

Regulatory requirements

The Company may be affected in varying degrees by government policies and regulations. Changes in government, regulations and policies and practices, beyond the control of the Company, could have an adverse impact on its future cash flows, earnings, results of operations and financial condition.

Limited Operating History

Minerva is in the early stage of development and has a limited history of operations in the AI sector. The Company will be subject to many risks common to start-up enterprises and its viability must be viewed against the background of the risks, expenses and problems frequently encountered by companies in the early stages of development in new and rapidly evolving markets such as the AI industry. This includes under-capitalization, cash shortages, limitations with respect to personnel, lack of revenues and financial and other resources. There is no assurance that the Company will develop its business profitably, and the likelihood of success of the Company must be considered in light of its early stage of operations. There is no assurance that the Company will be successful in achieving a return on shareholders' investment.

Management of Growth

The Company may be subject to growth-related risks including pressure on its internal systems and controls. The Company's ability to manage its growth effectively will require it to continue to implement and improve its operational and financial systems and to expand, train and manage its employee base. The inability of the Company to deal with this growth could have a material adverse impact on its business, operations and prospects. While management believes that the Company has made the necessary investments in infrastructure to process anticipated volume increases in the short term, the Company anticipates it may experience growth in the number of its employees and the scope of its operating and financial systems, resulting in increased responsibilities for the Company's personnel, the hiring of additional personnel and, in general, higher levels of operating expenses. In order to manage its current operations and any future growth effectively, the Company will also need to continue to implement and improve its operational, financial and management information systems and to hire, train, motivate, manage and retain its employees. There can be no assurance that the Company will be able to manage such growth effectively, that its management, personnel or systems will be adequate to support the Company's operations or that the Company will be able to achieve the increased levels of revenue commensurate with the levels of operating expenses associated with this growth.

Negative cash flow and absence of profits

Minerva has not earned any profits to date and there is no assurance that it will earn any profits in the future, or that profitability, if achieved, will be sustained. The success of the Company will ultimately depend on its ability to generate revenues from operations. There is no assurance that any future revenues will be sufficient to generate the required funds to develop the Company's business.

Protection of intellectual property rights

The future success of the Company's business will be dependent upon the intellectual property rights surrounding certain technology held by Minerva, including trade secrets, know-how and technological innovation. The Company's failure to protect its intellectual property could harm its ability to compete effectively. The Company is highly dependent on its ability to protect its proprietary technology. It intends to protect its rights vigorously; however, there can be no assurance that these measures will, in all cases, be successful. Enforcement of its intellectual property rights may be difficult. Also, competitors could independently develop technologies that are perceived to be substantially equivalent or superior to the Company's technologies. The Company may be subject to claims of intellectual property infringement. Other companies may claim that Minerva infringes their intellectual property, which could materially increase costs and materially harm the Company's ability to generate future revenue and profits. Although the Company does not believe that its products infringe on the rights of third parties, third parties may assert infringement claims against it in the future. Although most of Minerva's technology is proprietary in nature, it does rely to a limited extent on third party software.

Reliance on computer systems

The Company's information technology and internal infrastructure is susceptible to damage from computer viruses, unauthorized access, natural disasters, terrorism, war and telecommunication and electrical failures. Significant disruption to the availability of information technology and internal infrastructure could cause delays in research and development work. The Company would incur liability and development of products would be delayed if any disruption or security breach were to result in a loss of, or damage to, the Company's data. Additionally, the Company may rely on cloud service providers. Any outages or changes related to these cloud services and service providers may cause disruption to development and services at the Company.

Reliance on customers and financial markets

The Company's sales to date have been to certain government agencies and departments, and to companies in the mining industry. The sales to government have been as a result of the Company successfully entering into competitive bidding situations, often with partner companies. The sales to mining companies have been as a result of marketing efforts to such companies in a rising mining market where the companies are able to access funding for their exploration and development programs. There is no assurance that the Company will continue to be successful in competing for government contracts, or that mining company clients will continue with their exploration and development programs should market conditions become adverse.

Product liability exposure

The Company faces an inherent business risk of exposure to product liability and other claims in the event that the development or use of its technology or prospective products is alleged to have resulted in adverse effects. While the Company has taken, and will continue to take, what it believes are appropriate precautions, there can be no assurance that it will avoid significant liability exposure. A product liability claim could have a material adverse effect on the Company's business, financial condition and results of operations.

Management experience and dependence on key personnel and employees

The Company's success is currently largely dependent on the performance of the Company's directors and officers. The experience of these individuals is a factor which will contribute to the Company's continued success and growth. The Company will initially be relying on its board members and executive officers, as well as independent consultants and advisors, for most aspects of its business. The amount of time and expertise expended on the Company's affairs by each of the Company's management team and the Company's directors will vary according to the Company's needs. The loss of any of these individuals could have a material detrimental impact on the Company's business. The Company does not intend to acquire any key man insurance policies and there is, therefore, a risk that the death or departure of any key member of management, a director, or employee or consultant, could have a material adverse effect on the Company's business, operations and financial condition. Investors who are not prepared to rely on the Company's management team should not invest in the Company's securities. The management of the Company has limited history of past performance in managing a software and AI company, and the past performances of management in other positions are no indication of their ability to successfully manage the Company. If the experience of management is inadequate or unsuitable to manage the Company, the operations of the Company may be adversely affected.

Competition

The Company will face competition from other companies, some of which can be expected to have longer operating histories and more financial resources and experience than the Company. Increased competition by larger and better financed competitors could materially and adversely affect the business, financial condition and results of operations of the Company. There are other entities investing in the AI technology space and the Company expects this sector to grow. These companies may have an advantage and may have developed a more efficient operational or investment model. The Company may not have sufficient resources to continue on a competitive basis which could materially and adversely affect the business, financial condition and results of operations of the Company. To remain competitive, the Company will continue to invest in software development. Should competitors introduce new services/software embodying new technologies, the Company's technology may become obsolete and require substantial resources to compete successfully in the market for software and technology services.

Exchange Rate

The reporting and functional currency of the Company is the Canadian Dollar. A significant portion of the Company's anticipated future revenues and expenses may be in foreign currencies, such as the United States Dollar or the Euro. Future fluctuations in the value of the Canadian Dollar relative to these currencies will likely have a material impact on the Company's overall financial results. Appreciation of the Canadian dollar will potentially affect revenues and expenses.

Conflicts of interest

Certain of the Company's directors and officers are, and may continue to be, involved in the AI industry through their direct and indirect participation in corporations, partnerships or joint ventures which are potential competitors of the Company. Situations may arise in connection with potential acquisitions or opportunities where the other interests of these directors and officers may conflict with the Company's interests. Directors and officers of the Company with conflicts of interest will be subject to and must follow the procedures set out in applicable corporate and securities legislation, regulations, rules and policies.

Employee recruitment

Recruiting and retaining qualified personnel is critical to the success of the Company. The number of persons skilled in software development (and AI in particular) and marketing is limited and competition for such persons is intense. As the Company's business activity grows, the Company will require additional key executive, technical, operational, and administrative personnel. There can be no assurance that the Company will be successful in attracting, training and retaining qualified personnel. If the Company is not successful in attracting and training qualified personnel, the efficiency of its operations could be affected, which could have a material adverse effect on the Company's results of operations and profitability.

Uninsured or uninsurable risks

The Company insures its operations in accordance with technology industry practice. However, given the novelty of the proposed business, such insurance may not be available, uneconomical for the Company, or the nature or level may be insufficient to provide adequate insurance cover. The Company may become subject to liability for hazards against which the Company cannot insure or against which the Company may elect not to insure because of high premium costs or for other reasons. The payment of any such liabilities would reduce or eliminate the funds available for operations. Payments of liabilities for which the Company does not carry insurance may have a material adverse effect on the Company's results of operations and financial position.

Litigation

The Company may become party to litigation from time to time in the ordinary course of business which could adversely affect its business. Should any litigation in which the Company becomes involved be determined against the Company such a decision could adversely affect the Company's ability to continue operating and the market price for the common shares and could use significant resources. Even if the Company is involved in litigation and wins, litigation can redirect significant resources. Litigation may also create a negative perception of the Company's brand.

MINERVA INTELLIGENCE

TERRA
MINING AI SUITE
BY MINERVA INTELLIGENCE

LEO **TARGET** **SOLACE** **DRIVER**

GAIA
CLIMATE RISK AI
BY MINERVA INTELLIGENCE

GAIA AVALANCHE **GAIA LANDSLIDE** **GAIA WILDFIRE** **GAIA FLOOD**

CROSS
INDUSTRY

SOLACE **KNOWLEDGE CAPTURE** **REASONER** **ACE**