



**Management's Discussion  
and Analysis  
For the Year Ended December 31, 2019**



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**MANAGEMENT’S DISCUSSION AND ANALYSIS  
FOR THE THREE AND TWELVE MONTHS ENDED DECEMBER 31, 2019**

The following discussion and analysis of the operations, results, and financial position of POET Technologies Inc., (the “Company” or “POET”) for the three and twelve months ended December 31, 2019 (the “Period”) should be read in conjunction with the Company’s audited consolidated financial statements for the year ended December 31, 2019 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 April 28, 2020. All financial figures are in United States dollars (“USD”) 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, difficulties in achieving commercial production or interruptions in such production if achieved, inherent risks of operating a facility, including risks associated with supplier delays, factory uptime, inventory management and other operating uncertainties, the inherent uncertainty of cost estimates and the potential for unexpected costs and expenses, the uncertainty of profitability and cessation of business for failure to obtain adequate financing on a timely basis, amongst 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.

***Note on Discontinued Operations***

On November 8, 2019, the Company closed on the sale of its wholly owned subsidiary, DenseLight Semiconductors Pte. Ltd., to a consortium of investors organized under DenseLight Semiconductor Technology (Shanghai) Ltd. (“DL Shanghai”) for \$26,000,000. POET shareholders approved the sale with 99% of votes submitted at a Special Meeting held on October 24, 2019, ratifying the Share Sale Agreement (“SSA”) signed by the Company on August 20, 2019. The buyer assumed control of DenseLight upon closing. The sale proceeds are being paid over multiple tranches. The first tranche payment was received on November 8, 2019 in the amount of US\$8 million. Shares of DenseLight were placed in escrow in the Buyer’s name, to be released by the escrow agent to the Buyer upon receipt of the remaining payments. The second tranche payment was made in two installments, with the first paid on February 19, 2020 consisting of US\$4.75 million and the second on March 30, 2020 of US\$8.25 million for a total paid to date of US\$21.0 million. The remaining payment of US\$5 million is

expected to be made on or before May 31, 2020. Upon closing, the Company recognized a gain on the sale of \$8,707,280. The Company received an additional \$2,000,000, in excess of the sale proceeds, with the most recently paid two tranches which was immediately paid to Oak Capital on behalf of the Buyer for due diligence, legal and other expenses.

Although it continued to operate as a single entity until the sale was closed, to meet financial reporting standards, the Company was required to report DenseLight as “discontinued operations” separate from the remainder of the Company through and until Friday, November 8, 2019. This MD&A and the associated audited consolidated financial statements for the year ended December 31, 2019 have reported DenseLight as discontinued operations separate from its parent company, POET Technologies, Inc. Prior periods reported on in this MD&A have been re-presented to conform with this disclosure.

Since the acquisition of DenseLight in mid-2016, all of the Company’s revenues have been derived from its activities in Singapore. The majority of sales since the acquisition were in light source products developed, marketed and sold by DenseLight to customers globally. In addition, the Company accepted contracts from various customers for Non-Recurring Engineering (NRE) work that also formed a portion of its reported sales. During 2019, a significant portion of the Company’s revenues derived from a Non-Recurring Engineering (NRE) contract with a major customer for work directly related to the Optical Interposer. Purchase Orders (“PO’s”) received and accepted by POET were issued to DenseLight, on the basis that the bulk of the contracted development work was performed at the DenseLight facility by DenseLight employees. During the sale process, it was agreed between POET, DenseLight and the Buyer that DenseLight would retain those PO’s already issued and conclude the work, while retaining all of the associated costs. Only newly issued PO’s for additional development work on the Optical Interposer and related components would be issued to POET, with POET contracting with DenseLight and other third parties to perform portions of those projects.

The Share Sale Agreement included an Earn-Out provision which provides for additional consideration in the amount of US\$4 million to be paid to the Company in the event that the audited revenues of DenseLight for the year ending December 31, 2019 were at least US\$9 million with gross margins comparable to prior periods. DenseLight did not meet this revenue target. For more information about the details of the SSA and the Buyer, please refer to the Management Information Circular, which can be found on SEDAR ([www.sedar.com](http://www.sedar.com)) and the TMX Trust website ([www.tmxtrust.com](http://www.tmxtrust.com)).

The description of the Business in the following sections of this MD&A treats the business as a unified company, even though the DenseLight subsidiary, which comprised the majority of the Company’s operations, assets and sales, are treated as “discontinued operations.” However, the Company’s principal invention, the POET Optical Interposer™ is an asset that remains solely owned by the Company. It will form the basis for the Company’s future growth, and so the focus of the business overview is on the Optical Interposer. Since mid-2017, the majority of the Company’s R&D efforts have been directed to the development of customized components for or the underlying platform that comprise the Optical Interposer, most of which was conducted at DenseLight.

## **BUSINESS**

### **Overview**

The Company is incorporated under the laws of the Province of Ontario. The Company's shares trade under the symbol "PTK" on the TSX Venture Exchange in Canada and under the symbol "POETF" on the OTCQX in the U.S.

We design, develop, manufacture and sell both discrete and integrated opto-electronic solutions for data communications and telecommunications markets. POET has developed and is marketing its proprietary POET Optical Interposer™ platform. The POET Optical Interposer utilizes a novel waveguide technology that allows the integration of electronic and photonic devices into a single multi-chip module. The integration of devices into a single package is achieved by applying advanced wafer-level semiconductor manufacturing techniques and novel packaging methods developed by POET. POET's Optical Interposer eliminates costly components, assembly and testing methods employed in conventional photonics solutions. In addition to lowering costs compared to conventional devices, POET's Optical Interposer provides a flexible and scalable platform for a variety of photonics applications ranging from data centers to consumer products.

POET's Optical Interposer is a platform technology upon which multiple applications can be based, including transceivers for data- and tele-communications, integrated photonics on electronic switching devices, low-cost components for the networking and cellular markets, automotive LIDAR and a plethora of sensing and other applications using light as a medium for data transmission. In each case, devices traditionally associated with photonics, such as laser diodes, light emitting diodes, detectors, amplifiers and the associated waveguides and other passive devices are designed specifically in the context of the Optical Interposer to meet the needs and functions of specific applications.

POET has targeted as the first application of the Optical Interposer the development of Optical Engines for transceivers used in data centers. Transceivers are used to convert digital electronic signals into light signals and to transmit and receive those light signals via fiber optic cables within datacenters and between datacenters and metropolitan centers in a vast data and tele-communications network. In 2019 we delivered prototypes of certain components designed for our Optical Engines and we expect to continue to do so throughout 2020. These prototypes address the emerging high-growth segment of the current market for Optical Engines. Continued development of our Optical Engine prototypes is intended to add several commonly used communication protocols and data speeds to increase the functionality of our Optical Engines and to address broader markets.

### **Research & Development**

Virtually all of POET's R&D expenditures in recent years have been in some way connected to the Optical Interposer. We expect to continue to spend the majority of our R&D resources for the foreseeable future on Optical Interposer-based components across a variety of potential applications. DenseLight has also incurred R&D expenditures for conventional non-interposer-based products, primarily in the area of photonic sensing that represent the majority of the Company's current product sales.

As a platform technology, Optical Interposer development does not have a specific end point. Each application of the Optical Interposer requires development specific to the application. POET's product roadmap is currently focused on the development of Optical Engines for optical transceivers. Optical Engines include all of the photonics-related components of a transceiver but do not include several of the electronic devices needed for a functioning transceiver module. Nor does it include the external packaging and optical fibers. Nevertheless,

Optical Engines represent the majority of the cost and value of most optical transceivers.

The “active” components that are included in a POET Optical Engine include lasers, detectors and modulators fabricated on InP or Silicon substrate and specifically designed to be integrated into the Optical Interposer fabric. We have supplemented our active component device development with co-development partners and license agreements, including for certain types of lasers and modulators. This not only reduces the risk to internal development and accelerates time to market, but it also ensures second sources of Optical Interposer-compatible active components, a critical part of our strategy going forward.

In parallel to these activities, POET also directed development programs in two other areas for the Optical Interposer platform outside of DenseLight, including Passive Component design and development and Core Integration process development. Passive devices include filters, mux-demux devices, waveguides and spot size converters, all designed and fabricated using POET’s proprietary materials and processes. The Optical Interposer devices are fabricated at a third-party foundry. We transferred the basic processes for producing our Optical Interposers to our foundry partner in 2018 and since then we have continued to improve those processes in order to make them suitable for high volume manufacturing.

Core Integration Process Development relates primarily to advanced packaging methods that, combined with the unique design of the Optical Interposer, allows true wafer-scale assembly and test. We do not believe that such true wafer-scale integration has yet been demonstrated by any other approach in the photonics industry. We are able to achieve chip-level integration and wafer-scale assembly, test and packaging because all of the active devices are designed to be placed and “matched” to passive device interfaces on the foundational Optical Interposer wafer using pick-and-place assembly techniques. We eliminate the high cost and cumbersome process of testing each component following placement. Once placed and tested at wafer scale, each Optical Interposer device is sealed, the wafer is separated into hundreds of individual die, and the final Optical Engine is ready for shipment to the customer. Each of these process steps, from flip-chipping of devices onto the Optical Interposer, pick and place assembly, hermetic sealing and singulation required substantial innovation and development, including several techniques that are unique in the photonics and compound semiconductor industries.

We are working with leading industry partners on optical engines and other components for 400G transceivers, which is the next generation of transceiver modules that are expected to be introduced into data centers in the coming months and years. We believe that the Optical Interposer platform is very relevant to markets beyond data communications, such as telecommunications, Automotive LIDAR, and integration with Application Specific Integrated Circuits (ASICs), including switches and graphics generators.

### **Industry Background**

The explosion in data, storage and information distribution is driving extraordinary growth in internet traffic and cloud services. The expected growth in the networking and data communication market is the result of many factors, among them being, the growth of wireless and mobile traffic (which will account for 71% of total Internet Provider (IP) traffic by 2022<sup>1</sup>), social media activity, the progression of video transmission, the emergence of imaging such as virtual/augmented/mixed reality and 3D video, the continued migration to cloud storage, the propagation of sensors feeding the Internet of Things, and the evolution of big data analytics and machine learning/artificial intelligence. These factors will continue to drive a long-term increased demand for more capacity and higher speeds.

Photonics has traditionally been employed to transmit and receive data over long distances because light can carry

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<sup>1</sup> Cisco *Visual Networking Index: Forecast and Methodology, 2017-2022, White Paper*, Executive Summary, Feb. 27, 2019

considerably more content and data at faster speeds than other means of transmission, such as radio waves or copper wires. Optical transmission becomes more energy efficient as compared to electronic alternatives when the transmission length and speed increase. As a natural consequence, optics are systematically replacing copper in many of the data center communication links where speed, bandwidth and energy are at a premium.

Data center operators are increasing the size and scale of their facilities, while simultaneously looking to component suppliers for solutions capable of providing higher data transmission rates. Within data centers, data communications over distances 500 m to 2 km have already been transitioned from inherently lower speed copper cable to optical fibers. Furthermore, short reach communications, either rack-to-rack or within the rack as well as those requiring speeds of up to 100G, are now increasingly being converted from copper to optical cables.

Outside the Data Centers, future 5G build-out of mobile communications will drive speed and capacity requirements closer to the user with significant reduction in latency. Compared to 4G, 5G technology standard offers much faster download and upload speed, minimum delay in data communication and processing, as well as much higher density in device connections. 5G will enable advances in virtual reality, augmented reality, autonomous driving, high-definition video, and the Internet of Things, among other applications. All of these applications require advanced photonics devices to provide higher speeds and more bandwidth.

### **Photonics Markets**

POET's primary intent is to sell its Optical Interposer-based solutions in the Optical Data Communications market.

The Optical Communications Market (which includes optical switching equipment, fiber optic transmission systems, transceivers, etc. for all industries) is forecasted to grow at about 9% CAGR over the period from 2017 to 2023, to US\$24 billion from a current US\$15 billion.<sup>2</sup> System and component growth is driven largely by global Internet Provider (IP) traffic, which is expected to nearly triple from 2017 to 2022, representing a 26% CAGR.<sup>3</sup> Within the overall Data Communications market, photonic transceivers will represent a \$25 billion market opportunity in 2025, according to *Oculi, llc*.<sup>4</sup> The primary segments for photonic transceivers are Ethernet, wide area network (WAN) and dense wavelength division multiplexing (DWDM), all of which are predominantly addressed by InP-based optical technologies. Ethernet transceivers are forecasted to grow to \$7.4 billion by 2025 with 100G driving a majority of the growth. Within Ethernet, single mode transceivers based on InP devices are forecasted to outgrow multimode transceivers based on GaAs devices by a factor of 6:1. Segmented by distance, the majority of growth is expected in the <10km segment (\$4.3 billion by 2025).<sup>5</sup>

Integrated photonic transceivers, incorporating approaches comparable to that of POET, are expected to overtake those using discrete components by 2021, growing from a current \$3.2 billion to \$20 billion in 2025<sup>6</sup>. Within this market, POET is focused on the highest growth segments, including Wavelength Division Multiplexing (WDM) for medium-reach (500m – 2km) Ethernet datacom connections and Wide Area Network protocols for long-reach or metro applications (2km – 10km). The majority of today's discrete transceiver suppliers are shipping 100G transceivers in a 4x25G format, having developed assembly methods for placing multiple laser chips on one substrate and coupling the output into one fiber using micro-optic filters and other elements. POET's approach is to use the Optical Interposer to combine multiple active and passive devices into a single device, or "Optical

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<sup>2</sup> Market Research Future *Optical Communications Market Research Report – Global Forecast to 2023*, January 2019

<sup>3</sup> Cisco *VNI*, Forecast Overview, Feb. 27, 2019

<sup>4</sup> Oculi, llc, *Estimates for 2025 commissioned by POET Technologies, Inc.*, March 2017

<sup>5</sup> Ibid

<sup>6</sup> Ibid

Engine”, which when combined with control electronics and an outer housing, constitutes a pluggable optical transceiver. We plan to sell our optical engines to manufacturers and assemblers of optical transceiver modules. We believe our Optical Engine solution will be cost competitive with conventional modules as well as silicon photonics in the <2km data center market, and it should be scalable to 10km, and support 200G and 400G datacom speeds.

While the growth curve for photonics products has flattened in 2019, especially in 100G datacom applications, we believe that margin pressures on module makers will create large opportunities for a low or lowest cost provider. In addition, in datacom, the overall slowing of growth has the advantage of providing more time for the design and introduction of first generation 400G transceivers, which we have prioritized for our first Optical Interposer prototypes.

### **Our Strategy**

Our vision for the company is to become the global leader in chip-scale photonic solutions by deploying our Optical Interposer technology to enable the seamless integration of electronics and photonics for a broad range of vertical market applications.

Our strategy includes the following key elements:

- *Introduce the Optical Interposer concept to suppliers of transceivers and data center operators and form commercial partnerships for product development.* Because of the magnitude of the cost savings and performance advantages that may be derived from the use of POET’s Optical Engines for transceiver applications, we expect to generate significant interest among both the suppliers of transceiver modules and their ultimate customers, the data center operators. In addition, the POET Optical Interposer provides a straightforward and cost-effective path to higher speed transceivers, including up to 400G and higher, providing a single platform that can span several device generations. We anticipate that several companies will be interested in pursuing commercial partnerships with POET in order to qualify and design-in our Optical Engines.

- *Promote the POET Optical Interposer as a true platform technology across several photonic applications and markets.* The POET Optical Interposer is designed to be a flexible platform for the combination or integration of various photonic and electronic components. The anticipated low cost makes it suitable for applications like automotive LIDAR. The compatibility of the Optical Interposer manufacturing process with standard silicon CMOS processing opens up a wide variety of other applications where high-speed data communications is needed, such as integration with ASICs, graphics generators and high-speed switches.

- *Pursue multiple potential sources of non-product revenue and strategic partnerships.* In addition to product sales, we have been pursuing Non-Recurring Engineering (“NRE”) revenues from end-use customers and/or from strategic partners. In particular, we believe our 400G transceiver components represent a uniquely attractive opportunity for collaborative development with a strategic partner(s).

- *Pursue a “fab-light” strategy.* “Fab-light” is a common business model in the semiconductor industry. Such a strategy allows the Company to invest more in design and development of Optical Interposer-based solutions, expand its marketing and sales presence globally and spend less on capital equipment and maintenance of facilities, enabling a faster path to profitability.

- *Pursue complementary strategic alliance or acquisition opportunities.* We intend to evaluate and selectively pursue strategic alliances or acquisition opportunities that we believe will accelerate our penetration of specific applications or vertical markets with our technology or products.

## **Our Products**

- POET is currently engaged in the development of 400G Optical Engines and components for 400G transceiver assemblies.

## **Intellectual Property**

We have 69 issued patents and nine (9) patent applications pending, including one (1) provisional in process. The patents cover device structures, underlying technology related to the Optical Interposer, applications of the technology and fabrication processes. We believe these patents provide a significant barrier to entry against competition, along with trade secrets and know-how. We intend to continue to apply for additional patents in the future. 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.

## **Sale of DenseLight Subsidiary**

On November 8, 2019, the Company closed on the sale of its wholly owned subsidiary, DenseLight Semiconductors Pte. Ltd., to a consortium of investors organized under DenseLight Semiconductor Technology (Shanghai) Ltd. (“DL Shanghai”) for \$26,000,000. POET shareholders approved the sale with 99% of votes submitted at a Special Meeting held on October 24, 2019, ratifying the Share Sale Agreement (“SSA”) signed by the Company on August 20, 2019. The buyer assumed control of DenseLight upon closing. The sale proceeds are being paid over multiple tranches. The first tranche payment was received on November 8, 2019 in the amount of US\$8 million. Shares of DenseLight were placed in escrow in the Buyer’s name, to be released by the escrow agent to the Buyer upon receipt of the remaining payments. The second tranche payment was made in two installments, with the first paid on February 19, 2020 consisting of US\$4.75 million and the second on March 30, 2020 of US\$8.25 million for a total paid to date of US\$21.0 million. The remaining payment of US\$5 million is expected to be made on or before May 31, 2020. Upon closing, the Company recognized a gain on the sale of \$8,707,280. The Company received an additional \$2,000,000, in excess of the sale proceeds, with the most recently paid two tranches which was immediately paid to Oak Capital on behalf of the Buyer for due diligence, legal and other expenses.

The Share Sale Agreement included an Earn-Out provision which provides for additional consideration in the amount of US\$4 million to be paid to the Company in the event that the audited revenues of DenseLight for the year ending December 31, 2019 were at least US\$9 million with gross margins comparable to prior periods. DenseLight did not meet this revenue target. For more information about the details of the SSA and the Buyer, please refer to the Management Information Circular, which can be found on SEDAR ([www.sedar.com](http://www.sedar.com)) and the TMX Trust website ([www.tmxtrust.com](http://www.tmxtrust.com)).

As a direct result of the decision to sell DenseLight, our consolidated financial statements, effective January 1, 2019 have been retrospectively adjusted to present the DenseLight financial results and associated statements as “discontinued operations”.



## **MD&A Highlights**

On February 3, 2019, management committed to a plan to sell its subsidiary, DenseLight Semiconductors Pte Ltd. In line with its commitment to sell DenseLight, the Company was required to restate its previously reported financial information consistent with the requirements of reporting DenseLight as discontinued operations. Comparative analysis provided in past MD&As has therefore been restated in this MD&A to conform with the principle of reporting information on both continued operations and discontinued operations. The information reported as “continuing operations” reflect the operating activities of POET Technologies Inc., consolidated with the activities of its subsidiaries ODIS Inc., Opel Inc., POET Technologies Pte. Ltd and BB Photonics Inc. The information reported as “discontinued operations” reflect the operating activities of the DenseLight.

During the year ended December 31, 2019, the Company reported net loss from continuing operations before taxes of \$11,727,372.

The net loss from continuing operations included \$2,083,815 spent on research and development activities directly related to the development and commercialization of the POET Optical Interposer Platform. Research and development included \$237,311 of non-cash fair value stock-based compensation. \$6,697,387 was spent on selling, marketing and administration expenses which included non-cash operating costs of \$2,650,830 related to the fair value of stock-based compensation and \$243,674 related to depreciation and amortization.

The Company incurred \$819,911 of interest expense and \$372,340 of debt issuance costs related to \$7,729,921 borrowed at various dates and from various lenders during 2019. The Company repaid \$4,000,000 of the borrowed funds on November 8, 2019.

During 2019, the Company performed an impairment analysis on its goodwill and intangible assets related to the acquisition of BB Photonics in 2016. The Company determined that these assets were impaired and consequently recognized an impairment loss of \$1,764,459.

Net income from discontinued operations, net of taxes was \$5,481,757. Discontinued operations generated revenue of \$4,426,355 from the sale of sensing products and non-recurring engineering (“NRE”). Gross profit was \$3,224,982 or 73%. Included in the net income from discontinued operations, net of taxes was \$5,677,222 spent on research and development and \$1,950,526 spent on selling, marketing and administration. Discontinued operations had other income of \$1,251,737 resulting primarily from cash credits either collected or recoverable from the Economic Development Board (“EDB”) of Singapore. The income from discontinued operations, net of taxes included a gain on the sale of discontinued operations, net of taxes of \$8,707,280.

The Company’s balance sheet as of December 31, 2019 reflects assets with a book value of \$24,077,355 compared to \$25,137,903 as of December 31, 2018. Eighty-four percent (84%) of the book value at December 31, 2019 was in current assets consisting primarily of receivable from the sale of discontinued operations of \$18,000,000 compared to twenty-seven percent (27%) of the book value as of December 31, 2018, or \$6,888,264, was in current assets consisting primarily of cash and other current assets.

As at December 31, 2019, the Company had a working capital balance of \$15,354,149. The Company is satisfied that it will have sufficient funds meet its operating requirements over the next 12 months.

### ***Significant Events and Milestones During 2019***

In 2019, we continued to execute on our stated strategic plan. We achieved the following significant milestones during the nine months ended September 30, 2019:

- 1) On February 3, 2019 the Company announced that it signed a non-binding Letter of Intent (LOI) for the sale of the capital stock of its Singapore-based DenseLight subsidiary. Key terms of the non-binding LOI include proposed cash consideration in the range of \$26 - \$30 million (CAD\$34.5 – CAD\$40 million), including a \$4 million (CAD\$5.3 million) earn-out provision, no-shop and confidentiality clauses, and an undertaking to enter into key operating agreements, including a preferred supply agreement and a long-term strategic cooperation agreement among the parties. The Company closed the sale transaction on November 8, 2019.
- 2) On February 5, 2019 the Company announced that samples of its new, advanced Integrated Light Module (ILM), designed specifically for high-performance wind LIDAR and other environmentally-stressed applications, were made available and delivered to customers in April in limited quantities. The Company also announced the launch of its 1653nm DFB laser and the 1650nm Fabry-Perot (FP) laser. The 1653nm DFB laser is designed to target the methane gas sensing markets where the laser will provide a safer and more effective solution than competitive methods of detecting methane. The 1650nm FP laser is designed for test and measurement applications, targeting the OTDR (Optical Time-Domain Reflectometer) market where the equipment is used to detect faults and understand the losses along a given length of fiber-optic cable in networking and data communications systems.
- 3) On February 21, 2019 the Company announced that it had entered into an agreement with the highly-respected firm, Mill View Photonics, Inc. (“Mill View”) to establish a collaborative design center in Ottawa, Ontario, Canada.
- 4) On April 3, 2019, the Company announced that it closed the first tranche of a private placement of convertible debentures that raised gross proceeds of \$1,446,027 (CAD\$1,929,000) (the "Debentures"). The Debentures are unsecured, bear interest at 12% per annum, compounded annually with 1% payable at the beginning of each month and mature on April 3, 2021.
- 5) On April 11, 2019, the Company announced that it entered into a definitive agreement with Espresso Capital Ltd. in which, through a credit facility agreement, Espresso Capital Ltd. will provide a bridge loan that grants the Company access of up to \$5 million (CAD\$6.6 million).
- 6) On April 23, 2019, June 26, 2019 and August 23, 2019, the Company was advanced an aggregate \$3,100,000 from Espresso Capital Ltd. under the terms of the credit facility agreement.
- 7) On May 3, 2019, the Company closed the second tranche of Debentures for gross proceeds of \$1,089,552 (CAD\$1,460,000).
- 8) On June 3, 2019, the Company closed the third tranche of Debentures for gross proceeds of \$642,908 (CAD\$862,000).
- 9) On August 6, 2019, the Company closed the fourth tranche of Debentures for gross proceeds of \$416,666 (CAD\$550,000).
- 10) On August 20, 2019, the Company signed a definitive Share Sale Agreement (“SSA”) with DenseLight Semiconductor Technology (Shanghai) Co. Ltd (the “Buyer”) where-by the Buyer will purchase all the issued and outstanding common shares of the Company’s Singapore subsidiary, DenseLight Semiconductor Pte. Ltd. from the Company.
- 11) On September 20, 2019, the Company closed the fifth tranche of Debentures for gross proceeds of \$137,228 (CAD\$182,000).
- 12) On October 24, 2019, the Company received shareholder approval for the sale of DenseLight.
- 13) On November 5, 2019, the Company announced the appointment of Vivek Rajgarhia as President & General

Manager of the Company, while Dr. Suresh Venkatesan adds the title of Chairman to his existing role as Chief Executive Officer of POET Technologies.

- 14) On November 8, 2019, the Company announced the closing of the sale of DenseLight and the receipt of the first tranche payment of \$8 million, the full repayment of its secured lenders and the subsequent discharge of associated security interests.

### ***Significant Events after the Year End***

- 1) On February 3, 2020, the Company announced the successful completion of its proof of concept project with a North American-based networking company to provide initial device prototypes of its Optical Interposer platform to systematically address specific integration requirements.
- 2) On February 19, 2020, the Company announced that despite the recent business interruptions in China resulting from COVID-19, it had received the scheduled Tranche 2a payment of \$4,750,000.
- 3) On March 30, 2019, the Company announced that it had received the scheduled Tranche 2b payment of \$8,250,000

### ***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>Dec 31/19</u>	<u>Sep 30/19</u>	<u>Jun 30/19</u>	<u>Mar.31/19</u>	<u>Dec.31/18</u>	<u>Sep. 30/18</u>	<u>Jun. 30/18</u>	<u>Mar. 31/18</u>
Research and development	836,815	373,592	422,270	213,827	366,476	408,295	536,435	555,802
Depreciation and amortization	118,912	41,748	34,798	48,216	36,093	35,004	37,338	44,809
Professional fees	411,001	366,885	174,296	168,623	262,953	100,830	185,956	185,863
Wages and benefits	441,784	375,358	403,387	399,190	347,909	384,582	342,374	358,421
Management and consulting fees	61,260	31,230	30,834	31,033	31,242	41,638	32,104	50,185
Stock-based compensation <sup>(1)</sup>	643,315	837,638	684,861	722,327	896,952	1,049,268	956,746	699,913
General expense, rent and facility	270,918	162,156	231,017	243,911	62,907	123,437	138,465	164,354
Amortization of debt issuance costs	145,917	124,522	101,901	-	-	-	-	-
Impairment	1,764,459	-	-	-	-	-	-	-
Interest expense	301,577	320,794	197,540	-	-	-	-	-
Other (income), including interest	<u>(5,677)</u>	<u>(40)</u>	<u>(1,579)</u>	<u>(3,244)</u>	<u>(1,734)</u>	<u>(12,500)</u>	<u>-</u>	<u>-</u>
Net loss, continuing operations before taxes	<u>\$ 4,990,281</u>	<u>\$ 2,633,883</u>	<u>\$ 2,279,325</u>	<u>\$ 1,823,883</u>	<u>\$ 2,002,798</u>	<u>\$ 2,130,554</u>	<u>\$ 2,229,418</u>	<u>\$ 2,059,347</u>
Net (income) loss, discontinued operations, net of taxes	<u>\$(8,151,301)</u>	<u>\$310,332</u>	<u>\$ 1,500,553</u>	<u>\$ 858,659</u>	<u>\$1,592,893</u>	<u>\$ 2,808,720</u>	<u>\$ 2,383,588</u>	<u>\$ 1,115,461</u>
Net loss per share, continuing operations	<u>\$ (0.02)</u>	<u>\$ (0.01)</u>	<u>\$ (0.01)</u>	<u>\$ (0.01)</u>	<u>\$ (0.01)</u>	<u>\$ (0.01)</u>	<u>\$ (0.01)</u>	<u>\$ (0.01)</u>
Net income (loss) per share, discontinued operations	<u>\$ 0.03</u>	<u>\$ (0.00)</u>	<u>\$ (0.00)</u>	<u>\$ (0.00)</u>	<u>\$ (0.00)</u>	<u>\$ (0.01)</u>	<u>\$ (0.01)</u>	<u>\$ (0.00)</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*.

Following are the highlights of financial data of discontinued operations, net of taxes for the most recently completed eight quarters up-to November 8, 2019:

	<u>Nov 8/19</u>	<u>Sep 30/19</u>	<u>Jun 30/19</u>	<u>Mar.31/19</u>	<u>Dec.31/18</u>	<u>Sep. 30/18</u>	<u>Jun. 30/18</u>	<u>Mar. 31/18</u>
Sales	\$ (52,912)	\$ (1,182,729)	\$ (1,358,473)	\$ (1,832,241)	(1,555,714)	\$ (907,045)	\$ (752,198)	\$ (673,229)
Cost of sales	79,080	348,869	410,447	362,977	509,164	378,689	319,939	268,178
Research and development	584,703	1,638,295	1,811,028	1,672,079	2,165,088	1,678,851	1,363,129	1,082,407
Depreciation and amortization	-	-	-	-	630,179	605,513	622,482	551,206
Professional fees	4,570	7,639	19,735	14,540	12,314	4,928	2,601	11,904
Wages and benefits	125,525	301,842	253,852	206,641	260,288	232,752	278,322	263,353
Stock-based compensation	(347,365)	80,009	81,642	110,106	120,175	99,827	107,027	92,209
General expenses and rent	153,614	265,074	256,107	388,112	449,864	594,658	361,553	355,027
Impairment and other loss	-	-	-	-	(22,058)	178,775	-	-
Interest expense	8,764	26,131	26,215	13,384	-	-	-	-
Other (income), including interest	-	(1,174,798)	-	(76,939)	(901,922)	16,257	155,218	(761,109)
Gain on sale of discontinued operations	(8,707,280)	-	-	-	-	-	-	-
Income taxes	-	-	-	-	(74,485)	(74,485)	(74,485)	(74,485)
Net (income) loss before taxes	<u>\$ (8,151,301)</u>	<u>\$ 310,332</u>	<u>\$ 1,500,553</u>	<u>\$ 858,659</u>	<u>\$ 1,592,893</u>	<u>\$ 2,808,720</u>	<u>\$ 2,383,588</u>	<u>\$ 1,115,461</u>

***Explanation of Quarterly Results for the three months ended December 31, 2019 (“Q4 2019”) compared to the same three-month period in the prior year (“Q4 2018”)***

Net loss from continuing operations for Q4 2019 was \$4,990,281 compared to a net loss of \$2,002,798 in Q4 2018, an increase of \$2,987,483 (149%). The following discusses the significant variances between Q4 2019 and Q4 2018.

R&D increased by \$470,339 (128%) to \$836,815 in Q4 2019 from \$366,476 in Q4 2018. The increase is a result of a redistribution of R&D activities and costs that were typically accounted for by DenseLight and are now being accounted for by the Company. Additionally, the Company established a new test facility in Singapore which became fully operational in Q4 2019. All such test activities and related costs were incurred at DenseLight in Q4 2018.

Professional fees increased by \$148,048 (56%) to \$411,001 in Q4 2019 from \$262,953 in Q4 2018. The increase in professional fees was a result of legal and other professional fees incurred relating to the sale of the Company’s DenseLight subsidiary. The services of professionals in multiple jurisdictions were required during the due diligence process, drafting the SSA and to assist with negotiations.

Interest expense was \$301,577 in Q4 2019 as compared to nil in Q4 2018. The Company raised \$7,729,921 of debt financing, net of directly related cash outlays on issue costs. The Company is required to pay monthly interest on the debt raised during the period. The Company did not have debt obligations in 2018. On November 8, 2019, the Company repaid \$4,000,000 of the borrowed funds.

Related to the issuance of debt is the amortization of debt issuance cost of \$145,917 in Q4 2019 as compared to nil in Q4 2018. The Company paid \$147,077 in costs related to a bridge loan of \$3,100,000. Additionally, the Company issued 3,289,500 warrants to the lender to purchase common shares at a price of CAD\$0.35 per share. The Warrants expire on April 18, 2020. The fair value of the warrants was estimated on the date of issue using the Black-Scholes option pricing model with the following assumptions: volatility of 78.91%, interest rate of 1.62% and an expected life of 1 year. The estimated fair value assigned to the warrants was \$221,620. The total

cost including the impact of foreign exchange was deferred and charged against the bridge loan as a debt discount and was amortized over the life of the bridge loan.

Non-cash stock-based compensation decreased by \$253,637 (28%) to \$643,315 in Q4 2019 from \$896,952 in Q4 2018. 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.

Depreciation and amortization increased by \$82,819 (229%) to \$118,912 in Q4 2019 from \$36,093 in Q4 2018. The increase in depreciation and amortization was a result of assets acquired primarily for the purposes of the newly established test facility in Singapore.

Wages and benefits increased by \$93,875 (27%) to \$441,784 in Q4 2019 from \$347,909 in Q4 2018. In late 2019, the Company recruited and hired three senior individuals for roles for which there was a gap. These roles included a President & General Manager of the Company, a Vice President & General Manager for the new Singapore testing facility and a Vice President of Product Marketing & Business Development. Wages and benefits for the year include the wages and benefits of these three new hires. Q4 2018 did not include similar wages and benefits.

General expenses and rent increased by \$208,111 (331%) to \$270,918 in Q4 2019 from \$62,907 in Q4 2018. The increase was primarily a result of ancillary costs incurred related to the various financings that occurred in 2019 and certain indenture fees related to maintaining the warrants of a previous equity financing that occurred in 2018. The Company also incurred substantial travel and related costs due to the time and effort required in negotiating and addressing due diligence matters respecting the sale of DenseLight. Additionally, the Company incurred \$3,452 of unrealized foreign exchange loss due the weakening of the Canadian dollar in Q4 2019. The Company had an unrealized foreign exchange gain of \$174,341 in Q4 2018. The unrealized gains and losses are a result of currency translation for financial reporting purposes.

In Q4 2019, the Company performed an impairment analysis on its goodwill and intangible assets related to the acquisition of BB Photonics in 2016. The Company determined that these assets were impaired and consequently recognized an impairment loss of \$1,764,459. No impairment was recognized in Q4 2018.

#### Discontinued Operations

Effective January 1, 2019, the Company is reporting the activities of its subsidiary, DenseLight as a discontinued operation. As a result, all comparative reporting has been represented to conform to the new presentation. The analysis of the quarterly reporting is affected by the fact that Q4 2019 is reported as a stub period from October 1, 2019 to November 8, 2019 while Q4 2018 is reported as a full operating quarter.

Net loss from discontinued operations, net of taxes had a substantial increase of \$9,744,194 from a net loss of \$1,592,893 in Q4 2018 to net income of \$8,151,301 in Q4 2019. The most significant driver of the net income in Q4 2019 was the gain from the sale of discontinued operations of \$8,707,280. The Company sold its wholly owned Singapore subsidiary, DenseLight for \$26,000,000 in Q4 2019. The sale resulted in the reported gain of \$8,707,280.

Depreciation and amortization in Q4 2019 was nil compared to \$630,179 in Q4 2018. IFRS accounting requires that depreciation and amortization cease when reporting discontinued operations. As a consequence, no depreciation and amortization was reported for Q4 2019.

Non-cash stock-based compensation was \$(347,365) in Q4 2019 compared to \$120,175 in Q4 2018. The difference of \$467,540 was a result of the cancellation of stock options granted to employees of DenseLight. Company policy stipulates that unvested stock options must be cancelled once an individual is no longer a member of the POET team. The cancellation of those unvested stock options resulted in a recovery of amounts expensed in prior periods.

Other income, including interest was nil in Q4 2019 compared to \$901,922 in Q4 2018. The Q4 2018 income was a result of recoveries from the EDB in Singapore. The Company is entitled to a recovery of certain qualifying expenses from the EDB. The EDB program ended in July 2019.

***Explanation of Results for the year ended December 31, 2019 (“2019”) compared to the year ended December 31, 2018 (“2018”)***

Net loss from continuing operations before taxes for 2019 was \$11,727,372 compared to a net loss from continuing operations before taxes of \$8,422,117 for 2018, an increase of \$3,305,255 (39%). The following discusses the significant variances between 2019 and 2018.

Wages and benefits increased by \$186,433 (13%) to \$1,619,719 for 2019 from \$1,433,286 in 2018. In late 2019, the Company recruited and hired three senior individuals for roles for which there was a gap. These roles included a President & General Manager of the Company, a Vice President & General Manager for the new Singapore testing facility and a Vice President of Product Marketing & Business Development. Additionally, the Company hired a Senior Vice President of Strategic Marketing in late 2018. The Company reported a full years’ wages for the Senior Vice President of Strategic Marketing in 2019 while only a partial years’ wages were recorded in 2018.

Professional fees increased by \$385,203 (52%) to \$1,120,805 in 2019 from \$735,602 in 2018. The increase in professional fees was a result of legal and other professional fees incurred relating to the sale of the Company’s DenseLight subsidiary. The services professionals in multiple jurisdictions were required during the due diligence process, drafting the SSA and to assist with negotiations.

General expenses and rent increased by \$418,839 (86%) to \$908,002 in 2019 from \$489,163 in 2018. The increase was primarily a result of ancillary costs incurred related to the various financings that occurred in 2019 and certain indenture fees related to maintaining the warrants of a previous equity financing that occurred in 2018. The Company also incurred substantial travel and related costs due to the time and effort required in negotiating and addressing due diligence matters respecting the sale of DenseLight. Additionally, the Company incurred \$49,274 of unrealized foreign exchange loss due the weakening of the Canadian dollar in 2019. The Company had an unrealized foreign exchange gain of \$142,104 in 2018. The unrealized gains and losses are a result of currency translation for financial reporting purposes.

Interest expense was \$819,911 for 2019 as compared to nil in 2018. The Company raised \$7,729,921 of debt financing from various lenders at varying times throughout 2019, net of directly related issue costs. The Company is required to pay monthly interest on the debt raised during the period. The Company did not have debt obligations in 2018.

Related to the issuance of debt in 2019 is the amortization of debt issuance cost of \$372,340 compared to nil in 2018. The Company paid \$147,077 in costs related to a bridge loan of \$3,100,000 from Espresso Capital Ltd. Additionally, the Company issued 3,289,500 warrants to the lender to purchase common shares at a price of CAD\$0.35 per share. The warrants expire on April 18, 2020. The fair value of the warrants was estimated on the date of issue using the Black-Scholes option pricing model with the following assumptions: volatility of 78.91%, interest rate of 1.62% and an expected life of 1 year. The estimated fair value assigned to the warrants was \$221,620. The total cost, including the impact of foreign exchange, was deferred and eventually charged to profit and loss in 2019 when the debt was settled. There was no debt issuance cost in 2018.

Non-cash stock-based compensation decreased by \$714,738 (20%) to \$2,888,141 in 2019 from \$3,602,879 in 2018. 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.

During 2019, the Company performed an impairment analysis on its goodwill and intangible assets related to the acquisition of BB Photonics in 2016. The Company determined that these assets were impaired and consequently recognized an impairment loss of \$1,764,459. No impairment was recognized in 2018.

## Discontinued Operations

Effective January 1, 2019, the Company is reporting the activities of DenseLight as a discontinued operation. As a result, all comparative reporting has been represented to conform to the new presentation. The following analysis is affected by the fact that 2019 is reported as a stub period from January 1, 2019 to November 8, 2019 while 2018 is reported as a full year.

Net income from discontinued operations, net of taxes for 2019 was \$5,481,757 compared to a net loss from discontinued operations net of taxes of \$7,900,662 in 2018. The following discussion analyses the \$13,382,419 (169%) variance from 2018 to 2019.

The net income in 2019 includes a gain on the sale of discontinued operations of \$8,707,280. On November 8, 2019, the Company sold all the issued and outstanding shares of DenseLight for \$26,000,000. The sale resulted in the reported gain in 2019 of \$8,707,280.

Even with a stub period reporting, revenue increased by \$538,169 (14%) to \$4,426,355 in 2019 compared to revenue of \$3,888,186 in 2018. The increase resulted primarily from an increase in NRE revenue that DenseLight started to report in late 2018. The increased NRE contributed to higher gross margin in 2019. Gross margin was \$3,224,982 or 73% in 2019 compared to \$2,412,216 or 62% in 2018.

R&D decreased by \$583,370 (9%) to \$5,706,105 in 2019 from \$6,289,475 in 2018. The decrease in R&D does not reflect reduced activity but rather the fact that only 10 months of R&D activity are reflected in 2019 compared to 12 months of activity in reported 2018. Had the comparative periods been the same it is estimated that 2019 R&D would have increased marginally due to the effort expended to accelerate certain component developments, and to reach other technical milestones, including the launch of the advanced Integrated Light Module (ILM), designed specifically for high-performance wind LIDAR and other environmentally-stressed applications. The Company also launched a new 1653nm DFB laser for targeting the methane gas sensing markets and the 1650nm Fabry-Perot (FP) laser for test and measurement applications, targeting the OTDR (Optical Time-Domain Reflectometer) market where the equipment is used to detect faults and understand the losses along a given length of fiber-optic cable in networking and data communications systems.

Wages and benefits decreased by \$146,855 (14%) to \$887,860 in 2019 from \$1,034,715 in 2018. The decrease is related to the stub period reported in 2019 compared to the 12 months in 2018. Had 12 months of wages and benefits been reported for both years, the variance would have been negligible.

IFRS accounting requires that depreciation and amortization cease when reporting discontinued operations. As a consequence, no depreciation and amortization was reported in 2019 for discontinued operations. Depreciation and amortization was \$2,409,380 in 2018.

General expenses and rent decreased by \$698,195 (40%) to \$1,062,907 in 2019 from \$1,761,102 in 2018. The decrease is related to the stub period reported in 2019 compared to the 12 months in 2018. Additionally, the application of the new IFRS 16 standard in January 2019 resulted in the re-characterization of rent. Rent expense has now been replaced with interest cost related to a lease liability and amortization related to a right of use asset. Rental payments are now applied against the newly established lease liability. There was a corresponding reduction in rent expense during the year and an increase in interest cost. Due to the cessation of depreciation and amortization, no amortization was recorded against the right of use asset. All rental payments were charged to rent expense in 2018.

During the 2019, the Company recorded non-cash interest expense of \$74,494 relating to the afore-mentioned lease liability. The Company did not have an interest expense in 2018.

Non-cash impairment was nil in 2019 compared to \$156,717 recorded in 2018. In 2018, management determined that certain property and equipment would no longer be used to generate future cash flows and committed to plan to dispose of such property and equipment. The Company disposed of assets that were no longer in use. The assets were impaired prior to their disposal. The fair value less cost to sell was determined to be \$3,000 which was greater than its value in use.

## ***Explanation of Material Variations by Quarter for the Last Eight Quarters***

### **Q4 2019 compared to Q3 2019**

Net loss from continuing operations increased by \$2,356,398 (89%) in Q4 2019 to \$4,990,281 from \$2,633,883 in Q3 2019.

R&D increased by \$463,223 (124%) to \$836,815 in Q4 2019 from \$373,592 in Q3 2019. The increase is a result of a redistribution of R&D activities that were typically accounted for by DenseLight and are now being accounted for by the Company. Additionally, the Company established a new test facility in Singapore which became fully operational in Q4 2019. All such test activities and related costs were incurred at DenseLight in Q3 2019.

Depreciation and amortization increased by \$77,164 (185%) to \$118,912 in Q4 2019 from \$41,748 in Q3 2019. The increase in depreciation and amortization was a result of assets acquired primarily for the purposes of the newly established test facility in Singapore.

Wages and benefits increased by \$66,426 (18%) to \$441,784 in Q4 2019 from \$375,358 in Q3 2019. In late 2019, the Company recruited and hired three senior individuals for roles for which there was a gap. These roles included a President & General Manager of the Company, a Vice President & General Manager for the new Singapore testing facility and a Vice President of Product Marketing & Business Development. Q3 2019 did not include compensation to these new employees.

General expenses and rent increased by \$108,762 (67%) to \$270,918 in Q4 2019 from \$162,156 in Q3 2019. The increase was primarily a result of ancillary costs incurred related to the various financings that occurred in 2019 and certain indenture fees related to maintaining the warrants of a previous equity financing that occurred in 2018. The Company also incurred substantial travel and related costs due to the time and effort required in negotiating and addressing due diligence matters respecting the sale of DenseLight.

In Q4 2019, the Company performed an impairment analysis on its goodwill and intangible assets related to the acquisition of BB Photonics in 2016. The Company determined that these assets were impaired and consequently recognized an impairment loss of \$1,764,459. No impairment was recognized in Q3 2019.

Non-cash stock-based compensation decreased by \$194,323 (23%) to \$643,315 in Q4 2019 from \$837,638 in Q3 2019. 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.

Management and consulting fees increased by \$30,030 (96%) to \$61,260 in Q4 2019 from \$31,230 in Q3 2019. The increase was a result of one new consultant who was retained in Q4 2019 to assist with the new strategy of the Company post the sale of DenseLight. The Consultant was subsequently hired by the Company.

### **Discontinued Operations**

Due to the sale of DenseLight on November 8, 2019, the analysis of the period over period reporting is affected by the fact that Q4 2019 is reported as a stub period from October 1, 2019 to November 8, 2019 while Q3 2019 is reported as a full operating quarter. All expenses in Q4 2019 are therefore lower than those of Q3 2019. Significant changes unaffected by the stub reporting in Q4 2019 are therefore reported below.

Non-cash stock-based compensation was \$(347,365) in Q4 2019 compared to \$80,009 in Q3 2019. The difference of \$427,374 (534%) was a result of the cancellation of stock options granted to employees of DenseLight. Company policy stipulates that unvested stock options must be cancelled once an individual is no longer a member of the POET team. The cancellation of those unvested stock options resulted in a recovery of amounts expensed in prior periods.



Other income, including interest was nil in Q4 2019 compared to \$1,174,798 in Q3 2019. The Q3 2019 income was a result of recoveries from the EDB in Singapore. The Company was entitled to a recovery of certain qualifying expenses from the EDB. The EDB program ended in Q3 2019.

### Q3 2019 compared to Q2 2019

Net loss from continuing operations increased by \$354,558 (16%) in Q3 2019 to \$2,633,883 from \$2,279,325 in Q2 2019.

Professional fees increased by \$192,589 (110%) to \$366,885 in Q3 2019 from \$174,296 in Q2 2019. The increase in professional fees was a result of legal and other professional fees incurred relating to the sale of the Company's DenseLight subsidiary. The services professionals in multiple jurisdictions were required during the due diligence process, drafting the SSA and to assist with negotiations.

Interest expense increased by \$123,254 (62%) to \$320,794 for Q3 2019 as compared to \$197,540 Q2 2019. The Company raised \$6,805,772 of debt financing, net of directly related issue costs between Q2 and Q3 2019. The company is required to pay monthly interest on the debt.

Related to the issuance of debt is the amortization of debt issuance cost of \$124,552 in Q3 2019 compared to \$101,901 in Q2 2019. The Company paid \$147,077 in costs related to a bridge loan of \$3,100,000 from Espresso Capital Ltd. Additionally, the Company issued 3,289,500 warrants to the lender to purchase common shares at a price of CAD\$0.35 per share. The warrants expire on April 18, 2020. The fair value of the warrants was estimated on the date of issue using the Black-Scholes option pricing model with the following assumptions: volatility of 78.91%, interest rate of 1.62% and an expected life of 1 year. The estimated fair value assigned to the warrants was \$221,620. The total cost of \$368,697 was deferred and charged against the bridge loan and will be amortized over the life of the bridge loan.

General expenses and rent decreased by \$68,861 (30%) to \$162,156 in Q3 2019 from \$231,017 in Q2 2019. General expenses and rent was unusually high due to ancillary costs incurred related to the various financings that occurred primarily in Q2 2019 and certain indenture fees related to maintaining the warrants of a previous equity financing that occurred in 2018.

Non-cash stock-based compensation increased by \$152,777 (22%) to \$837,638 in Q3 2019 from \$684,861 in Q2 2019. 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.

### Discontinued Operations

Effective January 1, 2019, the Company is reporting the activities of its subsidiary, DenseLight as a discontinued operation. As a result, all comparative reporting has been represented to conform to the new presentation.

Net loss from discontinued operations, net of taxes decreased by \$1,190,221 (79%) to \$310,332 in Q3 2019 from \$1,500,553 in Q2 2019.

Revenue during Q3 2019 decreased by \$175,744 (13%) to \$1,182,729 from \$1,358,473 in Q2 2019. The Company is executing the second part of its NRE revenue program which is gradually yielding lower revenues. While revenue decreased, gross margin remained consistent between Q2 and Q3 2019, \$833,860 (71%) from 948,026 (70%).

R&D, net of stock-based compensation decreased by \$172,733 (10%) to \$1,638,295 in Q3 2019 from \$1,811,028 in Q2 2019. The decrease was a result of reduced outsourcing in Q3 2019 compared to Q2 2019. The different stage of development of the Company's programs will result in periodic fluctuations in cost.

Wages and benefits increased by \$47,990 (19%) to \$301,842 in Q3 2019 from \$253,852 in Q2 2019. During Q3 2019, the number of employees who did not take vacation was unusually high compared to Q2 2019, as a result the vacation wages and benefits increased during Q3 2019 resulting from increased vacation benefits.

Other income including interest was \$1,174,798 in Q3 2019 compared to nil in Q2 2019. The reported income in Q3 2019 is a result of the accrued EDB recoveries. The Company did not file an EDB claim in Q2 2019, so no recovery was recorded in that period. Recoveries are reflected in the period in which claims are filed.

#### Q2 2019 compared to Q1 2019

Net loss from continuing operations increased by \$455,442 (25%) in Q2 2019 to \$2,279,325 from \$1,823,883 in Q1 2019.

R&D increased by \$208,443 (97%) to \$422,270 in Q2 2019 from \$213,827 in Q1 2019. In preparation for the divestiture of DenseLight and the transfer of R&D activity, the Company has increased its locally initiated R&D activity, primarily in Ottawa, Ontario with Mill View Photonics. The Company also expanded its R&D team to include new skilled waveguide specialists.

Interest expense was \$197,540 for Q2 2019 as compared to nil in Q1 2019. The Company raised \$5,438,019 of debt financing, net of directly related issue costs in Q2 2019. The company is required to pay monthly interest on the debt. The Company did not have debt obligations prior to Q2 2019.

Related to the issuance of debt in Q2 2019 is the amortization of debt issuance cost of \$101,901. The Company paid \$147,077 in costs related to a bridge loan of \$2,600,000. Additionally, the Company issued 3,289,500 warrants to the lender to purchase common shares at a price of CAD\$0.35 per share. The warrants expire on April 18, 2020. The fair value of the warrants was estimated on the date of issue using the Black-Scholes option pricing model with the following assumptions: volatility of 78.91%, interest rate of 1.62% and an expected life of 1 year. The estimated fair value assigned to the warrants was \$221,620. The total cost of \$368,697 was deferred and charged against the bridge loan and will be amortized over the life of the bridge loan. During Q2 2019, the Company recorded amortized debt issuance cost of \$101,901. There was no debt issuance cost in Q1 2019.

#### Discontinued Operations

Effective January 1, 2019, the Company is reporting the activities of its subsidiary, DenseLight as a discontinued operation. As a result, all comparative reporting has been represented to conform to the new presentation.

Net loss from discontinued operations, net of taxes increased by \$641,894 (75%) to \$1,500,553 in Q2 2019 from \$858,659 in Q1 2019.

Revenue during Q2 2019 decreased by \$473,768 (26%) to \$1,358,473 from \$1,832,241 in Q1 2019. The Company executed the first part of its NRE revenue in Q1 2019 which yielded higher revenues for that period. The Company is now focused on the second phase of the NRE contract. The lower revenue also resulted in reduced gross margins from 80% in Q1 2019 to 70% in Q2 2019.

R&D, net of stock-based compensation increased by \$138,949 (8%) to \$1,811,028 in Q2 2019 from \$1,672,079 in Q1 2019. R&D wages and benefits represent the largest segment of R&D. The Company increased compensation to R&D employees to make the company's compensation more competitive with the industry.

Wages and benefits increased by \$47,211 (23%) to \$253,852 in Q2 2019 from \$206,641 in Q1 2019. Wages and benefits was higher in Q2 2019 than Q1 2019 because the Company had one additional sales person in Q2 2019. Additionally, the Company increased compensation to administrative employees to make the company's compensation more competitive with the industry.

General administrative and rent decreased by \$132,005 (34%) to \$256,107 in Q2 2019 from \$388,112 in Q1 2019. The Company renewed its lease in mid Q1 2019, however, the application of the new IFRS 16 standard in January 2019 resulted in the re-characterization of rent. Rent expense has now been replaced with interest cost related to a lease liability and amortization related to a right of use asset. Since mid Q1 2019, rental payments are being applied against the newly established lease liability. There was a corresponding reduction in rent expense in Q2

2019 and an increase in interest cost. Due to the cessation of amortization, no amortization was recorded against the right of use asset. A portion of the Q1 2019 rental payments was charged to rent expense in Q1 2019.

Other (income) loss, including interest decreased by \$76,939 (100%) to nil in Q2 2019 from \$76,939 in Q1 2019. The Company routinely receives a cash credit for gold reserves that are deposited within the chamber of certain equipment whenever the chamber is replaced. The Company received \$76,939 in cash credits in Q1 2019. No credit was received in Q2 2019.

#### Q1 2019 compared to Q4 2018

Net loss from continuing operations decreased by \$178,915 (9%) in Q1 2019 to \$1,823,883 from \$2,002,798 in Q4 2018.

R&D decreased by \$152,649 (42%) to \$213,827 in Q1 2019 from \$366,476 in Q4 2018. The Company initiated consulting arrangements with Mill View Photonics in Q4 2018 to assist with waveguide and filter designs for the Optical Interposer. The Company expanded its relationship into a collaborative agreement in Q1 2019. The higher R&D costs in Q4 2018 were a result of payment made to Mill View Photonics for its consulting services along with their initial review and assessment of the Optical Interposer platform. The Company also relied on fewer consultants in Q1 2019 as their services were not currently needed. The Company will likely re-engage those consultants for future developmental efforts.

Professional fees decreased by \$94,330 (36%) to \$168,623 in Q1 2019 from \$262,953 in Q4 2018. The professional fees incurred in Q4 2018 included the fees related to the preparation and filing of a final short form prospectus in November 2018.

General expenses and rent increased by \$181,004 (288%) to \$243,911 in Q1 2019 from \$62,907 in Q4 2018. The increase is primarily a result of the impact of foreign exchange on the Company's foreign denominated currency. The Company had an exchange gain in Q4 2018 while it conversely had an exchange loss in Q1 2019. Additionally, Q4 2018 expense was unusually low as a result of an insurance refund received in Q4 2018 resulting from a claim made by the Company.

Wages and benefits increased by \$51,281 (15%) to \$399,190 in Q1 2019 from \$347,909 in Q4 2018. Payroll related costs are higher in Q1 than Q4 because the Company is required to make mandatory payroll remittances for all employees in Q1. These remittances reduce over time as the Company approaches its yearly maximums. Additionally, the Company reversed a payroll over-accrual of \$20,000 in Q4 2018 from Q3 2018. The reversal resulted in an unusually low amount being reported in Q4 2018.

#### Discontinued Operations

Net loss from discontinued operations, net of taxes decreased by \$734,234 (46%) to \$858,659 in Q1 2019 from \$1,592,893 in Q4 2018.

The primary reason for the reduced loss in Q1 2019 was the increase of revenue of \$276,527 (18%) to \$1,832,241 in Q1 2019 from \$1,555,714 in Q4 2018 primarily resulting from the NRE revenue that the Company started to report in Q4 2018. Gross margin on Q1 2019 revenue was \$1,469,264 or 80% compared to \$1,046,550 or 67% in Q4 2018.

R&D, net of stock-based compensation decreased by \$493,009 (23%) to \$1,672,079 in Q1 2019 from \$2,165,088 in Q4 2018. R&D in Q4 2018 was higher than Q1 2019 due to the annual wage supplement (AWS) accrued for R&D staff in Singapore. The AWS represents an additional one month of salary routinely paid to certain qualifying staff. The Company pays the AWS in order to maintain competitive wages in Singapore.

As per IFRS, depreciation and amortization ceases when reporting discontinued operations, as a consequence no depreciation and amortization was reported in Q1 2019. Depreciation and amortization was \$630,179 in Q4 2018.

Wages and benefits decreased by \$53,647 (21%) to \$206,641 in Q1 2019 from \$260,288 in Q4 2018. Similar to R&D, Q4 2018 wages and benefits was higher than Q1 2019 due to the annual wage supplement (AWS) accrued for G&A staff. The AWS represents an additional one month of salary routinely paid to certain qualifying staff. The Company pays the AWS in order to maintain competitive wages in Singapore.

Other (income) loss, including interest decreased by \$824,983 (183%) in Q1 2019 to \$76,939 from \$901,922 in Q4 2018. The \$824,983 decrease in other income in Q1 2019 was a result of the accrued EDB recoveries recorded in the Q4 2018. The Company did not file an EDB claim in Q1 2019, so no recovery was recorded in that period. EDB Recoveries are reflected in the period in which claims are filed. Other income in Q1 2019 was a result of a cash credit received for the sale of gold particles to a service provider that recovers gold particles when servicing the Company's equipment.

#### Q4 2018 compared to Q3 2018

Net loss from continuing operations decreased by \$127,756 (6%) to \$2,002,798 in Q4 2018 from \$2,130,554 in Q3 2018.

R&D decreased by \$41,819 (10%) to \$366,476 in Q4 2018 from \$408,295 in Q3 2018. The decrease in R&D in Q4 2018 was a result of reduced outsourced expenditures during the period. Most R&D for the entire organization was incurred by the Company's subsidiary, DenseLight which is now reported as a discontinued operation.

Professional fees increased by \$162,123 (161%) to \$262,953 in Q4 2018 from \$100,830 in Q3 2018. The increase was a result of professional fees incurred in the preparation and filing of a final short form prospectus in November 2018.

General administrative and rent decreased by \$60,530 (49%) to \$62,907 in Q4 2018 from \$123,437 in Q3 2018. The increase is primarily a result of the impact of foreign exchange on the Company's foreign denominated currency. The Company had an exchange gain in Q4 2018 while it conversely had an exchange loss in Q3 2018. Additionally, Q4 2018 expense was unusually low as a result of an insurance refund received in Q4 2018 resulting from a claim made by the Company.

Non-cash stock-based compensation decreased by \$152,316 (15%) to \$896,952 in Q4 2018 from \$1,049,268 in Q3 2018. 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 decreased by \$36,673 (10%) in Q4 2018 to \$347,909 from \$384,582 in Q3 2018. The decrease compared in Q3 2018 was a result of a payroll over-accrual of \$20,000 in Q3 2018 which was reversed in Q4 2018. The reversal resulted in an unusually low amount being reported in Q4 2018.

#### Discontinued Operations

Net loss from discontinued operations, net of taxes decreased by \$1,215,827 (43%) to \$1,592,893 in Q4 2018 from \$2,808,720 in Q3 2018.

The primary reason for the reduced loss in Q4 2018 was the increased revenue of \$648,670 (72%) to \$1,555,714 in Q4 2018 from \$907,044 in Q3 2019 resulting from the NRE revenue that the Company started to report in Q4 2018. Gross margin on Q4 2018 revenue was \$1,046,550 (67%) compared to \$528,356 (58%) in Q3 2018.

R&D, net of stock-based compensation increased by \$486,237 (29%) to \$2,165,088 in Q4 2018 from \$1,678,851 in Q3 2018. R&D in Q4 2018 was higher than Q3 2018 due to the annual wage supplement (AWS) accrued for R&D staff in Singapore. The AWS represents an additional one month of salary routinely paid to certain qualifying staff. The Company pays the AWS in order to remain as a competitive employer in Singapore.

Wages and benefits increased by \$27,536 (12%) to \$260,288 in Q4 2018 from \$232,752 in Q3 2019. Similar to R&D, Q4 2018 wages and benefits was higher than Q3 2018 due to the annual wage supplement (AWS) accrued for G&A staff. The AWS represents an additional months' salary routinely paid to qualifying staff. The Company pays the AWS in order to maintain competitive wages in Singapore.

General administrative, rent and facility decreased by \$144,794 (24%) to \$449,864 in Q4 2018 from \$594,658 in Q3 2018. The decrease is a function of lower repairs and maintenance activity in the DenseLight facility in Q4 2018.

Other income was \$901,922 in Q4 2018 compared to a loss of \$16,257 in Q3 2018. The \$918,179 increase in other income in Q4 2018 was a result of the accrued EDB recoveries recorded in the Q4 2018. The Company did not file an EDB claim in Q3 2018, so no recovery was recorded in that period. Recoveries are reflected in the period in which claims are filed.

Non-cash impairment gain was \$(22,058) in Q4 2018 compared to a non-cash impairment loss of \$178,775 recorded in Q3 2018. The amount recorded in Q4 2018 was an adjustment to the impairment originally assessed in Q3 2018.

### Q3 2018 compared to Q2 2018

Net loss from continuing operations decreased by \$98,866 (4%) in Q3 2018 to \$2,130,554 from \$2,229,420 in Q2 2018.

R&D decreased by \$128,140 (24%) to \$408,295 in Q3 2018 from \$536,435 in Q2 2018. The decrease in R&D in Q3 2018 was a result reduced outsourced expenditure during the period. Most R&D for the entire organization was incurred by the Company's subsidiary DenseLight, which is now reported as a discontinued operation.

Professional fees decreased by \$85,128 (46%) to \$100,830 in Q3 2018 from \$185,958 in Q2 2018. The Company did not have any significant transactions or activity such as contract negotiations or commercial agreements requiring professional consulting fees in Q3 2018. Professional fees in Q3 2018 were more in the normal course of business.

Wages and benefits increased by \$42,208 (12%) in Q3 2018 to \$384,582 from \$342,374 in Q2 2018. The increase compared in Q2 2018 was a result of a \$20,000 payroll over-accrual in Q3 2018.

Non-cash stock-based compensation increased by \$92,522 (10%) to \$1,049,268 in Q3 2018 from \$956,746 in Q2 2018. 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.

### Discontinued Operations

Net loss from discontinued operations, net of taxes increased by \$425,133 (18%) to \$2,808,720 in Q3 2018 from \$2,383,587 in Q2 2018.

R&D, net of stock-based compensation increased by \$315,722 (23%) to \$1,678,851 in Q3 2018 from \$1,363,129 in Q2 2018. Since POET's acquisition of DenseLight in May of 2016, DenseLight has progressively increased its R&D activities in an effort to bring new products to market and expand its product portfolio. The increased R&D activity has contributed to the development of components for the POET Optical Interposer platform. New skilled technical human resources, especially in optics and photonics device testing, represent the largest area of increase in R&D. The increase was consistent with the Company's budgeted R&D activity.

Wages and benefits decreased by \$45,570 (16%) in Q3 2018 to \$232,752 from \$278,322 in Q2 2018. The decrease was a result of the resignation of one senior sales person in Q3 2018.

General administrative, rent and facility increased by \$233,107 (64%) to \$594,658 in Q3 2018 from \$361,551 in Q2 2018. The increase is a function of higher repairs and maintenance cost to the DenseLight facility in Q3 2018.

Other (income) loss, including interest decreased by \$138,961 (90%) to \$16,257 in Q3 2018 from \$155,218 in Q2 2018. Approximately \$150,000 of the loss reported in Q2 2018 was attributable to an adjustment in the amount of EDB recovery reported in a prior period. The adjustment was made in Q2 2018. No adjustment was required for Q3 2018.

### Q2 2018 compared to Q1 2018

Net loss from continuing operations increased by \$170,073 (8%) in Q2 2018 to \$2,229,420 from \$2,059,347 in Q1 2018.

Non-cash stock-based compensation increased by \$256,833 (37%) to \$956,746 during Q2 2018 from \$699,913 in Q1 2018. 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 \$25,889 (16%) to \$138,465 in Q2 2018 from \$164,354 in Q1 2018. The decrease was a result 2017 annual filing and regulatory fees paid in Q1 2018.

### Discontinued Operations

Net loss from discontinued operations, net of taxes increased by \$1,268,127 (114%) to \$2,383,587 in Q2 2018 from \$1,115,460 in Q1 2018.

R&D, net of stock-based compensation increased by \$280,722 (26%) to \$1,363,129 in Q2 2018 from \$1,082,407 in Q1 2018. Since POET's acquisition of DenseLight in May of 2016, DenseLight increased its R&D activities in an effort to bring new products to market and expand its product portfolio. The increased R&D activity has contributed to the continued progress of components for the new POET Optical Interposer platform. New skilled technical human resources, especially in optics and photonics device testing, represent the largest area of increase in R&D. The increase is consistent with the Company's budgeted R&D activity.

Non-cash depreciation and amortization increased by \$71,276 (13%) to \$622,482 in Q2 2018 to from \$551,206 in Q1 2018. The Company had committed to improving its fabrication facilities in Singapore, and its overall manufacturing capabilities, which included acquiring new equipment for the Optical Interposer program. The addition of new equipment resulted in increased depreciation charges.

Other (loss) income reported in Q2 was (\$155,218) as compared to \$761,109 in Q1. The majority of the loss was attributable to an adjustment of \$151,000 in the amount of EDB recovery reported for Q1 of \$761,109 resulting from an audit of the claim by a third-party. The adjustment was made in Q2.

### ***Segment Disclosure***

The Company and its subsidiaries operate in a single segment; the design, manufacture and sale of semi-conductor 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:

#### **POET Technologies, Inc. (including its wholly owned subsidiaries)**

POET is the developer of the POET platform semiconductor process IP for fabrication of integrated circuit devices containing both electronic and optical elements in a single package referred to as the POET Optical Interposer platform.

**BB Photonics** - BB Photonics was acquired for its Intellectual property, some of which has been incorporated into the POET Optical Interposer platform. The only assets held by BB Photonics are two patents which are being assigned to the Company, after which the otherwise dormant corporate entities will be terminated.

POET Technologies (the "Company") operates geographically in the United States, Canada and Singapore. Geographical information is as follows:

**2019**

<b>As of December 31,</b>	<b>Singapore</b>		<b>US</b>		<b>Canada</b>		<b>Consolidated</b>	
<b>Current assets</b>	\$	86,849	\$	22,523	\$	20,150,022	\$	20,259,394
<b>Property and equipment</b>		3,055,906		87,154		-		3,143,060
<b>Patents and licenses</b>		-		452,384		-		452,384
<b>Right of use asset</b>		222,517		-		-		222,517
<b>Total Assets</b>	\$	3,365,272	\$	562,061	\$	20,150,022	\$	24,077,355

<b>Year Ended December 31,</b>	<b>Singapore</b>		<b>US</b>		<b>Canada</b>		<b>Consolidated</b>	
<b>Selling, marketing and administration</b>	\$	217,416	\$	5,126,260	\$	1,353,711	\$	6,697,387
<b>Research and development</b>		218,900		107,161		1,757,754		2,083,815
<b>Impairment of long lived assets</b>		-		-		1,764,459		1,764,459
<b>Interest expense</b>		4,705		-		815,206		819,911
<b>Amortization of debt issuance costs</b>		-		-		372,340		372,340
<b>Other income including interest income</b>		-		-		(10,540)		(10,540)
<b>Income tax recovery</b>		-		(292,740)		-		(292,740)
<b>Net loss from continuing operations</b>		(441,021)		(4,940,681)		(4,288,471)		(11,434,632)
<b>Income from discontinued operations, net of taxes</b>		5,481,757		-		-		5,481,757
<b>Net income (loss)</b>	\$	5,040,736	\$	(4,940,681)	\$	(4,288,471)	\$	(5,952,875)

**2018**

<b>As of December 31,</b>	<b>Singapore</b>		<b>US</b>		<b>Canada</b>		<b>Consolidated</b>	
<b>Current assets</b>	\$	4,283,008	\$	302,405	\$	2,302,851	\$	6,888,264
<b>Property and equipment</b>		9,136,694		162,819		-		9,299,513
<b>Patents and licenses</b>		18,464		448,250		-		466,714
<b>Goodwill and intangible assets</b>		6,718,953		1,764,459		-		8,483,412
<b>Total Assets</b>	\$	20,157,119	\$	2,677,933	\$	2,302,851	\$	25,137,903

<b>Year Ended December 31,</b>	<b>Singapore</b>		<b>US</b>		<b>Canada</b>		<b>Consolidated</b>	
<b>Selling, marketing and administration</b>	\$	-	\$	5,169,619	\$	1,004,256	\$	6,173,875
<b>Research and development</b>		-		1,715,154		547,322		2,262,476
<b>Other income including interest</b>		-		-		(14,234)		(14,234)
<b>Net loss from continuing operations</b>		-		(6,884,773)		(1,537,344)		(8,422,117)
<b>Loss from discontinued operations, net of taxes</b>		(7,900,662)		-		-		(7,900,662)
<b>Net loss</b>	\$	(7,900,662)	\$	(6,884,773)	\$	(1,537,344)	\$	(16,322,779)

### ***Liquidity and Capital Resources***

The Company had working capital of \$15,354,149 on December 31, 2019 compared to \$3,847,842 on December 31, 2018. The Company's balance sheet as of December 31, 2019 reflects assets with a book value of \$24,077,355 compared to \$25,137,903 as of December 31, 2018. Eighty-four percent (84%) of the book value at December 31, 2019 was in current assets consisting primarily of receivable from the sale of discontinued operations of \$18,000,000 compared to twenty-seven percent (27%) of the book value as of December 31, 2018, or \$6,888,264, was in current assets consisting primarily of cash and other current assets.

The Company is satisfied that it has sufficient working capital to meet its operating requirements over the next 12 months.

### **Debt Financings**

On April 1, 2019 the Company announced that it arranged for certain financing required to bridge the Company up to the sale of its DenseLight subsidiary.

### **Convertible Debentures**

The first component of the financing consisted of the issuance of up to \$10.5 million (CAD\$14 million) of unsecured convertible debentures (the "Convertible Debentures") of the Company. The Convertible Debentures were sold in multiple tranches, on a brokered private placement basis through the Company's financial advisors, IBK Capital. During the year the Company closed five tranches of the private placement of the Convertible Debentures that raised gross proceeds of \$3,729,921 (CAD\$4,988,292). The Convertible Debentures, bear interest at 12% per annum, compounded annually with 1% payable at the beginning of each month and mature two years from the date of issue. The Company paid \$373,502 (CAD\$499,462) in brokerage fees and other costs related to the closing of these five tranches.

The Convertible Debentures are convertible at the option of the holders thereof into units at any time after October 31, 2019 at a conversion price of CAD\$0.40 per unit for a total 12,470,730 units of the Company. Each unit consists of one common share and one common share purchase warrant. Each common share purchase warrant entitles the holder to purchase one common share of the Company at a price of CAD\$0.50 per share for a period of two years from the date upon which the convertible debenture is converted into units. Upon completing the sale of DenseLight and receiving the full sale proceeds of \$26,000,000, holders of Convertible Debentures will have the right to cause the Company to repurchase the Convertible Debentures at face value, subject to certain restrictions. The Convertible Debentures are governed by a trust indenture between the Company and TSX Trust Company as trustee. The Company has not notified the trustee or the holders of the debentures that the sale of DenseLight has been completed and will not do so until the final payment of \$5,000,000 is received from the Buyers, which is expected on or before May 31, 2020.

Insiders of the Company subscribed for 14.3% or \$535,000 (CAD\$710,000) of the Convertible Debentures, including the Company's board of directors and senior management team. Insiders of IBK Capital subscribed for 4% or \$146,000 (CAD\$200,000) of the Convertible Debentures.

The debt components of the Convertible Debentures were fair valued using effective discount rates ranging from 28.74% to 29.71% which the Company determined would be the interest rate of the debts without a conversion feature. The difference between the fair value of the debt component and the loan is allocated to the equity component and is included in shareholders' equity.

Because the Convertible Debentures are denominated in Canadian dollars and the conversion price is also denominated in Canadian dollars, the number of equity instruments that would be issued upon exercise of the convertible debentures are fixed. As a result, the equity component of the convertible debentures will not be periodically remeasured.



The following table reflects the details of convertible debentures:

<b>Convertible Debentures</b>	<b>Loan</b>	<b>Equity Component</b>	<b>Accretion</b>	<b>Debt Component</b>
Issued April 3, 2019 (net of issue costs)	\$ 1,293,519	\$ (242,004)	\$ 128,240	\$ 1,179,755
Issued May 3, 2019 (net of issue costs)	979,256	(183,317)	84,708	880,647
Issued June 3, 2019 (net of issue costs)	582,356	(109,017)	42,855	516,194
Issued August 2, 2019 (net of issue costs)	374,753	(70,154)	19,690	324,289
Issued September 19, 2019 (net of issue costs)	122,965	(23,019)	5,336	105,282
Effect of foreign exchange rate changes	-	-	-	82,866
Balance December 31, 2019	\$ 3,352,849	\$ (627,511)	\$ 280,829	\$ 3,089,033

### **Loan Payable and Promissory Note**

The second component of the financing consisted of a credit facility (the "Bridge Loan") provided by Espresso Capital Ltd., which granted the Company access to a maximum \$5,000,000. The Company signed the loan documents on April 18, 2019 and was advanced \$3,100,000 shortly thereafter.

Funds drawn on the Credit Facility bear interest at a rate of 17.25% per annum (the "Interest Rate"), calculated daily from the date of each advance until the earlier of the due date of each such advance, if any, and December 31, 2019 (the "Maturity Date"). The Interest Rate is comprised of 15% cash interest and 2.25% deferred interest. Per the agreement, the interest rate was retroactively increased to 19.25% because the Company did not consummate the sale of Denselight by October 15, 2019.

The Company paid \$147,077 in costs related to the Bridge Loan. Additionally, the Company issued to Espresso Capital Ltd, warrants for the purchase of 3,289,500 common shares at a price of CAD\$0.35 per share. The Warrants expire on April 18, 2020. The fair value of the warrants was estimated on the date of issue using the Black-Scholes option pricing model with the following assumptions: volatility of 78.91%, interest rate of 1.62% and an expected life of 1 year. The estimated fair value assigned to the warrants was \$221,620. The total cost of \$368,697 along with the foreign exchange impact of \$3,543 was deferred and charged against the Bridge Loan and subsequently amortized over the life of the Bridge Loan. The Bridge loan was repaid on November 8, 2019.

Additionally, on August 30, 2019, the Company signed a term promissory note (the "Promissory Note") for up-to \$1,000,000 with Century Prosper Investment Corporation (the "Lender"). The Promissory Note bears interest at 15% per annum. The Promissory Note and accrued interest are repayable on the six-month anniversary of each advance. At the option of the Lender, the advances and accrued interest may be repaid in full five days after the sale of the Company's DenseLight subsidiary. The Company was advanced \$900,000 on this Promissory Note. The \$900,000 advance and related interest of \$17,160 were repaid on November 8, 2019.

### **Related Party Transactions**

Compensation to key management personnel (Executive Chairman and CEO, CFO, President & General Manager of the Company, President & General Manager of DenseLight) was as follows:

	<b>2019</b>	<b>2018</b>
Salaries	\$ 1,251,277	\$ 1,216,250
Share-based payments (1)	2,135,579	2,449,683
Total	\$ 3,386,856	\$ 3,665,933

(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.

### ***Subsequent Events***

On February 14, 2020 and March 30, 2020, the Company collected \$4,750,000 and \$8,250,000 respectively for a cumulative \$13,000,000 representing two tranches of an agreed three tranche payment plan for the outstanding balance due from DL Shanghai from the sale of DenseLight. The Company collected an additional \$2,000,000, in excess of sale proceeds, which was immediately paid to Oak Capital on behalf of the DL Shanghai for due diligence, legal and other expenses.

### ***Critical Accounting Estimates***

#### *Accounts receivable*

Accounts receivable are amounts due from customers from the sale of products or services in the ordinary course of business. Accounts receivables are classified as current (on the consolidated statements of financial position) if payment is due within one year of the reporting period date and are initially recognized at fair value and subsequently measured at amortized cost.

In determining a default provision, the Company utilizes a provision matrix, as permitted under the simplified approach to measure expected credit losses. In doing so we considered historical credit losses, forward-looking factors specific to our debtors and other macro-economic factors to arrive at expected default rates. The default rates are then applied to the Company's aging to determine expected credit losses. The carrying amount of trade receivables is reduced by the expected credit losses. If the financial conditions of these customers were to deteriorate and the Company determines that no recovery of a trade receivable is possible, the amount is deemed irrecoverable and subsequently written-off.

#### *Inventory*

Inventory consists of raw material inventory, work in process, and finished goods and are recorded at the lower of cost and net realizable value. Cost is determined on a first in first out basis and includes all costs of purchase, costs of conversion and other costs incurred in bringing the inventory to its present condition.

An assessment is made of the net realizable value of inventory at each reporting period. Net realizable value is the estimated selling price less the estimated cost of completion and the estimated costs necessary to make the sale. When circumstances that previously caused inventory to be written down no longer exist or when there is clear evidence of an increase in net realizable value because of changed economic circumstances, the amount of any write down previously recorded is reversed so that the new carrying amount is the lower of the cost and the revised net realizable value. Raw materials are not written down unless the goods in which they are incorporated are expected to be sold for less than cost, in which case, they are written down by reference to replacement cost of the raw materials, as this is the best indicator of net realizable value.

#### *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.

### *Intangible assets*

Internally generated intangible assets are recorded at cost and will be amortized on a straight-line basis based on the best estimate of the useful life of the asset developed from the point at which the asset is ready for use. Internally generated intangible assets are tested for impairment whenever events or changes indicate that its carrying amount may not be recoverable. Externally acquired intangible assets are amortized on a straight-line basis over 5 years commencing when the asset is ready for use. Externally generated intangible assets are tested for impairment whenever events or changes indicate that its carrying amount may not be recoverable.

### *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.

### *Revenue recognition*

Revenue is measured based on the consideration specified in a contract with a customer and excludes amounts collected on behalf of third parties. The Company recognizes revenue when it transfers control over a product or service to a customer.

### *Sale of goods*

Revenue from the sale of goods is recognized, net of discounts and customer rebates, at the point in time the transfer of control of the related products has taken place as specified in the sales contract and collectability is reasonably assured.

### *Service revenue*

The Company provides contract services, primarily in the form of non-recurring revenue ("NRE") where control is passed to the customer over time. The contracts generally provide agreed upon milestones for customer payment which include but are not limited to the delivery of sample products, design reports and test reports. The customer makes payment when it has approved the delivery of the milestone. The Company must determine if the contract is made up of a series of independent performance obligations or a single performance obligation. Where NRE contracts contain multiple performance obligations for which a standalone transaction price can be assessed, revenue is recognized as each performance obligation is satisfied. Where NRE contracts contain a single performance obligation to be settled over time, revenue is recognized progressively based on the output method.

### ***Recently adopted Accounting Pronouncements***

IFRS 16, Leases (“IFRS 16”) sets out the principles for the recognition, measurement, presentation and disclosure of leases for both parties to a contract, the customer (lessee) and the supplier (lessor). This replaces IAS 17, Leases (“IAS 17”) and related Interpretations. IFRS 16 provides revised guidance on identifying a lease and for separating lease and non-lease components of a contract. IFRS 16 introduces a single accounting model for all lessees and requires a lessee to recognize right of use assets and lease liabilities for leases with terms of more than 12 months, unless the underlying asset is of low value, and depreciation of lease assets is reported separately from interest on lease liabilities in the income statement. Under IFRS 16, lessor accounting for operating and finance leases will remain substantially unchanged. IFRS 16 is effective for annual periods beginning on or after January 1, 2019, with earlier application permitted for entities that apply IFRS 15, Revenue from Contracts with Customers. The Company adopted this new standard using the modified retrospective method on January 1, 2019. The adoption of IFRS 16, resulted in a right of use asset and liability of \$1,127,534. The carrying value of the right of use asset and lease liability relating to Denselight were disposed of upon the sale of DenseLight on November 8, 2019.

### ***Financial Instruments and Risk Management***

The Company's financial instruments consist of cash and cash equivalents, accounts receivable, receivable from the sale of discontinued operations, convertible debentures 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 the fair value of these instruments approximates fair value due to their short-term nature.

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

	December 31, 2019	December 31, 2018
Cash and cash equivalents, measured at amortized cost: Cash and cash equivalents	\$1,428,129	\$2,567,868
Accounts receivable, measured at amortized cost: Accounts receivable	-	946,944
Receivable from the sale of discontinued operation	18,000,000	-
Other liabilities, measured at amortized cost: Accounts payable and accrued liabilities	(1,725,708)	(3,040,422)
Convertible debentures	(3,089,033)	-

### ***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 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 with the Canadian and Singapore dollar. A 10% change in the Canadian and Singapore dollar would increase or decrease other comprehensive loss by \$290,950.

### ***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 exposed to credit risk associated with its accounts receivable. The Company has accounts receivable from both governmental and non-governmental agencies. Credit risk is minimized substantially by ensuring the credit worthiness of the entities with which it carries on business. Credit terms are provided on a case by case basis. The Company has not experienced any significant instances of non-payment from its customers.

The Company's accounts receivable ageing was as follows:

	<b>December 31, 2019</b>	December 31, 2018
Current	\$ -	\$892,343
31 - 60 days	-	34,331
61 - 90 days	-	60,885
> 90 days	-	-
Expected credit losses <sup>(1)</sup>	-	(40,615)
	<b>\$ -</b>	<b>\$946,944</b>

(1) The Company applies IFRS 9 simplified approach to measuring expected credit losses using a lifetime expected credit loss allowance for trade receivables.

### ***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 electronic products that could become obsolete should lower priced competitors or new technology enter the market. This would expose the company to obsolescence risk in inventory balances, but also a risk of obsolescence 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 these consolidated financial statements.

### ***Strategy and Outlook***

There are a number of projects that the Company expects will address the short-term and long-term growth plans of the Company including, but not limited to the following:

- *Introduce the Optical Interposer concept to suppliers of transceivers and data center operators and form commercial partnerships for product development;*
- *Promote the POET Optical Interposer as a true platform technology across several photonic applications and markets;*
- *Pursue multiple potential sources of non-product revenue and strategic partnerships;*
- *Continue to invest in our capabilities and infrastructure;*
- *Selectively pursue other opportunities that leverage our existing expertise; and*
- *Pursue complementary strategic alliance or acquisition opportunities.*

### ***Outstanding Share Data***

#### *Common Shares*

Total common shares of the Company outstanding at December 31, 2019 and April 22, 2020 were 288,363,553 and 291,050,375 respectively.

#### *Stock Options, Warrants and Compensation Options*

Total warrants outstanding to purchase common shares of the Company at December 31, 2019 and April 22, 2020 were 48,034,350 and 45,729,850 priced between CA\$0.50 and CA\$0.75 per common share.

Total compensation units due to brokers as at December 31, 2019 and April 22, 2020 were 1,505,442 and nil respectively, priced at CA\$0.55. Each compensation unit is convertible into one common share and one-half common share purchase warrant.

Total stock options outstanding as at December 31, 2019 and April 22, 2020 were 53,260,338 and 54,586,451 respectively priced between CA\$0.20 and CA\$1.99 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.

### ***Key Business Risks and Uncertainties***

***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 December 31, 2019, we had an accumulated deficit of \$139,148,807. For the years ended December 31, 2019 and December 31, 2018, we incurred net losses of \$5,952,875 and \$16,322,779 respectively.

As of December 31, 2019, we held \$1,428,129 in cash and cash equivalents, and we had working capital of \$15,354,149.

On February 14, 2020 and March 30, 2020, the Company collected \$4,750,000 and \$8,250,000 respectively for a cumulative \$13,000,000 representing two tranches of an agreed three tranche payment plan for the outstanding balance due from DL Shanghai from the sale of DenseLight. The third tranche payment is due to be paid to the Company on or before May 31, 2020.

***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, 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 immediate loss of all or a substantial part of our revenue, 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 are either not fully developed or are in qualification stages, and which no customer has yet fully committed to adopting in 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 DenseLight engineering personnel. We conducted development of component devices separately 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. Following divestment, we will have little or no control over any leakage of certain proprietary information or know-how and additional development with the DenseLight operation on component devices may expose our intellectual property to parties that we cannot control. Further, 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 closed the sale of our DenseLight subsidiary and received \$21 million of the \$26 million due on the sale. The remaining tranche of \$5 million is scheduled to be paid on or before May 31, 2020. If for any reason the holders or our convertible debentures decide to redeem rather than convert their debentures at the time we receive the final payment and provide notice to holders that they are entitled to redeem, we could experience a significant outflow of cash that could interrupt our operating plans, delay new product introduction and cause significant harm to the Company.***

We have planned our operation based on receiving the full consideration for the sale of DenseLight, we have decided not to declare the sale “completed” until we receive the final payment. Given the environment that COVID-19 has produced and the likely losses that have been incurred by the holders of our convertible debentures in other investments, we are concerned that once those holders are entitled to redeem that substantial numbers of them may do so, resulting in a significant outflow of cash during a critical period of time for the Company. While we intend to contact all the convertible debentures holders to explain the burden that redemptions would place on the Company, we cannot guarantee that our appeals for restraint in redemptions would be successful.

The outstanding amount owed in connection with the convertible debentures is \$3,429,105. If we do not receive the final payment from the Buyer, and if all or a majority of the purchasers of the convertible debentures request redemption, the Company may have to divert its limited cash to these repayments rather than into its operations.

***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, including under our short form prospectus filed with the Canadian Securities Exchange and the U.S. SEC in October 2016 and subsequently refreshed in November 2018, 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 datacom 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 datacom market and we have no 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 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 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 optical component products, including LEDs, lasers, 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.

***Our products, including those sold by predecessor company, OPEL Solar, could contain defects that may cause us to incur significant costs or result in a loss of customers or subject us to claims for which we may not be fully insured.***

Our predecessor company, Opel Solar, sold solar systems and products between 2007 and 2012, and some of those products may still be under warranty. We have not undertaken to quantify the size of that warranty obligation and it is not recorded on our balance sheet because it is not determinable. Although we carry product liability insurance, this insurance may not adequately cover our costs arising from defects or warranty claims related to those products.

Our current products sold by DenseLight are complex and undergo quality testing as well as formal qualification by our customers. Our customers' testing procedures are limited to evaluating our products under likely and foreseeable failure scenarios and over varying amounts of time. For various reasons, such as the occurrence of performance problems that are unforeseeable in testing or that are detected only when products age or are operated under peak stress conditions, our products may fail to perform as expected long after customer acceptance. Failures could result from faulty components or design, problems in manufacturing or other unforeseen reasons. As a result, we could incur significant costs to repair or replace defective products under warranty, particularly when such failures occur in installed systems. Our products are typically embedded in, or deployed in conjunction with, our customers' products, which incorporate a variety of components, modules and subsystems and may be expected to interoperate with modules produced by third parties. As a result, not all defects are immediately detectable and when problems occur, it may be difficult to identify the source of the problem. We will continue to face this risk going forward because our products are widely deployed in many demanding environments and applications worldwide. In addition, we may in certain circumstances honor warranty claims after the warranty has expired or for problems not covered by warranty to maintain customer relationships. Any significant product failure could result in litigation, damages, repair costs and lost future sales of the affected product and other products, divert the attention of our engineering personnel from our product development efforts and cause significant customer relations problems, all of which would harm our business. Although we carry product liability insurance, this insurance may not adequately cover our costs arising from defects in our products or otherwise.

***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") development and 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 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, and our current companies receive and expect to receive in the future subsidies and other types of funding from government agencies in the locations in which we operate. 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; and we expect that our recently formed subsidiary in Singapore may also apply for certain grants to defer the cost of development. The rules for eligibility vary widely across government agencies, are complex and may be subject to different interpretations. Furthermore, some of the grants set pre-defined development or spending objectives, which we may not achieve. 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.

***If we fail to maintain effective internal control over financial reporting in the future, the accuracy and timing of our financial reporting may be adversely affected.***

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. As long as we qualify as an "emerging growth company" under the JOBS Act, we will not have to provide an auditor's attestation report on our internal controls. During the course of any evaluation, documentation or attestation, we or our independent registered public accounting firm may identify weaknesses and deficiencies that we may not otherwise identify in a timely manner or at all as a result of the deferred implementation of this additional level of review.

Our internal controls 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, or 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.

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

As of December 31, 2019, we had accumulated net operating losses (“NOLs”), of approximately \$98 million. 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.***

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.***

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. 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 and Singapore 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 wafer fabrication facility in Singapore is in an area that is susceptible to hurricanes. Any disruption in our manufacturing facilities 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.

***The coronavirus outbreak could adversely affect our results of operations.***

The global outbreak of COVID-19 has resulted in Canada, the United States, Singapore and other countries halting or sharply curtailing the movement of people, goods and services. The curtailed activity has negatively affected many businesses, including businesses that operate in our sector. The prolonged economic impact of COVID-19 remains uncertain. At this point, we believe the conditions may have a material adverse impact on our business. Given the rapidly changing developments we cannot accurately predict what effects these developments will have on our business, which will depend on, among other factors, the ultimate geographic spread of the virus, governmental limitations, the duration of the outbreak, travel restrictions and business closures.

The Company may experience these factors in the future and these factors may have a material adverse effect on the Company's business, operating results and financial condition.

Please refer to the Company's Annual Information Forms filed on SEDAR for a detailed discussion of Risks and Uncertainties most recently filed on April 29, 2020.

***Additional Information***

Additional information relating to the Company is available on SEDAR at [www.sedar.com](http://www.sedar.com) including the information contained in the Company's Annual Information Form filed on SEDAR on April 29, 2020.







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