



**Management's Discussion
and Analysis
For the Three and Nine Months Ended September 30, 2024**



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**MANAGEMENT’S DISCUSSION AND ANALYSIS
FOR THE NINE MONTHS ENDED SEPTEMBER 30, 2024**

The following discussion and analysis of the operations, results, and financial position of POET Technologies Inc., (the “Company” or “POET”) for the nine months ended September 30, 2024 (the “Period”) should be read in conjunction with the Company’s audited consolidated financial statements for the year ended December 31, 2023 and the related notes thereto, both of which were prepared in accordance with International Financial Reporting Standards (“IFRS”). The effective date of this report is November 14, 2024. All financial figures are in United States dollars (“USD”, “\$” or “US\$”) unless otherwise indicated. The abbreviation “U.S.” used throughout refers to the United States of America.

Forward-Looking Statements

This management discussion and analysis contains forward-looking statements that involve risks and uncertainties. It uses words such as “may”, “would”, “could”, “will”, “likely”, “expect”, “anticipate”, “believe”, “intend”, “plan”, “forecast”, “project”, “estimate”, and other similar expressions to identify forward-looking statements. Forward-looking statements are subject to a variety of risks and uncertainties which could cause actual events or results to differ from those reflected in the forward-looking statements, including, without limitation, risks and uncertainties relating to the early stage of the Company’s development and the possibility that future development of the Company’s technology and business will not be consistent with management’s expectations, the anticipated development and production for the Company’s projects and products and the result of such research and development, the failure to meet the timelines the Company expects in respect of its product development and manufacturing objectives (if at all), the anticipated capital and operating costs associated to achieve the Company’s objectives and milestones, the inherent uncertainty of cost estimates, the ability to control costs and risks relating to cost overruns and unexpected costs, the ability of the Company to successfully commercialize its products and difficulties in achieving commercial production or interruptions in such production if achieved, risks relating to capital markets and the ability of the Company to fund its operations on terms acceptable to it (if at all), the uncertainty of profitability and cessation of business (including for failure to obtain adequate or timely funding or due to other factors), actual results of engineering and product development being different than anticipated, competition from others, market factors, including future demand for and prices of the Company’s products, inherent risks of managing design and development operations in multiple countries, risks associated with supplier and sub-contractor delays and other operating uncertainties, and the general risks of the semiconductor and photonics markets, among other factors. The Company undertakes no obligation to update forward-looking statements if circumstances or Management’s estimates or opinions should change, except to the extent required by law. The reader is cautioned not to place undue reliance on forward-looking statements. For more information on the Company and the risks and challenges of its business, investors should review the Company’s continuous disclosure documents that are available electronically on SEDAR+ at www.sedarplus.ca and EDGAR at www.sec.gov under the Company’s profile.

Joint Venture with Xiamen Sanan Integrated Circuit Co. Ltd.

On October 21, 2020, the Company signed a Joint Venture Agreement (“JVA”) establishing a joint venture company, Super Photonics Xiamen Co., Ltd (“SPX”) with Xiamen Sanan Integrated Circuit Co. Ltd. (“Sanan IC”) whose purpose is to design, develop, manufacture and sell 100G, 200G and 400G optical engines based on POET’s proprietary Optical Interposer platform technology.

SPX’S capitalization will consist of a combination of committed cash, capital equipment and intellectual property from Sanan IC and intellectual property and know-how from POET, with a combined estimated value of approximately US\$50M. Capitalization is on-going and has not yet been completed. POET’s contribution of certain intellectual property and know-how was valued by an independent appraiser at \$22.5M. Sanan IC will contribute cash of approximately \$25M for capital equipment and operating expenses, with the expectation that the eventual ownership of the JV will be approximately 52% Sanan IC and 48% POET. SPX is an independent company and is operated as a true joint venture, so its financial results are not consolidated into POET’s but are reported as a gain in the value of the contribution to the JV and a gain or loss in the Company’s percentage ownership of the JV.

Sanan IC is a world-class wafer foundry service company with an advanced compound semiconductor technology platform, serving the optical, RF microelectronics and power electronics markets. Sanan IC is a wholly owned subsidiary of Sanan Optoelectronics Co., Ltd. (Shanghai Stock Exchange, SSE: 600703), the leading manufacturer of advanced ultra-high brightness LED epitaxial wafers and chips in the world.

Significant progress on SPX included the registration of SPX, appointment of the board of directors and key personnel, hiring of 45 employees, completion of 5,000 square feet of temporary facilities, ordering of key capital equipment for installation and qualification and outflow of approximately US\$7 million from Sanan IC to cover initial operating and capital expenditures to be contributed to the JV.

While each joint venturer has appointed one member to the Board of Directors of SPX, the company has its own governance and management structure and is operated under the laws of the Peoples Republic of China.

The Company has recognized a gain of \$5,366,294 related to its contribution of intellectual property to SPX in accordance with IAS 28. The Company only recognizes a gain on the contribution of the intellectual property equivalent to the Sanan IC’s interest in SPX, the unrecognized gain of \$17,133,706 will be applied against the investment and periodically realized as the Company’s ownership interest in SPX is reduced. As at September 30, 2024, Sanan IC’s and the Company’s ownership interests were approximately 24.8% and 75.2% respectively. At December 31, 2023 and September 30, 2024, the Company's investment in SPX was carried at nil because the losses in SPX exceeded the carrying value of the investment.

Summarized financial information of the joint venture is as follows:

	September 30, 2024	December 31, 2023
Current assets	\$ 390,126	\$ 1,758,587
Intangible assets	14,817,957	16,155,786
Liabilities	(345,362)	(149,306)
Owners Equity	(14,862,721)	(17,765,067)
<hr/>		
Net loss for the nine months ended September 30, 2024	\$ 2,847,097	\$ 2,914,956

BUSINESS

Overview

The Company is incorporated under the laws of the Province of Ontario. The Company's shares trade under the symbol "POET" on the Nasdaq in the U.S and under the symbol "PTK" on the TSX Venture Exchange in Canada. POET Technologies is a design and development company offering photonic integrated packaging solutions based on the POET Optical Interposer™, a novel platform that allows the seamless integration of electronic and photonic devices onto a single chip using advanced wafer-level semiconductor manufacturing techniques. The semiconductor industry has adopted the term "Wafer-Level Chip-Scale Packaging" (or "WLCSP") to describe similar approaches within the semiconductor industry. POET's Optical Interposer eliminates costly components and labor-intensive assembly, alignment, and testing methods employed in conventional photonics. We believe the cost-efficient integration scheme and scalability of the POET Optical Interposer brings value to devices or systems that integrate electronics and photonics, including high-growth areas of communications and computing. The emergence of Artificial Intelligence (AI) systems over the past year has placed extraordinary demands on cloud-based AI service providers and hyperscale data centers for increases in network speeds and bandwidth. We believe that chip-scale integration is essential to developing hardware that can meet such demands and that POET is on the forefront of providing scalable solutions for current and future AI systems.

POET targeted as the first application of the Optical Interposer the development of optical engines for optical transceivers used in internet-based data centers. Optical Engines include all the passive and active components related to the production, manipulation, and detection of light within an Optical Transceiver. Optical Transceivers plug into switches and servers within the data center and allow these network devices to send and receive data over fiber-optic cables. We chose this market because it is large in size, has established standards for device performance, and the unit volumes of devices shipped annually are exceptionally high. It is a market in which our advantages of cost, power consumption and ability to scale rapidly allow us to be competitive with other suppliers.

The rapid growth of AI software systems represents a profound opportunity for POET. We believe that the rapid growth of software services can only be sustained with hardware that meets the challenges of increasing speed and bandwidth, lower power consumption, lower cost, and the ability to scale to the volumes that will be required by data centers globally. POET meets these challenges in two ways: first, by providing to the market integrated, chip-scale Optical Engines that perform at the levels that are now being deployed in the most advanced AI clusters at speeds of 800Gbs (gigabits per second); and second, by offering what we believe is currently the only viable path to increasing the speeds and bandwidth of Optical Transceivers to 1.6Tbs (terabits per second) and 3.2Tbs in industry-standard pluggable form factors. In addition, we have used our Optical Interposer technology to develop Light Source products that address newly emerging architectures in data centers that are based on chip-to-chip data transfer using light, rather than electrons, which resolves speed, bandwidth, heat-generation and cost issues at a fundamental level. The combination of POET's focus on leading-edge Optical Transceivers and Light Source products for next generation data center architectures essentially places POET among a small number of suppliers globally that are truly "pure play" AI hardware companies.

Research & Development

Beginning in 2017, POET began designing lasers for data communications applications and directed DenseLight Semiconductors, Pte. Ltd., a former subsidiary of the Company, to build such lasers to be compatible with the Optical Interposer platform. In 2019, the Company decided to adopt a “fab light” strategy, common among semiconductor companies, and divested its fabrication operations through the sale of DenseLight in November of that year. From 2018 - 2020, virtually all the R&D spending in the Company was dedicated to design & development of the Optical Interposer as a versatile platform technology, replete with features that enhance its utility across a variety of application spaces.

During the second half of 2021, the Company transitioned to product development by investing more than \$2 million in the design & development of 100G and 200G optical engines in several configurations, including customized designs for specific customers and applications. Samples of optical engines at various stages of development were made available and delivered to customers in 2022 for initial evaluation and in 2023 for design and customer qualification. SPX is forecasted to produce Optical Engines for several customers in 2024. POET’s effort in lower speed Optical Engine design and production was intended primarily as a way for POET to demonstrate the viability and market acceptance of its unique approach to integration and fabrication and to establish an initial presence in the market. However, the Company’s primary strategy is to offer Optical Engines at the highest speeds at which customers are deploying Optical Transceivers. In 2024, we expect that we will be primarily in 800G, and heavily focused on those hyperscale data centers actively implementing AI services. Consistent with this strategy, the Company has invested approximately \$20 million in design, development and engineering programs related to its 400G transmit chiplets (combined in multiples of 400G to achieve 800G, 1.6T and 3.2T speeds), in 800G transmit and receive optical engines, in light source products and fabrication techniques.

The Company designed, tested and sampled a first generation of its 400G transmit (Tx) engine in late 2023 and early 2024, and its 800G receive (Rx) engine with various customers. The 800G Rx engine was well received, fully qualified and has been incorporated in the optical transceiver modules of several customers this year. The Company is expected to sample its second generation of 400G Tx engines this year, including versions that will enable the production of 800G, 1.6T and 3.2T optical engine chipsets. So long as the Company provides Optical Engines to optical transceiver module customers, there will always be customer centric adjustments to these products to fit their specific needs. The cost to make these adjustments will vary depending on the customer requirements.

The Company is expected to invest an additional \$9.4 million in 2024 in ongoing development of its 800G and 1.6T optical engine chipsets and light sources for artificial intelligence. The Company is also committed to the development and sale of POET optical transceiver modules for niche markets later this year and into 2025, representing a critical next phase of its growth plan.

Target Markets

Data Center AI Market

To support the substantial increase in bandwidth consumption, internet data center operators are increasing the scale of their internet data centers and deploying infrastructure capable of higher data transmission rates. At the present time, much of the industry is moving from 100G to 400G and higher. With the growth of AI networks,

interest in acquiring 800G capable optical transceivers has literally skyrocketed. LightCounting estimates¹ that AI services will add \$17 billion in revenue over the next five years to the existing nearly \$5 billion in annual shipments of ethernet transceivers in 2022. As transceiver speeds have increased the cost and complexity of assembling optical modules has also increased, few module makers have the ability to achieve economies of scale with conventional, non-semiconductor-based approaches. We believe that products incorporating the Company's unique technology will enable POET to capture a significant share of this large market, especially at the cutting edge of higher speeds, particularly as AI-driven data centers increasingly deploy 800G optical transceivers and are actively looking for 1.6T and eventually 3.2T capabilities.

Light Source Markets

There are numerous established companies and start-ups addressing the need to lower power consumption and increase the efficiency of the GPUs and memory devices typically used in AI systems. To date, these bandwidth and efficiency issues have been addressed by increasing the capabilities and protocols at which electronic data network systems operate. To achieve lower power, several device makers are beginning to design systems to utilize light, instead of electrons to either perform certain computations, or to manage data traveling in and out of the processor and memory chips. Using light offers significant advantages of speed and lower heat generation than comparable electronic-only devices. There are currently no reliable sources that the Company has been able to find that estimate the current or future size of this market. However, we expect that when the hardware is fully developed and the market emerges, it is bound to be very large, and could eclipse the market for optical transceivers.

In Q3 2022, PitchBook² estimated the total market for AI chips to be approximately \$23B growing to almost \$55B by 2025. In an earlier report on the same subject, Pitchbook acknowledged the long-term potential for deployment of photonic processors as replacements for GPUs in data centers, but did not estimate the current or future market size for such chips. Celestial AI, a customer of POET, reported in its announcement of its Series A funding in February 2022 that its accelerator products serve an addressable market that is projected by Omdia to exceed \$70B in 2025³. POET estimates that light source components of the AI chip market will range between 1% and 5% of the light-based portion of the AI chip market.

Other Potential Photonics Markets

Other markets for POET's integrated photonics solutions include 5G interconnect markets, such as PON and GPON, edge computing for machine-to-machine communications, and selected sensing markets, including LIDAR, Optical Coherence Tomography for medical devices, and certain consumer products, such as virtual reality systems.

Manufacturing

¹LightCounting. "July 2023 Mega Data Center Optics Market Report", July 2023 and "LightCounting Quarterly Market Update September 2023."

² PitchBook Data Inc., "Emerging Tech Research" and "Q1 and Q3 2022 Artificial Intelligence & Machine Learning Reports", Brendan Burke, Senior Analyst.

³ "Celestial AI Raises \$56 Million Series A to Disrupt the Artificial Intelligence Chipset Industry with Novel Photonic-Electronic Technology Platform", February 4, 2022, Businesswire.

To address the challenge of producing devices in the large quantities that are needed by customers in the high-volume data communications industry, POET entered into an agreement in late 2020 with Xiamen Sanan Integrated Circuit Co. Ltd. (“Sanan IC”), a subsidiary of Sanan Optoelectronics Xiamen Co. Ltd. to form a joint venture to assemble, test and sell POET-designed optical engines in high volumes. Sanan is the world’s largest manufacturer of compound semiconductor devices, producing over 25 million eight-inch wafers per year across a variety of substrate types and applications. The objective of the joint venture company, which is named “Super Photonics Xiamen” (“SPX”) is to assemble, test and sell optical engines based on the POET Optical Interposer, along with devices procured from various suppliers, including Sanan IC, into finished products. Except for specific customers as agreed between the parties, optical engines for 100G and 200G applications will be sold exclusively world-wide by SPX. 400G optical engines will be sold by SPX in the China territory while the Company will sell 400G and 800G optical engines to customers in the United States, Europe and elsewhere outside the China territory. Volume production of optical engines designed for specific customers with high volumes is expected to ramp in 2025.

Our Strategy

Our vision for the Company is to become a global leader in chip-scale photonic solutions by deploying products based on our Optical Interposer technology, optical engine designs and optical modules over a broad range of vertical market applications. Our Mission for the Company is to establish an industry leadership position based on the full “semiconductorization” of the photonics industry, producing validated, disruptive, IP protected products globally.

The following is our strategy to achieve our vision and mission for the Company:

- ***Support Super Photonics Xiamen (SPX), a joint venture between POET and Sanan IC, as an independent company to drive growth in optical transceivers and deliver maximum cash flow to partners.*** POET’s designs for Optical Engines are assembled by SPX into samples that customers can test and are designed-in to modules supplied to end-users, such as network equipment companies and data center operators. POET’s shortest path to commercial success is the deployment of its Optical Engines that are designed into the optical modules of its customers. This activity provides validation for the technical feasibility, market acceptance and scalability of POET’s Optical Engines. SPX has matured to the point where it can provide design support and deliver samples and production devices in China, where virtually all optical transceiver module manufacturers are located. As SPX builds a revenue base it becomes an asset for generating cash in the form of dividends or becomes a potential source of non-equity capital for POET to support its own growth
- ***Engage with industry leaders and incumbents.*** We will continue to promote the potential of the Optical Interposer and POET-designed Optical Engines to solve critical challenges with current approaches to data transfer in data center and telecom applications, especially to those hyperscale data centers implementing large-scale AI applications. We believe that the size, performance and design flexibility of POET’s chip-scale approach to integration and to the rapid introduction of successive product generations is an enabling technology that will allow POET to enter markets where relatively few competitors will have the requisite technology to succeed.
- ***Transition to making Optical Transceiver Modules for direct sales to end-users.*** In addition to adding features to the Optical Interposer, we have added essential electronic components, such as Trans Impedance Amplifiers (TIAs) and laser drivers to the interposer platform, which improves performance and lowers the

cost of module assembly. We intend to add the necessary capabilities for design and development optical transceiver modules, either through internal development or in collaboration with other companies. Being most familiar with the unique capabilities of our technology, we believe that we are in a position to rapidly extend our expertise to complete optical modules. Doing so has the advantage of avoiding a lengthy sales and qualification cycle (i.e., selling to module makers who then sell to end users) and being able to sell directly to end users, showcasing our own branded products to network equipment suppliers and data center operators. However, so as not to compete with our optical module customers, our current plan is to sell our optical modules, once developed, into niche rather than mainstream applications.

- ***Establish additional fabrication and sales operations for advanced, high-speed transceiver modules and light source products.*** Internally, we refer to this our “China plus One” strategy, which is partially dictated by the current international political climate. We developed our advanced light source products as modules and packaged products that we will sell directly to end-users, which requires additional fabrication, assembly, marketing and sales operations. In addition, some customers in the AI space outside of China are demanding that key components be sourced outside of China. Finally, we expect that as we approach other vertical market applications outside of optical transceivers and packaged light sources, our strategy may need to adapt to include different types of partnerships for fabrication, distribution and sales than what was established for optical engines and transceivers.
- ***Pursue complementary strategic alliance or acquisition opportunities for inorganic growth.*** We intend to evaluate and selectively pursue strategic alliances or acquisition opportunities for growth and vertical integration that we believe will accelerate our penetration of specific applications or vertical markets with our technology or products.
- ***Explore technology licensing opportunities for growth in non-target sectors.*** It is not possible for the Company to pursue all potential applications for the POET Optical Interposer. We will carefully consider opportunities to license our technology to others when and if appropriate.

Our Products

POET Optical Engine Products currently include the following:

- 100G LR4 Tx and Rx
- 200G FR4 Tx and Rx
- 400G/800G FR4 Rx with integrated TIA
- 400G/800G FR4 Tx with integrated Driver
- 1.6T 4xFR4 Rx with integrated TIA
- 200G/Lane Tx & Rx for 1.6T and 3.2T chipsets
- LightBar: C-Band External Light Source
- LightBar: O-Band External Light Source

Intellectual Property

We have 72 issued patents and 27 patent applications pending, including three provisional patent applications. Of the 72 issued patents, 33 are directly related to the Optical Interposer and include fundamental design and process patents. All 27 applications pending are Optical Interposer-related. Multiple

additional applications are in various stages of preparation. The patents cover device structures, underlying technology related to the Optical Interposer, applications of the technology, and fabrication processes. We intend to continue to apply for additional patents in the future. We believe these patents provide a significant barrier to entry against competition along with company trade secrets and know-how. Currently, we are working on the design of integrated devices, manufacturing processes, assembly and packaging processes, and products for data communication applications in the data center market.

MD&A Highlights

Net loss for the nine months ended September 30, 2024 was \$26,436,584. The net loss included \$7,318,907 incurred for research and development activities directly related to the development and commercialization of the POET Optical Interposer and POET Optical Engine products. Research and development included non-cash costs of \$1,513,532 related to stock-based compensation. \$11,316,389 was incurred for selling, marketing and administration expenses which included non-cash costs of \$2,550,842 related to stock-based compensation and \$1,544,914 related to depreciation and amortization.

The Company incurred \$71.068 in interest costs, of which \$58,438 was non-cash. Additionally, non-cash costs of \$8,186,421 was incurred as fair value adjustment to derivative warrant liability.

The Company's statement of financial position as of September 30, 2024 reflects assets with a book value of \$50,514,105 compared to \$8,777,417 as of December 31, 2023. Eighty-six (86%) of the book value at September 30, 2024 was in current assets consisting primarily of cash and cash equivalents of \$41,782,899 compared to thirty-six (36%) of the book value as of December 31, 2023, which consisted primarily of cash and cash equivalents of \$3,019,069.

Significant Events and Milestones for the Six Months Ended September 30, 2024

We achieved the following significant milestones during the nine months ended September 30, 2024:

- 1) On January 3, 2024, the Company announced that Shaoxing ZKTel Equipment Co. ("ZKTel"), which supplies optical computer equipment such as modules and transceivers to Tier 1 companies in China's datacom and mobile networking industries, is one of the lead customers for POET's 100G optical engines.
- 2) On January 24, 2024, the Company announced the completion of a non-brokered private placement of 5,098,088 units of the Company at a price of \$1.22 (US\$0.90) per Unit for aggregate gross proceeds of approximately C\$6.2 million (US\$4.6 million). Each Unit is comprised of one common share and one common share purchase warrant, with each warrant entitling the holder thereof to purchase one additional common share of the Company at a price of C\$1.52 (US\$1.12) per warrant for a period of five years following the date of issuance of such warrant. Certain officers, employees and directors of the Company subscribed for an aggregate of 459,522 Units of the private placement for gross proceeds of approximately C\$560,617 (US\$415,272).
- 3) On March 21, 2024, the Company announced it will expand on its leadership role in deploying next-generation silicon photonics products when it features live demonstrations of new modules and optical engines during the 2024 Optical Fiber Communications (OFC) Conference Exhibition to be held in San Diego, California from March 26 – 28, 2024. The Company demonstrated:
 - 800G 2xFR4 OSFP Module with integrated POET Optical Engines.
 - POET Starlight: An 8-channel packaged light source for C-Band and O-Band wavelengths for chip-to-chip AI applications and co-packaged optics for the data center market.

- 200G/lane Optical Engines: OFC attendees got a first look at POET's groundbreaking 200G/lane transmitter and receiver engines, fundamental building blocks for enabling pluggable transceivers at 1.6T and 3.2T data rates.
 - EML-based 100G/lane Transmit Optical Engine with integrated driver: The latest version of POET's Infinity chiplet incorporates externally modulated lasers (EMLs) and EML drivers that offer a highly integrated transmit solution with superior performance and at a lower cost for 400G and 800G FR4 applications.
- 4) On March 26, 2024, the Company announced its first entry into the optical module market for artificial intelligence and cloud data center markets with an 800G pluggable transceiver. The *Wavelight™* is an 800G 2xFR4 OSFP module that incorporates the Company's POET Optical Interposer technology and related optical engine products.
 - 5) On March 27, 2024, the Company announced a collaboration with MultiLane Inc., a leading provider of high-speed IO and data center interconnect test solutions, to develop next-generation, performance-optimized pluggable 800G, 1.6T and higher speed transceivers using POET's newly designed transmit and receive optical engines.
 - 6) On May 3, 2024, the Company announced the closing of a non-brokered private placement offering which was taken up entirely by a single institutional investor of CAD\$10 million. The Company issued 3,258,390 units at a price CA\$3.069 (US\$2.24). Each unit consisted of one common share of the Company and one common share purchase warrant to purchase up to 3,258,390 common shares for a period of five (5) years from the date of closing at a price of CA\$4.26 per share.
 - 7) On May 10, 2024, the Company announced the closing of a non-brokered private placement offering which was taken up entirely by two institutional investors of CAD\$10 million. The Company issued 3,448,275 units at a price CA\$2.90 (US\$2.12). Each unit consisted of one common share of the Company and one common share purchase warrant to purchase up to 3,448,275 common shares for a period of five (5) years from the date of closing at a price of CA\$4.26 per share.
 - 8) On May 14, 2024, the Company announced that Foxconn Interconnect Technology ("FIT"), a market leader of interconnect solutions for communication infrastructure and several other large, high-growth markets, has selected POET's optical engines, which are silicon photonics integrated circuits (Silicon PIC), for its 800G and 1.6T optical transceiver modules.
 - 9) On June 26, 2024, the Company announced that it has been selected as winner of the "**Best Optical AI Solution**" award in the seventh annual AI Breakthrough Awards program conducted by [AI Breakthrough](#), a leading market intelligence organization that recognizes the top companies, technologies and products in the global Artificial Intelligence (AI) market today.
 - 10) On July 19, 2024, the Company announced that it completed a registered direct offering with a single institutional investor pursuant to which the Company issued 3,333,334 common shares and 3,333,334 warrants exercisable to acquire 3,333,334 common shares for aggregate gross proceeds of US\$10,000,000. The combined price of one common share and accompanying warrant in respect of one common share was US\$3.00 (or approximately C\$4.09). Each warrant is exercisable to acquire one common share at an exercise price of US\$4.00 (or approximately C\$5.45) per common share for a period of five years from the date of issuance.
 - 11) On August 1, 2024, the Company announced that it has expanded its partnership with Luxshare Technology Co. Ltd. ("Luxshare Tech") to provide more optical module products targeted at AI network equipment and AI service providers. Luxshare Tech is a global leader in providing technology for data-communication facilities and enterprise-level products for some of the largest companies in the world.
 - 12) On September 10, 2024, the Company announced that Mentech Technology ("Mentech") has selected

POET’s transmit and receive optical engines for use in the development of 800G pluggable transceiver and has placed purchase orders for those engines. The sample orders by Mentech are for initial builds and engineering development.

- 13) On September 19, 2024, the Company announced it has entered into a collaboration with Mitsubishi Electric Corporation (“Mitsubishi Electric”) to co-develop integrated optical engine chipsets for 3.2T pluggable transceivers, a highly sought-after product for optical connectivity in the rapidly growing artificial intelligence networking market. POET and Mitsubishi Electric will jointly support product demonstrations with major customers.
- 14) On September 25, 2024, the Company announced that it completed a registered direct offering with a single institutional investor pursuant to which the Company issued 4,000,000 common shares and 2,000,000 warrants exercisable to acquire 2,000,000 common shares for aggregate gross proceeds of US\$15,000,000. The combined price of one common share and accompanying warrant in respect of one common share was US\$3.75 (or approximately C\$5.09). Each warrant is exercisable to acquire one common share at an exercise price of US\$5.00 (or approximately C\$6.78) per common share for a period of five years from the date of issuance.
- 15) On October 1, 2024, the Company announced that it was recognized as the “AI Innovator of the Year” in the Technology category of the prestigious 2024 Merit Awards. The Gold Prize adds to the Company’s recent accolades, which include recognition by the 2024 AI Breakthrough Awards honor for “Best Optical AI Solution”.
- 16) On October 16, 2024, the Company announced that it was named the winner of the “Best in Artificial Intelligence” category at the prestigious 2024 Global Tech Awards, announced on October 14. The honor is the third top prize the Company has received in 2024, following recognition by the AI Breakthrough Awards for “Best Optical AI Solution” and the Gold Prize for “AI Innovator of the Year” from the Merit Awards.

Anticipated Key Milestones for 2024

The following sets out the key milestones, estimated timing and costs of product development on the Company’s main projects in 2024, based on the Company’s reasonable expectations and intended courses of action and current assumptions and judgement. The Company’s main objective is to advance the below products to its next milestone and the successful development and roll out of these key products and projects in 2024.

Key Milestones	Stage	Timing	Expected Expenditures
Research & Development Programs:			
Module Development	Development	Q1 – Q2 2024	\$1,500,000
	Prototype	Q3 – Q4 2024	\$1,500,000
	Production	Q1 2025	\$2,000,000
	Total		\$5,000,000
Light Sources for Artificial Intelligence	Prototypes	Q1 2024 – Q1 2025	\$800,000
	Total		\$800,000
800G Tx	Development	Q1 – Q3 2024	\$2,000,000
	Prototypes	Q4 2024	\$1,600,000
	Total		\$3,600,000
Total Research & Development:			\$9,400,000

Readers are cautioned that the above represents the opinions, assumptions and estimates of management considered reasonable at the date the statements are made, and are inherently subject to a variety of risks and uncertainties and other known and unknown factors that could cause actual events, achieved milestones or results and product development to differ materially from those described above.

Selected Annual Information

The following financial data has been derived from the Company's audited consolidated financial statements prepared in accordance with IFRS for the years ended December 31, 2023, 2022 and 2021:

	Year ended		
	December 31, 2023	December 31, 2022	December 31, 2021
Total Revenue	\$465,777	\$552,748	\$209,100
Operating Loss	\$20,407,308	\$19,710,226	\$17,011,556
Net Loss	\$20,267,365	\$21,036,690	\$15,669,093
Net Loss per Share (Basic and Diluted)	\$0.51	\$0.57	\$0.45
Total Assets	\$8,777,417	\$15,390,453	\$27,153,977
Total Non-Current Financial Liabilities	\$ -	\$ -	\$ -
Total Liabilities	\$3,846,001	\$3,945,405	\$2,182,230

Summary of Quarterly Results

Following are the highlights of financial data of the Company for the most recently completed eight quarters, which have been derived from the Company's consolidated financial statements prepared in accordance with IFRS:

	<u>Sep 30/24</u>	<u>Jun 30/24</u>	<u>Mar 31/24</u>	<u>Dec 31/23</u>	<u>Sep 30/23</u>	<u>Jun 30/23</u>	<u>Mar 31/23</u>	<u>Dec 31/22</u>
Revenue	\$ 3,685	\$ -	\$ 8,710	\$ 107,551	\$ -	\$ 177,390	\$ 180,836	\$ 199,559
Research and development	1,765,481	2,117,828	1,922,066	2,142,003	2,043,264	2,036,953	2,316,475	2,745,886
Depreciation and amortization	525,955	509,699	509,260	505,869	508,484	462,743	445,044	341,017
Professional fees	480,871	366,839	409,726	902,368	273,905	255,094	313,404	430,668
Wages and benefits	667,963	780,146	768,496	676,539	640,241	655,066	677,924	665,682
Impact of joint venture	-	-	-	-	-	-	-	405,471
Stock-based compensation ⁽¹⁾	1,525,131	1,591,741	947,502	1,050,088	1,251,648	697,690	1,202,018	1,588,706
General expense, rent and facility	1,784,840	1,390,933	570,819	317,333	429,457	502,707	566,768	359,062
Interest expense	30,482	20,833	19,753	13,547	34,890	11,214	10,531	11,610
Derivative liability adjustment	6,179,836	1,376,761	629,824	24,865	-	-	-	-
Other (income), including interest	<u>(216,337)</u>	<u>(174,911)</u>	<u>(52,558)</u>	<u>(54,047)</u>	<u>(45,448)</u>	<u>(57,454)</u>	<u>(78,041)</u>	<u>(68,592)</u>
Net loss, before taxes	<u>\$12,740,537</u>	<u>\$7,979,869</u>	<u>\$5,716,178</u>	<u>\$ 5,471,014</u>	<u>\$ 5,136,441</u>	<u>\$ 4,386,623</u>	<u>\$ 5,273,287</u>	<u>\$ 6,279,951</u>
Net loss per share	<u>\$ (0.14)</u>	<u>\$ (0.14)</u>	<u>\$ (0.13)</u>	<u>\$ (0.13)</u>	<u>\$ (0.13)</u>	<u>\$ (0.11)</u>	<u>\$ (0.14)</u>	<u>\$ (0.17)</u>

- (1) Stock based compensation allocated between General & Administrative and Research & Development issuances are combined for MD&A purposes. For financial statement presentation purposes, stock-based compensation is split between *General & Administrative* and *Research & Development*.

Explanation of Quarterly Results for the three months ended September 30, 2024 (“Q3 2024”) compared to the same three-month period in the prior year (“Q3 2023”)

Net loss for Q3 2024 was \$12,740,537 compared to a net loss of \$5,136,441 in Q3 2023, an increase of \$7,604,096 (148%). The following discusses the significant variances between Q3 2024 and Q3 2023.

R&D decreased by \$277,783 (14%) to \$1,765,481 in Q3 2024 from \$2,043,264 in Q3 2023. R&D for a Company at this stage of development will vary from period to period based on the development cycle and the immediate product development needs of the Company.

Professional fees increased by \$206,966 (76%) to \$480,871 in Q3 2024 from \$273,905 in Q3 2023. During Q3 2024, the Company incurred professional fees related various finance related projects including the preparation and filing of various registration statements.

Non-cash stock-based compensation increased by \$273,483 (22%) to \$1,525,131 in Q3 2024 from \$1,251,648 in Q3 2023. The valuation of stock options is driven by a number of factors including the number of options granted, the strike price and the volatility of the Company’s stock. The stock option expense is dependent on the timing of the stock option grant and the amortization of the options as they vest. The stock options vest in accordance with the policies determined by the Board of Directors at the time of the grant consistent with the provisions of the Plan.

General expense and rent increased by \$1,355,383 (316%) to \$1,784,840 in Q3 2024 from \$429,457 in Q3 2023. During the period, the Company incurred \$1,319,435 of finance advisory fees paid to a firm assisting the Company on financial and strategic matters. The Company did not engage other firms for similar services in Q3 2023.

The Company issued warrants in a foreign currency in Q4 2023 and in Q3 2024. The issuance of those warrants created a derivative liability which is periodically remeasured and adjusted to reflect the fair value of the warrants. The Company had a non-cash adjustment of \$6,179,836 during Q3 2024 related to the fair value adjustment of the derivative liability on the remaining and exercised warrants. 416,000 of these warrants were exercised in Q3 2024.

Other income, including interest increased by \$170,889 (376%) to \$216,337 in Q3 2024 from \$45,448 in Q3 2023. The amounts recognized in both periods were all interest income earned on the Company’s cash reserves. The company raised significant funds during 2024.

Explanation of Results for the nine months ended September 30, 2024 (the “period”) compared to the same nine-month period in the prior year (“2023”)

Net loss for the period was \$26,436,584 compared to a net loss of \$14,796,351 in 2023, an increase of \$11,640,233 (79%). The following discusses the significant variances between the period and 2023.

Non-recurring engineering and product revenue (“NRE”) was \$12,395 in the period compared to \$358,226 in the prior period, a decrease of \$345,831 (97%). Historically the Company provided NRE services to multiple customers for unique projects that are being addressed utilizing the capabilities of the POET Optical Interposer. No billable NRE services were provided in the period. The Company only had small product revenue in the period.

Professional fees increased by \$415,033 (49%) to \$1,257,436 in the period from \$842,403 in the prior period. During the period, the Company incurred professional fees related various finance related projects. In addition, the Company changed its auditor from Marcum LLP to Davidson and Company LLP. The Company incurred charges related to the change in auditors and duplicate fees for matters that required both auditors to opine on.

Wages and benefits increased by \$243,374 (12%) to \$2,216,605 in the period from \$1,973,231 in the prior period. The increase was a result of performance and retention bonuses and salary increases paid to certain members of the team.

Non-cash stock-based compensation increased by \$913,018 (29%) to \$4,064,374 in the period from \$3,151,356 in the prior period. The valuation of stock options is driven by a number of factors including the number of options granted, the strike price and the volatility of the Company's stock. The stock option expense is dependent on the timing of the stock option grant and the amortization of the options as they vest. The stock options vest in accordance with the policies determined by the Board of Directors at the time of the grant consistent with the provisions of the Plan.

General expense and rent increased by \$2,247,660 (150%) to \$3,746,592 in the period from \$1,498,932 in the prior period. During the period, the Company incurred \$2,256,935 of finance advisory fees paid to a firm assisting the Company financial and strategic matters. The Company did not engage other firms for similar services in the prior period.

The Company issued warrants in a foreign currency in Q4 2023 and during 2024. The issuance of those warrants created a derivative liability which is periodically remeasured and adjusted to reflect the fair value of the warrants. The Company had a non-cash adjustment of \$8,186,421 during the period related to the fair value adjustment of the derivative liability on the remaining and exercised warrants. 1,336,000 of these warrants were exercised in the period.

Interest expense increased by \$14,433 (25%) to \$71,068 in the period from \$56,635 in the prior period. \$58,438 of the interest expense was non-cash.

Other income, including interest increased by \$262,863 (145%) to \$443,806 in the period from \$180,943 in the prior period. The amounts recognized in both periods were all interest income earned on the Company's cash reserves. The company raised significant funds during 2024.

Explanation of Material Variations by Quarter for the Last Eight Quarters

Q3 2024 compared to Q2 2024

Net loss increased by \$4,760,668 (60%) in Q3 2024 to \$12,740,537 from 7,979,869 in Q2 2024.

R&D decreased by \$352,347 (17%) to \$1,765,481 in Q3 2024 from \$2,117,828 in Q2 2024. R&D for a Company at this stage of development will vary from period to period based on the development cycle and the immediate product development needs of the Company.

Professional fees increased by \$114,032 (31%) to \$480,871 in Q3 2024 from \$366,839 in Q2 2024. During Q3 2024, the Company incurred professional fees related various finance related projects including the preparation and filing of various registration statements.

Wages and benefits decreased by \$112,183 (14%) to \$667,963 in Q3 2024 from \$780,146 in Q2 2024. During Q2 2024, the Company paid performance and retention bonuses to certain members of the team.

General expense and rent increased by \$393,907 (28%) to \$1,784,840 in Q3 2024 from \$1,390,933 in Q2 2024. The increase was a result of finance advisory fees paid to a firm assisting the Company on financial and strategic matters.

The Company issued warrants in a foreign currency in Q4 2023 and in Q3 2024. The issuance of those warrants created a derivative liability which is periodically remeasured and adjusted to reflect the fair value of the warrants. The non-cash adjustment increased by \$4,803,075 (349%) to \$6,179,836 in Q3 2024 from \$1,376,761 in Q2 2024. The non-cash adjustment relates to the fair value adjustment of the derivative liability on the remaining and exercised warrants. 416,000 of these warrants were exercised in Q3 2024. The Company also issued 5,333,334 warrants in Q3 2024.

Other income, including interest increased by \$41,426 (24%) to \$216,337 in Q3 2024 from \$174,911 in Q2 2024. The amounts recognized in both periods were all interest income earned on the Company's cash reserves. The company raised significant funds during 2024.

Q2 2024 compared to Q1 2024

Net loss increased by \$2,263,691 (40%) in Q2 2024 to \$7,979,869 from \$5,716,178 in Q1 2024.

R&D increased by \$195,762 (10%) to \$2,117,828 in Q2 2024 from \$1,922,066 in Q1 2024. R&D for a Company at this stage of development will vary from period to period based on the development cycle and the immediate product development needs of the Company.

Non-cash stock-based compensation increased by \$644,239 (68%) to \$1,591,741 in Q2 2024 from \$947,502 in Q1 2024. The valuation of stock options is driven by a number of factors including the number of options granted, the strike price and the volatility of the Company's stock. The stock option expense is dependent on the timing of the stock option grant and the amortization of the options as they vest. The stock options vest in accordance with the policies determined by the Board of Directors at the time of the grant consistent with the provisions of the Plan.

General expenses and rent increased by \$820,114 (144%) to \$1,390,933 in the Q2 2024 from \$570,819 in Q1 2024. During the period, the Company incurred \$937,500 of finance advisory fees paid to a firm assisting the Company financial and strategic matters. The Company did not engage other firms for similar services in the prior period.

The Company issued warrants in a foreign currency in Q4 2023. The issuance of those warrants created a derivative liability which is periodically remeasured and adjusted to reflect the fair value of the warrants. The non-cash adjustment to derivative liability increased by \$746,937 (119%) to \$1,376,761 in Q2 2024 from \$629,824 in Q1 2024. The resultant revaluation is affected by Black-Scholes value of the remaining and exercised warrants. During the quarter 854,500 warrants were exercised leaving unexercised warrants of 866,000. In Q1 2024, 65,500 warrants were exercised.

Other income, including interest increased by \$122,353 (233%) to \$174,911 in Q2 2024 from \$52,558 in Q1 2024. The amounts recognized in both periods were all interest income earned on the Company's cash reserves. Significant capital was raised in Q2 of 2024.

Q1 2024 compared to Q4 2023

Net loss increased by \$245,164 (4%) in Q1 2024 to \$5,716,178 from \$5,471,014 in Q4 2023.

Non-recurring engineering revenue and product revenue (“NRE”) was \$8,710 in Q1 2024 compared to \$107,551 in Q4 2023 a decrease of \$98,841 (92%). The Company has been providing NRE services to multiple customers for unique projects that are being addressed utilizing the capabilities of the POET Optical Interposer. No billable NRE services were provided in Q1 2024, however, the Company reported small product sales of samples to various customers.

R&D decreased by \$219,937 (10%) to \$1,922,066 in Q1 2024 from \$2,142,003 in Q4 2023. R&D for a Company at this stage of development will vary from period to period based on the development cycle and the immediate product development needs of the Company.

Professional fees decreased by \$492,642 (55%) to \$409,726 in Q1 2024 from \$902,368 in Q4 2023. During Q4 2023, the Company expensed as sunk costs certain legal and other professional fees related to unsuccessful financing arrangements that it engaged in throughout the year. Additionally, the Company incurred fees related to the preparation of regulatory documents to support the at-the-market financing program.

Non-cash stock-based compensation decreased by \$102,586 (10%) to \$947,502 in Q1 2024 from \$1,050,088 in Q4 2023. The valuation of stock options is driven by a number of factors including the number of options granted, the strike price and the volatility of the Company’s stock. The stock option expense is dependent on the timing of the stock option grant and the amortization of the options as they vest. The stock options vest in accordance with the policies determined by the Board of Directors at the time of the grant consistent with the provisions of the Plan.

Wages and benefits increased by \$91,957 (14%) to \$768,496 in Q1 2024 from \$676,539 in Q4 2023. The increase was a result of a small bonus of \$100,000 paid to certain members of the team.

General expenses and rent increased by \$253,486 (80%) to \$570,819 in the Q1 2024 from \$317,333 in Q4 2023. The increase was a result of the annual fees associated with the Company’s exchange listings, various shareholder outreach programs and costs related to the Company’s presentation at the Optical Fiber Conference.

The Company issued warrants in a foreign currency during Q4 2023. The issuance of those warrants created a non-cash derivative liability which is periodically remeasured and adjusted to reflect the fair value of the warrants. The Company had a non-cash adjustment of \$629,824 in Q1 2024 compared to \$24,865 in Q4 2023 related to the fair value adjustment of the derivative liability.

Q4 2023 compared to Q3 2023

Net loss increased by \$334,573 (7%) in Q4 2023 to \$5,471,014 from \$5,136,441 in Q3 2023.

Non-recurring engineering revenue (“NRE”) was \$107,551 in Q4 2023 compared to nil in Q3 2023. The Company has been providing NRE services to multiple customers for unique projects that are being addressed utilizing the capabilities of the POET Optical Interposer.

R&D increased by \$98,739 (5%) to \$2,142,003 in Q4 2023 from \$2,043,264 in Q3 2023. R&D for a Company at this stage of development will vary from period to period as expenses with contract manufacturers will fluctuate based on the development cycle and the immediate product development needs of the Company. The increase in Q4 2023 was a result of R&D effort to complete products and prepare for the Company’s presentation at the upcoming Optical Fiber Conference.

Professional fees increased by \$628,463 (229%) to \$902,368 in Q4 2023 from \$273,905 in Q3 2023. During Q4 2023, the Company expensed as sunk costs certain legal and other professional fees related to unsuccessful

financing arrangements that it engaged in throughout the year. Additionally, the Company incurred fees related to the preparation of regulatory documents to support the at-the-market financing program.

Non-cash stock-based compensation decreased by \$201,560 (16%) to \$1,050,088 in Q4 2023 from \$1,251,648 in Q3 2023. The valuation of stock options is driven by a number of factors including the number of options granted, the strike price and the volatility of the Company's stock. The stock option expense is dependent on the timing of the stock option grant and the amortization of the options as they vest. The stock options vest in accordance with the policies determined by the Board of Directors at the time of the grant consistent with the provisions of the Plan.

General expenses and rent decreased by \$112,124 (26%) to \$317,333 in the Q4 2023 from \$429,457 in Q3 2023. The Company reduced the services of some investor relations providers in over Q3 2023 and Q4 2023. The Company also reduced or pushed out certain discretionary expenses in an effort to manage its financial resources.

The Company issued warrants in a foreign currency during the period (Q4). The issuance of those warrants created a derivative liability which is periodically remeasured and adjusted to reflect the fair value of the warrants. The Company had a non-cash adjustment of \$24,865 during Q4 2023 related to the fair value adjustment of the derivative liability.

Q3 2023 compared to Q2 2023

Net loss increased by \$749,818 (17%) in Q3 2023 to \$5,136,441 from 4,386,623 in Q2 2023.

Non-recurring engineering revenue ("NRE") was nil in Q3 2023 compared to \$177,390 in Q2 2023. The Company has been providing NRE services to multiple customers for unique projects that are being addressed utilizing the capabilities of the POET Optical Interposer. While the Company continues to provide services to these customers, no recognizable revenue services were provided to these customers in Q3 2023. The Company expects to recognize additional revenue in the coming quarters.

Depreciation and amortization increased by \$45,741 (10%) to \$508,484 in Q3 2023 from \$462,743 in Q2 2023. With the sale of DenseLight, the Company embarked on a "fab-light" strategy with a required test facility situated in Singapore and product development facility in China. The increase in depreciation and amortization was a result of assets acquired for these new facilities.

Non-cash stock-based compensation increased by \$553,958 (79%) to \$1,251,648 in Q3 2023 from \$697,690 in Q2 2023. The valuation of stock options is driven by a number of factors including the number of options granted, the strike price and the volatility of the Company's stock. The stock option expense is dependent on the timing of the stock option grant and the amortization of the options as they vest. The stock options vest in accordance with the policies determined by the Board of Directors at the time of the grant consistent with the provisions of the Plan.

General expenses and rent decreased by \$73,250 (15%) to \$429,457 in Q3 2023 from \$502,707 in Q2 2023. The Company reduced the services of some investor relations providers in Q3 2023.

Q2 2023 compared to Q1 2023

Net loss decreased by \$886,664 (17%) in Q2 2023 to \$4,386,623 from \$5,273,287 in Q1 2023.

R&D decreased by \$279,522 (12%) to \$2,036,953 in Q2 2023 from \$2,316,475 in Q1 2023. R&D for a Company at this stage of development will vary from period to period as variable expenses with contract manufacturers will fluctuate based on the development cycle and the immediate product development needs of the Company. During Q1 2023, the Company incurred higher subcontractor and supplier costs than Q2 2023. The higher costs were incurred in order to bring new products to market. The Company released multiple new products in 2023.

Professional fees decreased by \$58,310 (19%) to \$255,094 in Q2 2023 from \$313,404 in Q1 2023. Professional fees in Q1 2023 were higher than Q2 2023 due to the professional fees incurred related to the preparation and filing of the Company's annual reports.

Non-cash stock-based compensation decreased by \$504,328 (42%) to \$697,690 in Q2 2023 from \$1,202,018 in Q1 2023. The valuation of stock options is driven by a number of factors including the number of options granted, the strike price and the volatility of the Company's stock. The stock option expense is dependent on the timing of the stock option grant and the amortization of the options as they vest. The stock options vest in accordance with the policies determined by the Board of Directors at the time of the grant consistent with the provisions of the Plan.

General expenses and rent decreased by \$64,061 (11%) to \$502,707 in Q2 2023 from \$566,768 in Q1 2023. During Q1 2023, the Company paid its annual fees associated with the Company's exchange listings along with the filing fees for its annual reports.

Q1 2023 compared to Q4 2022

Net loss decreased by \$1,006,664 (16%) in Q1 2023 to \$5,273,287 from \$6,279,951 in Q4 2022.

R&D decreased by \$429,411 (16%) to \$2,316,475 in Q1 2023 from \$2,745,886 in Q4 2022. R&D for a Company at this stage of development will vary from period to period as variable expenses with contract manufacturers will fluctuate based on the development cycle and the immediate product development needs of the Company. During Q4 2022, the Company incurred higher subcontractor costs than Q1 2023 in order to bring new products to market. The Company released multiple new products in Q1 2023.

Impact of joint venture was nil in Q1 2023 compared to a net loss of \$405,471 in Q4 2022. The impact of joint venture relates to the Company's activity related to its investment in SPX. The Company recognized its share of SPX's losses using the equity method. The Company recognized approximately 80.7% or \$405,471 of the net operating loss of SPX for Q4 2022. Although the Company's equity ownership of SPX approximated 80.7% at March 31, 2023, the Company did not recognize its share of loss in SPX in Q1 2023 because the value of its investment is carried at nil on the consolidated statements of financial position precluding further loss recognition under the standards.

Non-cash stock-based compensation decreased by \$386,688 (24%) to \$1,202,018 in Q1 2023 from \$1,588,706 in Q4 2022. The valuation of stock options is driven by a number of factors including the number of options granted, the strike price and the volatility of the Company's stock. The stock option expense is dependent on the timing of the stock option grant and the amortization of the options as they vest. The stock options vest in accordance with the policies determined by the Board of Directors at the time of the grant consistent with the provisions of the Plan.

General expenses and rent increased by \$207,706 (58%) to \$566,768 in Q1 2023 from \$359,062 in Q4 2022. The increase was a result of the annual fees associated with the Company's exchange listings, various shareholder outreach programs and costs related to the Company's presentation at the Optical Fiber Conference.

Professional fees decreased by \$117,264 (27%) to \$313,404 in Q1 2023 from \$430,668 in Q4 2022. Professional fees in Q4 2022 included accruals for auditing fees related to the 2022 Sarbanes Oxley audit of internal controls and legal fees incurred related to the amendments to certain warrants.

Depreciation and amortization increased by \$104,027 (31%) to \$445,044 in Q1 2023 from \$341,017 in Q4 2022. The increased depreciation and amortization are a result of the purchase of new equipment in 2022, some of which have been commissioned for use.

Segment Disclosure

The Company and its subsidiaries operate in a single segment; the design, manufacture and sale of semiconductor products and services for commercial applications. The Company's operating and reporting segment reflects the management reporting structure of the organization and the manner in which the chief operating decision maker regularly assesses information for decision making purposes, including the allocation of resources. A summary of the Company's operations is below:

OPEL, ODIS, POET Shenzhen and PTS

OPEL, ODIS, POET Shenzhen and PTS are the designers and developers of the POET Optical Interposer platform and optical engines based on the POET Optical Interposer platform.

BB Photonics

BB Photonics developed photonic integrated components for the datacom and telecom markets utilizing embedded dielectric technology that enabled the partial integration of active and passive devices into photonic integrated circuits. BB Photonics' operation is currently dormant.

On a consolidated basis, the Company operates geographically in Singapore, China (collectively "Asia"), the United States and Canada. Geographical information is as follows:

For the Nine Months Ended September 30,	Asia	US	Canada	Consolidated
Revenue	\$ 12,395	\$ -	\$ -	\$ 12,395
Selling, marketing and administration	(1,992,919)	(5,490,578)	(3,832,892)	(11,316,389)
Research and development	(4,230,451)	(2,957,186)	(131,270)	(7,318,907)
Interest expense	(46,211)	(24,857)	-	(71,068)
Fair value adjustment to derivative warrant liability	-	-	(8,186,421)	(8,186,421)
Other income, including interest and loan forgiveness	-	-	443,806	443,806
Net loss	\$ (6,257,186)	\$ (8,472,621)	\$ (11,706,777)	\$ (26,436,584)

2023

As of December 31,	Asia	US	Canada	Consolidated
Current assets	\$ 326,926	\$ 149,227	\$ 2,693,592	\$ 3,169,745
Property and equipment	4,089,653	533,575	-	4,623,228
Patents and licenses	-	502,055	-	502,055
Right of use assets	379,462	102,927	-	482,389
Total Assets	\$ 4,796,041	\$ 1,287,784	\$ 2,693,592	\$ 8,777,417

For the Nine Months Ended September 30, Asia	US	Canada	Consolidated	
Revenue	\$ 358,226	\$ -	\$ -	\$ 358,226
Selling, marketing and administration	(2,025,536)	(4,542,054)	(1,205,432)	(7,773,022)
Research and development	(4,646,713)	(2,739,509)	(119,641)	(7,505,863)
Interest	(20,243)	(36,392)	-	(56,635)
Share of loss in joint venture	(527,857)	-	-	(527,857)

Gain from contribution of IP to joint venture	527,857	-	-	527,857
Other income, including interest	-	-	180,943	180,943
Net loss	\$ (6,334,266)	\$ (7,317,955)	\$ (1,144,130)	\$ (14,796,351)

Liquidity and Capital Resources

The Company had working capital of \$23,603,839 on September 30, 2024 compared to a working capital deficit of \$369,115 on December 31, 2023. The Company's statement of financial position as of September 30, 2024 reflects assets with a book value of \$50,514,105 compared to \$8,777,417 as of December 31, 2023. Eighty-six percent (86%) of the book value at September 30, 2024 was in current assets consisting primarily of cash and cash equivalents of \$41,782,899 compared to thirty six percent (36%) of the book value as of December 31, 2023, which consisted primarily of cash and cash equivalents of \$3,019,069. The working capital of \$23,603,839 includes non-cash current liabilities of \$17,895,604 (2023 - \$1,002,264) related to derivative warrant liability.

During the nine months ended September 30, 2024, the Company had negative cash flows from operations of \$14,601,875. Additionally, the Company purchased property and equipment and patents and licenses of \$2,988,375. To fund its operations and investing activities during the period, the Company raised equity capital, net of issue costs of \$56,393,320. Of the capital raised, the Company has approximately \$39,000,000 remaining to be spent.

The Company intends to spend approximately \$7,200,000 in 2024 on activities directed at the development of modules and high speed optical engines. During the period, the Company spent approximately \$6,000,000 on these efforts. The Company used capital raised during the period to fund these efforts.

The Company has an approved capital budget of \$10,000,000 for 2024 related to research and development, equipment, manufacturing equipment and patent registration. As of September 30, 2024, \$2,988,000 was spent on capital equipment.

The Company has operating leases on four facilities; head office located in Toronto, Canada, design and testing operations located in Allentown, Pennsylvania (formerly in San Jose, California) and operating facilities located in Singapore and China. The lease on the Company's design and testing operations was initiated on April 1, 2021 and expires on September 30, 2025. The lease on the Company's operating facilities in Singapore terminated on May 31, 2023. The lease was renewed on June 1, 2023 and expires on March 31, 2027. The lease on the Company's operating facilities in China was initiated in November 19, 2021 and expired on November 18, 2023. The lease on the operating facility in China was renewed for another three year term, expiring on November 18, 2026. As of September 30, 2024, the Company's head office was on a month to month lease term.

Remaining minimum annual rental payments to the lease expiration dates are as follows:

July 1, 2024 to December 31, 2024	\$ 70,179
2025 and beyond	385,906
	<u>\$ 456,085</u>

Subsequent Events

N/A

Related Party Transactions

Compensation to key management personnel (Directors, Executive Chairman and CEO, CFO, VP Finance and administration, VP Product Line Management, President & General Manager of the Company, VP & General Manager of PTS, Senior VP & General Manager of Asia) for the nine months ended September 30, 2024, was as follows:

	2024	2023
Salaries	\$ 1,862,903	\$ 1,674,091
Share-based payments (1)	2,466,258	2,045,099
Total	\$ 4,329,161	\$ 3,719,190

(1) Share-based payments are the fair value of options granted to key management personnel and expensed during the various years as calculated using the Black-Scholes model.

All transactions with related parties have occurred in the normal course of operations and are measured at the exchange amounts, which are the amounts of consideration established and agreed to by the related parties.

Critical Accounting Estimates

Property and equipment

Property and equipment are recorded at cost. Depreciation is calculated based on the estimated useful life of the asset using the following method and useful lives:

Machinery and equipment	Straight Line, 5 years
Leasehold improvements	Straight Line, 5 years or life of the lease, whichever is less
Office equipment	Straight Line, 3 – 5 years

Patents and licenses

Patents and licenses are recorded at cost and amortized on a straight-line basis over 12 years. Ongoing maintenance costs are expensed as incurred.

Stock-based Compensation

Stock options and warrants awarded to non-employees are accounted for using the fair value of the instrument awarded or service provided, whichever is considered more reliable. Stock options and warrants awarded to employees are accounted for using the fair value method. The fair value of such stock options and warrants granted is recognized as an expense on a proportionate basis consistent with the vesting features of each tranche of the grant. The fair value is calculated using the Black-Scholes option-pricing model with assumptions applicable at the date of grant.

Other stock-based payments

The Company accounts for other stock-based payments based on the fair value of the equity instruments issued or service provided, whichever is more reliable.

Cumulative Translation Adjustment

IFRS requires certain gains and losses such as certain exchange gains and losses arising from the translation of the financial statements of a self-sustaining foreign operation to be included in comprehensive income.

For more details see Note 2 of the audited consolidated annual financial statements for the nine months ended September 30, 2024.

Financial Instruments and Risk Management

The Company's financial instruments consist of cash and cash equivalents, Covid-19 government support loans, derivative warrant liability and accounts payable and accrued liabilities. Unless otherwise noted, it is management's opinion that the Company is not exposed to significant interest risk arising from these financial instruments. The Company estimates that carrying value of these instruments approximates fair value due to their short term nature.

The Company has classified financial assets and (liabilities) as follows:

	September 30, 2024	December 31, 2023
Cash and cash equivalents, measured at amortized cost:		
Cash and cash equivalents	\$41,782,899	\$3,019,069
Accounts receivable, measured at amortized cost:		
Accounts receivable	-	-
Other liabilities, measured at amortized cost:		
Accounts payable and accrued liabilities	\$(1,633,885)	\$(2,301,457)
Covid-19 government support loans	-	\$(30,200)
Fair value through profit or loss (FVTPL)		
Derivative warrant liability	\$(17,895,604)	\$(1,002,264)

Exchange Rate Risk

The functional currency of each of the entities included in the accompanying consolidated financial statements is the local currency where the entity is domiciled. Functional currencies include the Chinese Yuan, US, Singapore and Canadian dollar. Most transactions within the entities are conducted in functional currencies. As such, none of the entities included in the consolidated financial statements engage in hedging activities. The Company is exposed to a foreign currency risk when its subsidiaries hold current assets or current liabilities in currencies other than its functional currency. A 10% change in foreign currencies held would increase or decrease other comprehensive loss by \$2,500,000.

Interest Rate Risk

Cash equivalents bear interest at fixed rates, and as such, are subject to interest rate risk resulting from changes in fair value from market fluctuations in interest rates. The Company does not depend on interest from its investments to fund its operations.

Credit Risk

The Company is not exposed to credit risk at this point as all most all its services provided are paid in advance.

World Economic Risk

Like many other companies, the world economic climate could have an impact on the Company's business and the business of many of its current and prospective customers. A slump in demand for electronic-based devices, due to a world economic crisis may impact any anticipated licensing revenue.

Obsolescence Risk

The Company designs, manufactures and sells various highly technological optoelectronic products that could become obsolete should lower priced competitors or new technology enter the market. This would expose the company to obsolescence risk in the product offering. The redesign of the product offering could take significant time or could never occur.

Liquidity Risk

The Company predominately relies on equity funding for liquidity to meet current and foreseeable financial requirements. The Company currently does not maintain credit facilities. The Company's existing cash and cash resources are considered sufficient to fund operating and investing activities beyond one year from the issuance of its consolidated financial statements.

Outstanding Share Data

Common Shares

Total common shares of the Company outstanding at September 30, 2024 and November 14, 2024 was 70,213,862 and 70,710,750 respectively.

Stock Options, Warrants and Compensation Options

Total warrants outstanding to purchase common shares of the Company at September 30, 2024 and November 14, 2024 was 16,575,460 and 16,208,560 priced between CA\$1.52 and CA\$6.78.

Stock options outstanding as at September 30, 2024 and November 15, 2024 was 9,495,705 and 9,365,717 priced between C\$1.75 and C\$4.36 per common share.

Additional detailed share data information is available in the Company's Notes to Consolidated Financial Statement.

Off-Balance Sheet Arrangements

The Company has not entered into any off-balance sheet arrangements.

Controls and Procedures

(a) Disclosure Controls and Procedures

Disclosure controls and procedures are defined by Rules 13a-15(e) and 15d-15(e) under the Exchange Act as controls and other procedures that are designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified by the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed in the reports that we file or submit under the Exchange Act is accumulated and communicated to our management, including our Chief Executive Officer and Chief Financial Officer, to allow timely decisions regarding required disclosures.

Under the supervision and with the participation of our management, including our Chief Executive Officer and Chief Financial Officer, we carried out an evaluation of the effectiveness of our disclosure controls and procedures. Based on such evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, as of December 31, 2023, our disclosure controls and procedures were not effective due to a material weakness in our internal control over financial reporting. A material weakness, as defined in the Sarbanes Oxley Act of 2002 (“SOX”), is a control deficiency, or combination of control deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of the annual consolidated financial statements will not be prevented or detected on a timely basis. The material weakness resulted from a cybersecurity event in which the Company, late in the year, received a fraudulent request to pay an amount owing to a single vendor. The Company’s controls over the validity of such requests were not effective and as a result an immaterial amount was paid to an unauthorized party. Management identified the fraud and recovered the amount through its pre-existing insurance coverage. Management immediately put in place additional cyber controls to ensure that the Company’s assets are appropriately safe guarded. However, because there was not sufficient time to test those additional controls prior to year-end, the Chief Executive Officer and the Chief Financial Officer determined that a material weakness existed at December 31, 2023 (the “Cybersecurity Material Weakness”).

(b) Management’s Annual Report on Internal Control over Financial Reporting

Our management, under the oversight of our Board of Directors (in particular its audit committee), is responsible for establishing and maintaining adequate internal control over financial reporting (as such term is defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act and as set forth in Section 404 of SOX). The Company’s internal control over financial reporting is designed to provide reasonable assurance to management and the Board of Directors regarding the reliability of financial reporting and the preparation and fair presentation of its published consolidated financial statements. Under the SOX framework, our internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of consolidated financial statements for external purposes in accordance with International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board. Our internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of our assets; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of consolidated financial statements in accordance with IFRS, and that our receipts and expenditures are being made only in accordance with authorizations of our management and directors; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on our consolidated financial statements.

All internal controls over financial reporting, no matter how well designed, have inherent limitations. Therefore, even those systems determined to be effective may not prevent or detect misstatements and can provide only reasonable assurance with respect to financial statement preparation and presentation. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management assessed the effectiveness of the Company’s internal control over financial reporting as of December 31, 2023. In making this assessment, it used the criteria established in Internal Control—Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on

that assessment and those criteria, management concluded that we did not maintain effective internal controls over financial reporting as of December 31, 2023 as a result of the Cybersecurity Material Weakness.

The Cybersecurity Material Weakness did not result in a material misstatement of our consolidated financial statements for the fiscal year ended December 31, 2023 or any prior annual or interim periods nor has it resulted in any material failure to safeguard our assets, including our cash and fixed assets. However, if the Cybersecurity Material Weakness is not remediated, a material misstatement of account balances or disclosures may not be prevented, and may go undetected, which could result in a material misstatement of future annual or interim consolidated financial statements.

Following the identification of the Cybersecurity Material Weakness, management has taken steps to remediate that material weakness. Specifically, management has:

- Added a procedure requiring vendors to provide, on letterhead, both the original bank information and the changed bank information;
- Put in place a call back procedure to contact the vendor to get verbal confirmation of the change, including confirming pertinent transactions related to prior business activity;
- Upgraded email security and monitoring to more effectively identify phishing and spoofing events; and
- Initiated training programs to help staff more quickly identify spoofing and phishing events.

Although management has taken immediate remedial steps, the Cybersecurity Material Weakness will not be considered remediated until the applicable remedial controls operate for a sufficient period of time and management has concluded, through testing, that these controls are operating effectively. Further, our independent registered accounting firm has not performed an audit of our internal control over financial reporting subsequent to December 31, 2023 and we cannot give assurances that the measures we have thus far taken to remediate the aforementioned material weakness were sufficient or that they will prevent future material weaknesses. As management continues to evaluate and work to improve our internal control over financial reporting, we may determine it necessary to take additional measures or modify the remediation measures we have taken to date.

(c) Attestation Report of Registered Public Accounting Firm

Marcum LLP, the independent registered public accounting firm that audited the consolidated financial statements of the Company included in this Annual Report on Form 20-F, and has issued an attestation report on the effectiveness of the Company's internal control over financial reporting as of December 31, 2023.

(d) Changes in Internal Controls over Financial Reporting

We have undertaken the remediation efforts described. Except for those efforts, there were no other changes in our internal control over financial reporting during year ended December 31, 2023 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Key Business Risks and Uncertainties

The Company's business, being a research and development phase photonic integration solutions provider, involves a high degree of risks. Certain factors, including but not limited to the ones below, could materially affect the Company's financial condition and/or future operating results, and could cause actual events to differ materially from those described in forward-looking statements made by or relating to the Company. See

“*Forward-Looking Statements*” of this MD&A. Readers should carefully consider these risks as well as the information included or incorporated by reference in this MD&A and the Company’s financial statements.

The Company’s view of risks is not static and readers are cautioned that there can be no assurance that all risks to the Company, at any point in time, can be accurately identified, assessed as to significance or impact, managed or effectively controlled or mitigated. There can be additional new or elevated risks to the Company that are not described herein.

For a comprehensive discussion of the risk factors that may affect the Company, its business operations and financial performance, refer to the risk disclosure in the Company’s most recent annual information form or Form 20-F available on SEDAR+ and EDGAR. The annual information form or Form 20-F and other publicly filed disclosure regarding the Company is available electronically on SEDAR+ and EDGAR under the Company’s issuer profile.

We have a history of large operating losses. We may not be able to achieve or sustain profitability in the future and as a result we may not be able to maintain sufficient levels of liquidity.

We have historically incurred losses and negative cash flows from operations since our inception. As of September 30, 2024, we had an accumulated deficit of approximately \$241,000,000.

As of September 30, 2024, we held \$41,782,899 in cash and cash equivalents. We had working capital of \$23,603,839.

The optical data communications industry in which we have chosen to operate is subject to significant risks, including rapid growth and volatility, dependence on rapidly changing underlying technologies, market and political risks and uncertainties and extreme competition. We cannot guarantee that we will be able to anticipate or overcome any or all of these risks and uncertainties, especially as a small company operating in an environment dominated by large, well-capitalized competitors with substantially more resources.

The optical data communications industry is subject to significant operational fluctuations. In order to remain competitive, we incur substantial costs associated with research and development, qualification, prototype production capacity and sales and marketing activities in connection with products that may be purchased, if at all, long after we have incurred such costs. In addition, the rapidly changing industry in which we operate, the length of time between developing and introducing a product to market, frequent changing customer specifications for products, customer cancellations of products and general down cycles in the industry, among other things, make our prospects difficult to evaluate. As a result of these factors, it is possible that we may not (i) generate sufficient positive cash flow from operations; (ii) raise funds through the issuance of equity, equity-linked or convertible debt securities; or (iii) otherwise have sufficient capital resources to meet our future capital or liquidity needs. There are no guarantees we will be able to generate additional financial resources beyond our existing balances.

We divested our major operating asset, adopted a new “fab-light” strategy, and we plan to focus on the Optical Interposer as our main business. Any or all of these decisions if incorrect may have a material adverse effect on the results of our operations, financial position and cash flows, and pose further risks to the successful operation of our business over the short and long-term.

There are substantial risks associated with our adoption of a “fab-light” strategy, including the loss of revenue associated with the divested operation, the loss of control over an internal development asset, and the loss of key

technical knowledge available from personnel who will no longer be employed by the Company, many of whom we may have to replace.

We have some previous experience with managing development without an internal development resource under a similar “fab-light” strategy which was not successful, and there is no guarantee that our new approach to operating a company with our chosen strategy will be successful. Further, our strategy will be solely dependent on the future market acceptance and sale of Optical Interposer-based solutions, which in some cases are neither fully developed nor in qualification stages. Customers are in the initial stages of committing to a production product.

We have taken substantial measures to protect POET’s intellectual property in the Optical Interposer, including development and production with a separate third-party company which engaged no engineering personnel from our former subsidiary company DenseLight. We conducted development of component devices with a segregated team at our DenseLight facility and took measures to protect POET’s intellectual property on those developments as well. However, we cannot guarantee that all our measures to protect our intellectual property on either the POET Optical Interposer or its component devices have been totally effective. In addition, we cannot guarantee that DenseLight or any other third-party that we rely on to perform development, manufacturing, packaging or testing services will perform as expected and produce the devices we will need to grow our Optical Interposer business.

There can be no assurance that we will be successful in addressing these or any other significant risks we may encounter in the divestment of DenseLight, the adoption of a “fab-light” strategy or the focus of our business solely on the Optical Interposer.

We have contributed a portion of our intellectual property and exclusive assembly and sales rights for certain key initial products to a joint venture company that we have formed in China. Although we believe that the joint venture offers significant opportunities for growth that we might not otherwise have and solves several major known challenges, we also recognize that there are substantial risks and uncertainties associated with executing a major portion of our strategy through a joint venture, regardless of the intentions and capabilities of the parties involved. Further, joint venture accounting rules do not allow the Company to consolidate the revenue and expenses of the joint venture into its financials nor fully reflect the potential market value of the asset.

On October 21, 2020, the Company signed a Joint Venture Agreement (“JVA”) with Sanan IC to form a joint venture company, Super Photonics Xiamen Co., Ltd. (“SPX”), which will eventually be owned 48% by the Company once SAIC is fully invested. SPX will assemble, test, package and sell certain optical engines on an exclusive basis globally and certain others on an exclusive basis in the territory of Greater China. Optical engines based on the POET Optical Interposer are expected to be a primary component of several types of optical transceivers used in data centers. The joint venture is based on the contribution by the Company of certain assembly and test know-how and other intellectual property and cash to be contributed by Sanan IC in stages, subject to meeting certain milestones, to cover all capital and operating expenses of SPX until it is self-sustaining. We cannot guarantee that SPX will meet each milestone or that Sanan IC will or will not contribute capital on schedule when and if such milestones are met, nor can we guarantee that SPX will be successful in assembling and testing optical engines, nor in the marketing and sales once the optical engines are tested and qualified by potential customers.

Because no party to the joint venture, including the Company, has a control position, we are not able to consolidate revenue and expenses directly into the Company's financial statements. The earnings or loss from the joint venture operations are included as a single line item in the financial statements and the gain or loss on the intellectual property contributed to the joint venture is reported on another. Further, even though the joint venture may appreciate in market value if successful, the Company will not be able to reflect any increase in fair value, other than adding or subtracting on a periodic basis the income or loss experienced by the joint venture in relation to the Company's percentage ownership at the time.

The Company's investment into "Super Photonics Xiamen" ("SPX") is into an independent company operating as a true joint venture under the laws of the Peoples Republic of China ("PRC"). There are significant governance and operational risks associated with joint ventures and with companies operating in the PRC, in general. We cannot guarantee that we will be able to anticipate or overcome the risks and uncertainties of operating a joint venture company in China.

Although SPX has its own governance structure to which both parties contribute directors, most major decisions must be unanimous, which means that such decisions will require the support of the management of SPX and both of the JV partners. Although the Company has sought the support of well-known and competent legal and other professional advisors and has had a major role in the recruitment of the senior management team of SPX, the Company has no prior experience with either the operation of a joint venture or with the operation of a JV company under the laws of the PRC, so we cannot guarantee that the joint venture will be successfully managed without substantial investment in time and effort by the Company's current management team or at all.

In order to attract a wider investor audience for our shares and thereby to achieve a higher market value, we have listed on the Nasdaq Capital Market.

Our participation in this new market for our shares involves several levels of uncertainty and additional costs, in both capital and management time and attention. In addition, our Directors and Officers (D&O) liability insurance expense will increase dramatically, reflecting an increased prevalence of derivative shareholder lawsuits in the United States versus Canada. We cannot guarantee that listing on the Nasdaq will improve our stock price or liquidity, or attract a wider investor audience for our shares.

We may not be able to obtain additional capital when desired, on favorable terms or at all.

We operate in a market that makes our prospects difficult to evaluate and, to remain competitive, we will be required to make continued investments in capital equipment, facilities and technology. We expect that substantial capital will be required to continue technology and product development, to expand our contract manufacturing capacity if we need to do so and to fund working capital for anticipated growth. If we do not generate sufficient cash flow from operations or otherwise have the capital resources to meet our future capital needs, we may need additional financing to implement our business strategy.

If we raise additional funds through the issuance of our common stock or convertible securities, the ownership interests of our stockholders could be significantly diluted. These newly issued securities may have rights, preferences or privileges senior to those of existing stockholders. Additional financing may not, however, be available on terms favorable to us, or at all, if and when needed, and our ability to fund our operations, take advantage of unanticipated opportunities, develop or enhance our infrastructure or respond to competitive pressures could be significantly limited. If we cannot raise required capital when needed we may be unable to continue technology and product development, meet the demands of existing and prospective customers, adversely

affecting our sales and market opportunities and consequently our business, financial condition and results of operations.

The process of developing new, technologically advanced products in semiconductor manufacturing and photonics products is highly complex and uncertain, and we cannot guarantee a positive result.

The development of new, technologically advanced products is a complex and uncertain process requiring frequent innovation, highly skilled engineering and development personnel and significant capital, as well as the accurate anticipation of technological and market trends. We cannot assure you that we will be able to identify, develop, manufacture, market or support new or enhanced products successfully or on a timely basis. Further, we cannot assure you that our new products will gain market acceptance or that we will be able to respond effectively to product introductions by competitors, technological changes or emerging industry standards. We also may not be able to develop the underlying core technologies necessary to create new products and enhancements, license these technologies from third parties, or remain competitive in our markets.

If our customers do not qualify our products for use on a timely basis, our results of operations may suffer.

Prior to the sale of new products, our customers typically require us to “qualify” our products for use in their applications. At the successful completion of this qualification process, we refer to the resulting sales opportunity as a “design win.” Additionally, new customers often audit our manufacturing facilities and perform other evaluations during this qualification process. The qualification process involves product sampling and reliability testing and collaboration with our product management and engineering teams in the design and manufacturing stages. If we are unable to accurately predict the amount of time required to qualify our products with customers, or are unable to qualify our products with certain customers at all, then our ability to generate revenue could be delayed or our revenue would be lower than expected and we may not be able to recover the costs associated with the qualification process or with our product development efforts, which would have an adverse effect on our results of operations.

We have limited operating history in the data center market, and our business could be harmed if this market does not develop as we expect.

The initial target market for our Optical Interposer-based optical engine is the data center market for data communications within the data center and beyond. We have limited experience in selling products in this market. We may not be successful in developing a product for this market and even if we do, it may never gain widespread acceptance by large data center operators. If our expectations for the growth of the data center / datacom market are not realized, our financial condition or results of operations may be adversely affected.

Customer demand is difficult to forecast accurately and, as a result, we may be unable to match production with customer demand.

We make planning and spending decisions, including determining the levels of business that we will seek and accept, production schedules, component procurement commitments, personnel needs and other resource requirements, based on our estimates of product demand and customer requirements. Our products are typically sold pursuant to individual purchase orders. While our customers may provide us with their demand forecasts, they are typically not contractually committed to buy any quantity of products beyond firm purchase orders. Furthermore, many of our customers may increase, decrease, cancel or delay purchase orders already in place without significant penalty. The short-term nature of commitments by our expected customers and the possibility of unexpected changes in demand for their products reduce our ability to accurately estimate future customer

requirements. If any of our customers decrease, stop or delay purchasing our products for any reason, we will likely have excess manufacturing capacity or inventory and our business and results of operations would be harmed.

The markets in which we operate are highly competitive, which could result in lost sales and lower revenues.

The market for optical components and modules is highly competitive and this competition could result in our existing customers moving their orders to our competitors. We are aware of a number of companies that have developed or are developing integrated optical products, including silicon photonics engines, remote light sources, pluggable components, modules and subsystems, photonic integrated circuits, among others, that compete (or may in the future compete) directly with our current and proposed product offerings.

Some of our current competitors, as well as some of our potential competitors, have longer operating histories, greater name recognition, broader customer relationships and industry alliances and substantially greater financial, technical and marketing resources than we do. We may not be able to compete successfully with our competitors and aggressive competition in the market may result in lower prices for our products and/or decreased gross margins. Any such development could have a material adverse effect on our business, financial condition and results of operations.

We depend on a limited number of suppliers and key contract manufacturers who could disrupt our business and technology development activities if they stopped, decreased, delayed or were unable to meet our demand for shipments of their products or manufacturing of our products.

We depend on a limited number of suppliers of epitaxial wafers and contract manufacturers for our Indium Phosphide (“InP”) laser developments and optical interposer production activities. Some of these suppliers are sole source suppliers. We typically have not entered into long-term agreements with our suppliers. As a result, these suppliers generally may stop supplying us materials and other components at any time. Our reliance on a sole supplier or limited number of suppliers could result in delivery problems, reduced control over technology development, product development, pricing and quality, and an inability to identify and qualify another supplier in a timely manner. Some of our suppliers that may be small or under-capitalized may experience financial difficulties that could prevent them from supplying us materials and other components. In addition, our suppliers, including our sole source suppliers, may experience manufacturing delays or shutdowns due to circumstances beyond their control such as pandemics, earthquakes, floods, fires, labor unrest, political unrest or other natural disasters. A change in supplier could require technology transfer that could require multiple iterations of test wafers. This could result in significant delays in resumption of production.

Any supply deficiencies relating to the quality or quantities of materials or equipment we use to manufacture our products could materially and adversely affect our ability to fulfill customer orders and our results of operations. Lead times for the purchase of certain materials and equipment from suppliers have increased and, in some cases, have limited our ability to rapidly respond to increased demand, and may continue to do so in the future. To the extent we introduce additional contract manufacturing partners, introduce new products with new partners and/or move existing internal or external production lines to new partners, we could experience supply disruptions during the transition process. In addition, due to our customers’ requirements relating to the qualification of our suppliers and contract manufacturing facilities and operations, we cannot quickly enter into alternative supplier relationships, which prevent us from being able to respond immediately to adverse events affecting our suppliers.

Our international business and operations expose us to additional risks.

We have significant tangible assets located outside the United States and Canada. Conducting business outside Canada and the United States subjects us to a number of additional risks and challenges, including:

- periodic changes in a specific country's or region's economic conditions, such as recession;
- licenses and other trade barriers;
- the provision of services may require export licenses;
- environmental regulations;
- certification requirements;
- fluctuations in foreign currency exchange rates;
- inadequate protection of intellectual property rights in some countries;
- preferences of certain customers for locally produced products;
- potential political, legal and economic instability, foreign conflicts, and the impact of regional and global infectious illnesses in the countries in which we and our customers, suppliers and contract manufacturers are located;
- Canadian and U. S. and foreign anticorruption laws;
- seasonal reductions in business activities in certain countries or regions; and
- fluctuations in freight rates and transportation disruptions.

These factors, individually or in combination, could impair our ability to effectively operate one or more of our foreign facilities or deliver our products, result in unexpected and material expenses, or cause an unexpected decline in the demand for our products in certain countries or regions. Our failure to manage the risks and challenges associated with our international business and operations could have a material adverse effect on our business.

If we fail to attract and retain key personnel, our business could suffer.

Our future success depends, in part, on our ability to attract and retain key personnel, including executive management. Competition for highly skilled technical personnel is extremely intense and we may face difficulty identifying and hiring qualified engineers in many areas of our business. We may not be able to hire and retain such personnel at compensation levels consistent with our existing compensation and salary structure. Our future success also depends on the continued contributions of our executive management team and other key management and technical personnel, each of whom would be difficult to replace. The loss of services of these or other executive officers or key personnel or the inability to continue to attract qualified personnel could have a material adverse effect on our business.

Our predecessor company received subsidies and other types of funding from government agencies. The funding agreements stipulate that if we do not comply with various covenants, including eligibility requirements, and/or do not achieve certain pre-defined objectives, those government agencies may reclaim all or a portion of the funding provided. If they find that we were ineligible for such funding, then they may both

reclaim the funds and add penalties and interest. If this were to occur, we would either not be in a position to repay the claimed amounts or would have to borrow large sums in order to do so or refinance with dilutive financing, which could adversely affect our financial condition.

Our predecessor company, Opel Solar and an affiliated company, ODIS, now a wholly owned subsidiary, received research and development grants from the United States Air Force and from NASA. The rules for eligibility vary widely across government agencies, are complex and may be subject to different interpretations. We cannot guarantee that one or more agencies will not seek repayment of all or a portion of the funds provided or make claims that we were ineligible to receive such funds, and if this were to occur, we could have to borrow large sums or refinance with dilutive financing in order to make the repayments, which would adversely affect our financial condition.

If we fail to protect, or incur significant costs in defending our intellectual property and other proprietary rights, our business and results of operations could be materially harmed.

Our success depends on our ability to protect our intellectual property and other proprietary rights. We rely on a combination of patent, trademark, copyright, trade secret and unfair competition laws, as well as license agreements and other contractual provisions, to establish and protect our intellectual property and other proprietary rights. We have applied for patent registrations in the U.S. and in foreign countries, some of which have been issued. We cannot guarantee that our pending applications will be approved by the applicable governmental authorities. Moreover, our existing and future patents and trademarks may not be sufficiently broad to protect our proprietary rights or may be held invalid or unenforceable in court. A failure to obtain patents or trademark registrations or a successful challenge to our registrations in the U.S. or foreign countries may limit our ability to protect the intellectual property rights that these applications and registrations intended to cover.

Policing unauthorized use of our technology is difficult and we cannot be certain that the steps we have taken will prevent the misappropriation, unauthorized use or other infringement of our intellectual property rights. Further, we may not be able to effectively protect our intellectual property rights from misappropriation or other infringement in foreign countries where we have not applied for patent protections, and where effective patent, trademark, trade secret and other intellectual property laws may be unavailable or may not protect our proprietary rights as fully as Canadian or U.S. law. We may seek to secure comparable intellectual property protections in other countries. However, the level of protection afforded by patent and other laws in other countries may not be comparable to that afforded in Canada and the U.S.

We also attempt to protect our intellectual property, including our trade secrets and know-how, through the use of trade secret and other intellectual property laws, and contractual provisions. We enter into confidentiality and invention assignment agreements with our employees and independent consultants. We also use non-disclosure agreements with other third parties who may have access to our proprietary technologies and information. Such measures, however, provide only limited protection, and there can be no assurance that our confidentiality and non-disclosure agreements will not be breached, especially after our employees end their employment, and that our trade secrets will not otherwise become known by competitors or that we will have adequate remedies in the event of unauthorized use or disclosure of proprietary information. Unauthorized third parties may try to copy or reverse engineer our products or portions of our products, otherwise obtain and use our intellectual property, or may independently develop similar or equivalent trade secrets or know-how. If we fail to protect our intellectual property and other proprietary rights, or if such intellectual property and proprietary rights are infringed or misappropriated, our business, results of operations or financial condition could be materially harmed.

In the future, we may need to take legal actions to prevent third parties from infringing upon or misappropriating our intellectual property or from otherwise gaining access to our technology. Protecting and enforcing our intellectual property rights and determining their validity and scope could result in significant litigation costs and require significant time and attention from our technical and management personnel, which could significantly harm our business. We may not prevail in such proceedings, and an adverse outcome may adversely impact our competitive advantage or otherwise harm our financial condition and our business.

We may be involved in intellectual property disputes in the future, which could divert management's attention, cause us to incur significant costs and prevent us from selling or using the challenged technology.

Participants in the markets in which we sell our products have experienced frequent litigation regarding patent and other intellectual property rights. There can be no assurance that third parties will not assert infringement claims against us, and we cannot be certain that our products would not be found infringing on the intellectual property rights of others. Regardless of their merit, responding to such claims can be time consuming, divert management's attention and resources and may cause us to incur significant expenses. Intellectual property claims against us could result in a requirement to license technology from others, discontinue manufacturing or selling the infringing products, or pay substantial monetary damages, each of which could result in a substantial reduction in our revenue and could result in losses over an extended period of time.

If we fail to obtain the right to use the intellectual property rights of others that are necessary to operate our business, and to protect their intellectual property, our business and results of operations will be adversely affected.

From time to time, we may choose to or be required to license technology or intellectual property from third parties in connection with the development of our products. We cannot assure you that third party licenses will be available to us on commercially reasonable terms, if at all. Generally, a license, if granted, would include payments of up-front fees, ongoing royalties or both. These payments or other terms could have a significant adverse impact on our results of operations. Our inability to obtain a necessary third-party license required for our product offerings or to develop new products and product enhancements could require us to substitute technology of lower quality or performance standards, or of greater cost, either of which could adversely affect our business. If we are not able to obtain licenses from third parties, if necessary, then we may also be subject to litigation to defend against infringement claims from these third parties. Our competitors may be able to obtain licenses or cross-license their technology on better terms than we can, which could put us at a competitive disadvantage.

Failure to comply with requirements to design, implement and maintain effective internal control over financial reporting could have a materially adverse impact on our financial reporting and our business. We are required to have our internal controls over financial reporting audited under Section 404(b) of the Sarbanes-Oxley Act.

Preparing our consolidated financial statements involves a number of complex manual and automated processes, which are dependent upon individual data input or review and require significant management judgment. One or more of these elements may result in errors that may not be detected and could result in a material misstatement of our consolidated financial statements. The Sarbanes-Oxley Act in the U.S. requires, among other things, that as a publicly traded company we disclose whether our internal control over financial reporting and disclosure controls and procedures are effective. Until December 31, 2021 we qualified as an "emerging growth company" under the JOBS Act, and, as a result, were exempted from certain SEC reporting requirements, including those requiring registrants to include an auditor's report regarding the Company's internal controls as part of such

registrant's periodic reports. Our "emerging growth company" status expired on December 31, 2021. The report of our auditors regarding the effectiveness of our internal controls over disclosure and financial reporting as of December 31, 2023 is attached to our audited consolidated financial statements.

Our internal control over financial reporting cannot guarantee that no accounting errors exist or that all accounting errors, no matter how immaterial, will be detected because a control system, no matter how well designed and operated, can provide only reasonable, but not absolute assurance that the control system's objectives will be met. If we are unable to implement and maintain effective internal control over financial reporting, our ability to accurately and timely report our financial results could be adversely impacted. This could result in late filings of our annual and quarterly reports under the Securities Act (Ontario) and the Securities Exchange Act of 1934 (the "Exchange Act"), restatements of our consolidated financial statements, a decline in our stock price, suspension or delisting of our common stock by the TSX Venture Exchange, or other material adverse effects on our business, reputation, results of operations or financial condition.

The process of designing and implementing effective internal control over financial reporting is a continuous effort that requires us to anticipate and react to changes in our business and the economic and regulatory environments and to expend significant resources to maintain a system of internal control that is adequate to satisfy our reporting obligations as a public company. In addition, we are required, pursuant to Section 404(a) of the Sarbanes-Oxley Act, to furnish a report by management on, among other things, the effectiveness of our internal control over financial reporting. This assessment must include disclosure of any material weaknesses identified by our management in our internal control over financial reporting. The rules governing the standards that must be met for our management to assess our internal control over financial reporting are complex and require significant documentation, testing and possible remediation. Testing and maintaining our internal control over financial reporting may divert our management's attention from other matters that are important to our business. In connection with the implementation of the necessary procedures and practices related to our internal control over financial reporting, we and/or our independent registered accounting firm may identify material weaknesses and other deficiencies that may require significant effort and expense to remediate. We may encounter problems or delays in completing the remediation of any such weaknesses or other deficiencies.

If there is a change in conditions, or the degree of compliance with policies or procedure deteriorates, internal review of our internal control over financial reporting or the subsequent testing by our independent registered public accounting firm may reveal deficiencies in our internal control over financial reporting that are deemed material weaknesses. If this occurs, our consolidated financial statements or disclosures may contain material misstatements and we could be required to restate our financial results. Additionally, we may not be able to conclude on an ongoing basis that we have effective internal control over financial reporting or our independent registered public accounting firm may not in future issue an unqualified opinion, each of which could lead to investors losing confidence in our reported financial information, which could have a material adverse effect on the trading price of our common stock, and we may be unable to maintain compliance with applicable stock exchange listing requirements.

Our ability to use our net operating losses and certain other tax attributes may be limited.

As of December 31, 2023, we had accumulated net operating losses ("NOLs"), of approximately \$150 million. Losses for the current period will be evaluated when the tax returns are prepared. Varying jurisdictional tax codes have restrictions on the use of NOLs, if a corporation undergoes an "ownership change," the Company's ability to use its pre-change NOLs, R&D credits and other pre-change tax attributes to offset its post-change income may

be limited. An ownership change is generally defined as a greater than 50% change in equity ownership. Based upon an analysis of our equity ownership, we do not believe that we have experienced such ownership changes and therefore our annual utilization of our NOLs is not limited. However, should we experience additional ownership changes, our NOL carry forwards may be limited.

We are subject to governmental export and import controls that could subject us to liability or impair our ability to compete in international markets. Such controls have recently increased for companies in China under the US government’s “control list”, and may further limit or impair our ability to use certain sub-contractors or to sell directly to companies on the list

We are subject to export and import control laws, trade regulations and other trade requirements that limit which raw materials and technology we can import or export and which products we sell and where and to whom we sell our products. Specifically, the Bureau of Industry and Security of the U.S. Department of Commerce is responsible for regulating the export of most commercial items that are so called dual-use goods that may have both commercial and military applications. A limited number of our products are exported by license under certain classifications. Export Control Classification requirements are dependent upon an item’s technical characteristics, the destination, the end-use, and the end-user, and other activities of the end-user. Should the regulations applicable to our products change, or the restrictions applicable to countries to which we ship our products change, then the export of our products to such countries could be restricted. As a result, our ability to export or sell our products to certain countries could be restricted, which could adversely affect our business, financial condition and results of operations. Changes in our products or any change in export or import regulations or related legislation, shift in approach to the enforcement or scope of existing regulations, or change in the countries, persons or technologies targeted by such regulations, could result in delayed or decreased sales of our products to existing or potential customers. In such event, our business and results of operations could be adversely affected.

Our manufacturing operations are subject to environmental regulation that could limit our growth or impose substantial costs, adversely affecting our financial condition and results of operations.

Our properties, operations and products are subject to the environmental laws and regulations of the jurisdictions in which we operate and sell products. These laws and regulations govern, among other things, air emissions, wastewater discharges, the management and disposal of hazardous materials, the contamination of soil and groundwater, employee health and safety and the content, performance, packaging and disposal of products. Our failure to comply with current and future environmental laws and regulations, or the identification of contamination for which we are liable, could subject us to substantial costs, including fines, cleanup costs, third-party property damages or personal injury claims, and make significant investments to upgrade our facilities or curtail our operations. Identification of presently unidentified environmental conditions, more vigorous enforcement by a governmental authority, enactment of more stringent legal requirements or other unanticipated events could give rise to adverse publicity, restrict our operations, affect the design or marketability of our products or otherwise cause us to incur material environmental costs, adversely affecting our financial condition and results of operations.

We are exposed to risks and increased expenses and business risk as a result of Restriction on Hazardous Substances, or RoHS directives, which have been amended but are still in effect.

Following the lead of the European Union, or EU, various governmental agencies have either already put into place or are planning to introduce regulations that regulate the permissible levels of hazardous substances in products sold in various regions of the world. For example, the RoHS directive for EU took effect on July 1, 2006.

The labeling provisions of similar legislation in China went into effect on March 1, 2007 and is still in effect, as amended. Consequently, many suppliers of products sold into the EU have required their suppliers to be compliant with the new directive. We anticipate that our customers may adopt this approach and will require our full compliance, which will require a significant amount of resources and effort in planning and executing our RoHS program, it is possible that some of our products might be incompatible with such regulations. In such events, we could experience the following consequences: loss of revenue, damages reputation, diversion of resources, monetary penalties, and legal action.

Failure to comply with the U.S. Foreign Corrupt Practices Act could subject us to penalties and other adverse consequences.

We are subject to the U.S. Foreign Corrupt Practices Act, which generally prohibits companies operating in the U.S. from engaging in bribery or other prohibited payments to foreign officials for the purpose of obtaining or retaining business. In addition, we are required to maintain records that accurately and fairly represent our transactions and have an adequate system of internal accounting controls. Non-U.S. companies, including some that may compete with us, may not be subject to these prohibitions, and therefore may have a competitive advantage over us. If we are not successful in implementing and maintaining adequate preventative measures, we may be responsible for acts of our employees or other agents engaging in such conduct. We could suffer severe penalties and other consequences that may have a material adverse effect on our financial condition and results of operations.

Natural disasters or other catastrophic events could harm our operations.

Our operations in the U.S., Canada, Singapore and China could be subject to significant risk of natural disasters, including earthquakes, hurricanes, typhoons, flooding and tornadoes, as well as other catastrophic events, such as epidemics, terrorist attacks or wars. For example, our testing facility in Singapore is in an area that is susceptible to hurricanes. Any disruption in our facilities or those of our contractors and suppliers arising from these and other natural disasters or other catastrophic events could cause significant delays in the production or shipment of our products until we are able to arrange for third parties to manufacture our products. We may not be able to obtain alternate capacity on favorable terms or at all. Our property insurance coverage with respect to natural disaster is limited and is subject to deductible and coverage limits. Such coverage may not be adequate or continue to be available at commercially reasonable rates and terms. The occurrence of any of these circumstances may adversely affect our financial condition and results of operation.

We may be subject to disruptions or failures in information technology systems and network infrastructures that could have a material adverse effect on our business and financial condition.

We rely on the efficient and uninterrupted operation of complex information technology systems and network infrastructures to operate our business. A disruption, infiltration or failure of our information technology systems as a result of software or hardware malfunctions, system implementations or upgrades, computer viruses, third-party security breaches, employee error, theft or misuse, malfeasance, power disruptions, natural disasters or accidents could cause a breach of data security, loss of intellectual property and critical data and the release and misappropriation of sensitive competitive information and partner, customer, and employee personal data. Any of these events could harm our competitive position, result in a loss of customer confidence, cause us to incur significant costs to remedy any damages and ultimately materially adversely affect our business and financial condition.

A significant disruption in, or breach in security of, our information technology systems or violations of data protection laws could materially adversely affect our business and reputation.

In the ordinary course of business, we collect and store confidential information, including proprietary business information belonging to us, our customers, suppliers, business partners and other third parties and personally identifiable information of our employees. We rely on information technology systems to protect this information and to keep financial records, process orders, manage inventory, coordinate shipments to customers, and operate other critical functions. Our information technology systems may be susceptible to damage, disruptions or shutdowns due to power outages, hardware failures, telecommunication failures and user errors. If we experience a disruption in our information technology systems, it could result in the loss of sales and customers and significant incremental costs, which could materially adversely affect our business. We may also be subject to security breaches caused by computer viruses, illegal break-ins or hacking, sabotage, or acts of vandalism by disgruntled employees or third parties. The risk of a security breach or disruption, particularly through cyberattack or cyber intrusion, including by computer hackers, foreign governments and cyber terrorists, has increased as the number, intensity and sophistication of attempted attacks and intrusions from around the world have increased. Our information technology network and systems have been and, we believe, continue to be under constant attack. Accordingly, despite our security measures or those of our third-party service providers, a security breach may occur, including breaches that we may not be able to detect. Security breaches of our information technology systems could result in the misappropriation or unauthorized disclosure of confidential information. Such breaches could also result in legal action against us by third parties.

Outbreaks of diseases and public health crises could delay our development activities and adversely affect our results of operations.

The Company faces risks related to health epidemics and other outbreaks of communicable diseases, which could significantly disrupt its operations and may materially and adversely affect its business and financial conditions.

The Company continues to monitor the developments and impacts of any health crises and pandemic diseases as they may arise. The Company cannot estimate whether, or to what extent, any future outbreak of epidemics or pandemics or other health crises may have an impact on the business, operations and financial condition of the Company. The outbreak of epidemics, pandemics or other public health crises, such as COVID-19 pandemic, may result in volatility and disruptions global supply chains and financial markets, as well as declining trade and market sentiment and reduced mobility of people, all of which could affect prices, interest rates, credit ratings, credit risk, share prices and inflation. The risks to the Company of such public health crises also include risks to employee health and safety, a slowdown or temporary suspension of operations in geographic locations impacted by an outbreak, increased labor costs, regulatory changes, political or economic instabilities or civil unrest as well as the Company's ability to service its obligations as they arise. As such, the impacts of such crises may have a material adverse effect on the Company's business, results of operations and financial condition and the market price of the Common Shares. There can be no assurance that the Company's personnel or its contractors' personnel will not be impacted by these pandemic diseases and ultimately see its workforce productivity reduced or incur increased safety and medical costs / insurance premiums as a result of these health risks.

Please refer to the Company's most recent Annual Information Form filed on SEDAR+ at www.sedarplus.ca for a detailed discussion of the risks facing the Company.

Additional Information

Additional information relating to the Company is available on SEDAR+ at www.sedarplus.ca including the information contained in the Company's Annual Information Form filed on SEDAR+ at www.sedarplus.ca.





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