



POET TECHNOLOGIES INC.

Management's Discussion
and Analysis
Year ended December 31, 2015

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MANAGEMENT'S DISCUSSION AND ANALYSIS FOR THE YEAR ENDED DECEMBER 31, 2015

The following discussion and analysis of the operations, results, and financial position of POET Technologies Inc., (the "Company") for the year ended December 31, 2015 (the "Year") should be read in conjunction with the Company's audited consolidated financial statements for the year ended December 31, 2015 and the related notes thereto where applicable, both of which were prepared in accordance with International Financial Reporting Standards ("IFRS"). The effective date of this report is March 17, 2016. 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, the inherent uncertainty of cost estimates and the potential for unexpected costs and expenses, the uncertainty of profitability and failure to obtain adequate financing on a timely basis. 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.

Business Overview

We continue to depend on electronics for day-to-day functioning. As that dependency grows, so does the need for smaller, faster and more power efficient devices. Accordingly, photonics is seeing a second wave of growth fuelled by these consumers (social networking, cloud computing, Software as a Service ("SaaS") etc.) and consumer devices.

The tangible impact of the current smart phone revolution is the explosion in the use of SaaS – this manifests itself in the form of "apps" on the cell phone, but drives the need for significant background computations, typically carried out in the "cloud". Social Networking, Cloud Computing, Internet of Things and the growth of mega-datacenters are galvanizing a renewed spurt of growth in photonics. Investments by Web2.0 companies in mega-datacenters and supporting networking infrastructure have created a new and very dynamic segment in the optical components and modules market.

Moore's Law continues to drive progress in silicon technology at the leading edge, although with diminishing returns. A flurry of so called "More than Moore" technologies are now augmenting conventional silicon technologies in continuing to provide the means for functional integration inherent in the thesis called Moore's Law. Optical technologies are now entering the realm of "More than Moore" technologies with a promise to unlock the interconnect bottlenecks that are increasingly impacting scaled silicon technologies. Specifically, copper interconnects (commonly used in leading edge semiconductor technologies and printed circuit boards) are increasingly challenged to sustain the ever increasing bandwidth requirements and are limited reach and power hungry. New optical solutions are being sought to address this imminent issue.

Any processing solution requires two fundamental functions – computation and communication. Computational efficiencies are addressed with Moore's Law advances in silicon technologies. However, communications, and more specifically high bandwidth data communications, are increasingly addressed using optical technology. To lower the power consumption of leading edge silicon, the industry is in need of new optical technology that augments existing silicon technologies and provides high bandwidth with low cost optical interconnects, thus unlocking the full potential of the silicon transistors.

Just as cost and power reductions in the world of silicon have been driven by "integration" – or the ability to put multiple functions on a single chip – similarly, the world of optics requires an "integration approach" to break the traditional

barriers of cost and scalability. Currently, there have been few technologies that have demonstrated the capability to integrate multiple optical functions on a single chip.

The Company has developed a unique, proprietary process that addresses the deficiencies of size, integration, power and cost efficiency associated with current opto-electronic semiconductor manufacturing technologies. The novel process can be accommodated in existing semiconductor fabs with minimum re-tooling, thus potentially reducing capital expenditures required to adopt POET's process technologies.

The Company has a number of issued patents and patents pending related to the semiconductor Planar Opto-Electronic Technology ("POET"). Currently, the Company's focus is on the design of III-V semiconductor devices, processes, and products for data communication applications in the consumer, data center and high performance computing segments. The POET platform also enables applications in adjacent segments in military, industrial and mobility.

The Company is positioned as an opto-electronic product and Intellectual Property ("IP") Company, with an aim to leverage existing and potential relationships in establishing a POET design and manufacturing value chain, and in commercializing POET IP.

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.

The following sections discuss its business in more detail.

Semiconductor Technology Process IP

The Company is conducting research and development related to expansion of the POET platform by adding processes to the POET IP portfolio. It is also engaged in developmental work related to existing POET processes for data communications applications in potential consumer, data center, high performance computing, industrial, military and mobility segments. The Company continues to develop gallium arsenide-based processes having several potential market applications, including: (i) infrared sensor arrays for defense as well as domestic monitoring and imaging applications, (ii) the unique combination of analog, mixed-signal, digital and optical functions on the same chip for potential use in high volume short reach and very short reach data communication transceivers and (iii) exploring the use of POET's unique VCSEL technology as smart pixels for application in display applications for Augmented Reality. The Company believes that the POET process has the potential to fundamentally alter the landscape of optical data communications for a broad range of applications by offering unique integrated optical and electronic components with dramatically lower solutions cost together with increased density, reliability and lower power consumption through integration.

The Company:

1. Has successfully produced numerous distinct devices using the POET process, including on-chip continuous-wave lasers and switching lasers with the potential for eliminating chip-to-chip metallic interconnects, complementary hetero-structure field effect transistors (HFETs), optical thyristors, and resonant cavity detectors.
2. Continues to establish Process Design Kits ("PDKs") with an initial focus on the components essential for the design of monolithically integrated VCSEL based optical transceivers. PDKs comprise a library of design rules and parameters for the POET technology that can eventually enable POET and its partners to implement the POET fabrication process into their preferred products.
3. Is utilizing Synopsys' and Coventor's tools and services to help develop POET PDKs. PDKs will initially be used by POET and its 3rd party chip developers to create integrated opto-electronic transceiver product prototypes.
4. Is continuing to consider foundry relationships with commercial pure-play 6" foundry suppliers. In 2015, the Company signed a VCSEL Manufacturing Process Transfer agreement with Anadigics for early prototyping and initial development and a Manufacturing Services agreement with Wavetek for long term manufacturing. Wavetek, which is a wholly owned subsidiary of United Microelectronics Corporation (UMC), is a pure-play semiconductor foundry based in Taiwan. In addition, the Company has signed an epitaxial wafer supply agreement with Epiworks, which is a leading provider of MOCVD wafers to the electronics and optical industry. These relationships are helping to accelerate the "Lab-to-Fab" transition of the POET technology to a 6" wafer scale. These engagements will provide the baseline process flow in a manufacturing environment and enable the demonstration of product prototypes. As Anadigics became a takeover target towards the end of the year, the Company decided to de-emphasize its engagement with Anadigics as of the end of 2015 to avoid any potential operational uncertainties. The Company has placed its focus and priority on developing our technology with Wavetek. The realignment of all foundry activities may result in some minor delays in the Company's Q1 2017

milestones tied to device demonstration. The Company is working closely with Wavetek to recover the schedules and complete the necessary device demonstrations on time

With an immediate view to commercialization, the management team is focused on exploiting existing high growth markets where the disruptive power of the POET platform IP provides sustained competitive differentiation.

Industry Outlook

Social Networking, Cloud Computing and growth in Mobile are driving a continuous need for improvements in bandwidth and data handling capacity. This has driven and continues to drive significant growth in Data Centers. The Cloud Data Center traffic growth is over 25% compound annual growth rate (“CAGR”) ¹ and is expected to continue to grow at this rate for the next few years. Power consumption in Data Centers has now become a huge central issue. There is a need to proliferate low power computing and communications technology in the Data Centers – and enable the conversion of the power hungry copper based communication links to Fiber Optics.

The Company’s POET technology is applicable to a large portion of the opto-electronic semiconductor market as it represents an integrated comprehensive solution to increasing the performance potential of semiconductors in an economical and functional manner. The technology is particularly capable of addressing the power challenges currently faced in Data Centers. POET provides the potential for revolutionary innovation that enables it to manage more data at the performance of light but at near the cost points of copper. Based on the Company’s interactions with potential customers POET may provide significant value in applications where it addresses the need for lower power consumption, solution size, and cost efficiency.

Data centers today are enduring an excruciating pain point in terms of power. Energy management costs for US data centers alone had approached US\$9 billion in 2013 according to the National Resources Defense Council and are forecast to rise to \$13.7 Billion by 2020. Each watt of heat that does not have to be rejected from the rack could be worth savings in outright direct energy but also in indirect energy related to cooling costs. A single copper direct attach cable consumes about 3W of power per end. Let’s take a single mega datacenter with between 10,000-100,000 servers and a rough estimate of potentially 100,000 copper links. If you can save 5W of power per copper link used in this one Data Center, this can easily translate into 0.5 million Watts of saved energy translating into significant savings in operating expenses for a single mega data center. We believe data communications, is primed for an integrated opto-electronic device and process platform that can enable low power, minimized size and component cost. This is the opportunity that POET is targeting to address, with its patented process that integrates digital, high-speed analog and optical devices on the same chip. We believe that the process can enable managing data at the speed of light and the cost of copper.

The POET platform may provide the following advantages to the industry:

- **Up to 10X power savings improvement** over existing copper technologies (especially for high speed data communication links)
- **Up to 5X cost improvement over existing optical component solutions**
- **Performance and Power of optical solutions at the price points competitive to that of copper, thus potentially accelerating a transition to optical communications from cumbersome copper links**
- **Flexible and integrated solution** that can be applied to virtually any technical application that commands an optical IO for high bandwidth, including chip to chip communications, on-board optics and on-chip optical communications

The Company’s strategy is to complete development of its VCSEL based integrated optical platform and monetize this technology with a mix of product and licensing revenue, while continuing research towards the expansion of the IP portfolio.

The disruptive potential of the POET technology was first recognized within the military community, and this recognition has remained strong. Applications in this market include infra-red sensor arrays and high frequency RF Monolithic Microwave Integrated Circuits (“MMIC”s).

Key Success Drivers

The POET platform, which is covered by numerous patents and patents pending, if and when fully developed may make possible the economic production of fully-integrated optoelectronic semiconductor devices with lower cost, smaller form factors and reduced power consumption compared to conventional photonics technologies. The Company will continue to drive research, as the expansion of the IP portfolio is important to the future of POET. The currently developed integrated VCSEL technology is in its early development stage and is being transferred to a commercial

¹ Source: Cisco Global Cloud Index 2014

manufacturing source where development and qualification is expected to be completed in 2016. The success of early stage semiconductor companies is highly dependent on their ability to identify milestones that push the limit of existing technology and the achievement of those milestones in a timely fashion. The Company has demonstrated such successes in the past and continues to establish and achieve significant milestones. Significant milestones achieved over the last 3 years include:

- 1) Achieving radio frequency and microwave operation of both n-channel and p-channel transistors. By reaching this milestone, 3-inch POET wafers fabricated at BAE Systems (Nashua, NH) yielded submicron n-channel and micron-sized p-channel transistors operating at frequencies of 42 GHz and 3 GHz respectively.
- 2) The integration of the complementary inverter. Specifically, the Company successfully demonstrated complementary heterostructure field effect transistor based inverter operation using the POET process.
- 3) The fabrication of infrared (IR) detectors, using its proprietary planar optoelectronic technology (POET) platform. Adding to its significance is the fact that the POET wafers used for the IR devices were fabricated within an independent foundry, BAE Systems' Microelectronics Center in Nashua, New Hampshire. This milestone represents the integration by a third party of the optoelectronic process previously demonstrated in POET laboratories.
- 4) Demonstration of a two terminal Thyristor VCSEL – which is a key optical engine in the creation of single chip opto-electronic transceivers and changes the current paradigm of analog lasers and detectors.
- 5) Demonstration of a two terminal resonant cavity Detector – which is also a critical device component used in its optical transceiver products.

Timely capital investment is also key to the success of semiconductor companies. The Company has purchased and installed \$1,400,000 of new equipment since 2013. Substantial capital investment is not anticipated in 2016. The Company's strategy has been a transition of technology development to third party foundries. Capital spend in 2016 will be limited to augmenting the test and characterization capabilities of the Company in its new lab in San Jose, CA.

The Company has successfully raised over CA\$17.5 million in equity financing through private placements and an additional CA\$26.4 million through the exercise of stock options and warrants since June 2012 of which CA\$15.2 million was raised through the exercise of stock options and warrants in 2015.

During 2014, the University of Connecticut converted certain royalty rights into a significant investment in the Company. The parties agreed to restructure the payment provisions of the licensing agreement between the Company and the University of Connecticut regarding certain aspects of the POET technology (the "License Agreement") by reducing royalty payments to three percent (3%) of amounts received from unaffiliated third parties in respect of the exploitation of the Intellectual Property defined in the License Agreement, in consideration for 2,000,000 common shares of the Company.

The Company recently established an office in Silicon Valley, San Jose, California. It is important for the Company to have a presence in the Valley as it is an area of concentration of the potential customers and partners of the Company.

The Company's future success will also depend on critical human capital. In this regard, the Company appointed a Chief Operating Officer and Chief Executive Officer in Q2'2015 and other key members of the operations team in Q4'2015. Three new board members were also appointed in 2015 with unique industry insight and experience. The Company has also launched a recruitment drive for other key executives and engineering personnel.

Significant Events and Milestones During 2015

In 2015, the Company continued to execute on its stated strategic plan. The Company has achieved the following significant milestones in 2015:

1. On February 10, 2015, the Company announced the completion of a significant interim milestone, the completion of the installation of the critical unit processes required by the Transistor Fabrication Process at its 3rd Party Foundry. This provided the substantiation that the process was transferable and scalable to commercial manufacturing sites.
2. On March 30, 2015, the Company signed an agreement with BAE Systems under which BAE Systems could provide non-exclusive third-party foundry services in support of the Company's "Lab-to-Fab" transition plan. At present, there has not been any joint process development or transfer under this agreement, and none is anticipated in the future.
3. On April 8, 2015, the Company announced the appointment of two new Directors: Todd A. DeBonis and David E. Lazovsky.

Mr. DeBonis was the Vice President of Global Sales and Strategic Development at TriQuint Semiconductor, Inc. Mr DeBonis played an integral role in the merger of RF Micro Devices, Inc. with TriQuint and the subsequent

creation of Qorvo, Inc. (Nasdaq: QRVO). Mr. DeBonis was VP Worldwide sales and marketing at Centillum Communications, Ishoni Networks and Infineon Technologies North America.

Mr. Lazovsky is the founder of Intermolecular, Inc. (NASDAQ: IMI) and served as President and CEO from 2004 to 2014. Mr. Lazovsky raised significant amounts of venture capital and other strategic private investments in Intermolecular's initial public offering. Mr. Lazovsky held senior management roles at Applied Materials Inc. (NASDAQ: AMAT) from 1995 to 2004. As of March 31, 2014, Mr. Lazovsky held 41 pending or issued U.S. patents.

4. On April 27, 2015, the Company announced the appointment of Dr. Subhash Deshmukh as Chief Operating Officer effective June 8, 2015. Dr. Deshmukh was VP Emerging Technologies and Products at Applied Materials Inc. Nasdaq: AMAT) He was also VP and General Manager of the Plasma products Business Unit as well as VP Business Development for Varian Semiconductor Equipment Associates Inc. (NASDAQ: VSEA). Dr. Deshmukh holds a PhD in Chemical Sciences and has authored or co-authored over 55 technical articles. Dr. Deshmukh has been granted over 27 patents and several patents pending.
5. On June 11, 2015, the Company announced the appointment of Dr. Suresh Venkatesan as CEO. Dr. Venkatesan was most recently Senior Vice President, Technology Development at GLOBALFOUNDRIES and was responsible for the company's Technology Research and Development. Dr. Venkatesan joined GLOBALFOUNDRIES in 2009, where he led the development and ramp up of the 28nm node and was instrumental in the technology transfer and qualification of 14nm. In addition, he was responsible for the qualification and ramp up of multiple mainstream value added technology nodes.
6. On June 15, 2015, the Company announced the appointment of Mohan Warrior as a Director. Mr. Warrior has been president and chief executive officer (CEO) of Alfalight Inc. ("Alfalight") since February 2004. Alfalight is a GaAs based high power diode laser manufacturing company with headquarters in Madison, Wisconsin. Alfalight serves military, telecom and industrial customers. Mr. Warrior established Alfalight as a leading provider of high powered laser diode solutions in both commercial and defense segments. Prior to joining Alfalight, Mr. Warrior's career included 15 years at Motorola Semiconductors (now Freescale) where he led the test and assembly operations, a group of 3500 employees, in the US, Scotland and Korea.
7. On August 24, 2015, the Company announced a VCSEL Manufacturing Process Transfer Agreement with Anadigics, Inc. to carry out initial development of the POET platform and more specifically VSCSELs. This agreement was intended to accelerate the transition from lab-to-fab and enables successful prototype demonstrations in a mature and capable manufacturing environment.
8. On September 30, 2015, the Company hosted an investor conference call in which it provided an update on the Company's operational roadmap.
9. On November 1, 2015, the Company announced the appointment of Robert Ferri Partners, LLC, as the Company's Investor Relations counsel.
10. On November 20, 2015, a Manufacturing Services agreement with Wavetek for long term manufacturing was signed. Wavetek has been retained to complete the goal of a successful prototype demonstration for a product produced in a mature and capable manufacturing environment, specifically focused on the Company's VCSEL technology.

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. 31/15</u>	<u>Sep. 30/15</u>	<u>Jun. 30/15</u>	<u>Mar. 31/15</u>	<u>Dec. 31/14</u>	<u>Sep. 30/14</u>	<u>Jun. 30/14</u>	<u>Mar. 31/14</u>
Other (income)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (85,204)	\$ (84,628)
Shares issued for the reduction of license fee	-	-	-	-	-	-	1,439,898	-
Research and development	932,618	767,124	715,732	564,602	457,470	504,131	362,848	312,302
Depreciation and amortization	83,526	82,022	79,587	74,728	70,222	66,050	50,276	50,407
Professional fees	225,118	110,389	353,892	122,716	134,339	325,695	146,057	301,703
Wages and benefits	414,857	423,214	269,015	198,965	578,071	405,012	366,368	351,149
Management and consulting fees	156,154	160,303	168,700	180,614	140,040	290,327	65,084	100,216
Stock-based compensation ⁽¹⁾	1,491,713	1,621,751	1,110,758	593,898	1,044,330	2,613,335	368,558	589,774

	<u>Dec. 31/15</u>	<u>Sep. 30/15</u>	<u>Jun. 30/15</u>	<u>Mar. 31/15</u>	<u>Dec. 31/14</u>	<u>Sep. 30/14</u>	<u>Jun. 30/14</u>	<u>Mar. 31/14</u>
General and administrative	353,399	285,802	241,088	364,316	204,857	192,935	224,892	199,286
Investment (income), including interest	(20,188)	(18,979)	(22,793)	(14,471)	-	-	-	-
Net loss	\$ 3,637,197	\$ 3,431,626	\$ 2,915,979	\$ 2,085,368	\$ 2,629,329	\$ 4,397,485	\$ 2,938,777	\$ 1,820,209

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

Explanation of Quarterly Results for the three months ended December 31, 2015 ("Q4 2015")

During Q4 2015, the Company reported a loss of \$3,637,197 as compared to a loss of \$2,629,329 for the same period in 2014. The following discusses the significant variances between Q4 2015 and the three months ended December 31, 2014 ("Q4 2014").

Consistent with the strategy of the Company and its goal of monetizing POET, Research and development ("R&D") increased by 104% or \$475,148 over the same period in 2014 from \$457,470 to \$932,618. The increase is attributed primarily to subcontract fees related to the Company's research and development program which increased by 257% or \$433,282 from \$168,704 in Q4 2014 to \$601,986 in Q4 2015. In Q4 2015 additional costs associated with new established foundry and technology development relationships with companies like Anadigics Inc., Epiworks Inc. and Intelligent Epitaxy Technology to expedite the technology development were incurred over the same period in the prior year.

The Company closed its Uconn facilities in Q4 2015. The strategy for closing the Uconn lab was to outsource the technology development to labs that are more modern with equipment that has the capability to handle the Company's advanced technology, a continuation of the Company's path from Lab to Fab.

Professional fees increased by \$90,779 or 68% from \$134,339 in Q4 2014 to \$225,118 in Q4 2015. The increased fees were a result of legal fees associated with the expansion of the Company's patent portfolio coverage in a number of foreign jurisdictions. The Company also spent additional fees on professional services involved in testing the efficiency of the Company's internal controls as required by the Sarbanes Oxley Act of 2002.

Wages and benefits decreased by \$163,214 or 28% from Q4 2014 to Q4 2015. In Q4 2014, the Company paid performance bonuses of \$230,000 to the former interim CEO and former COO. No bonuses were paid in Q4 2015.

General and administrative increased in Q4 2015 by \$148,542 over the same period in 2014. This increase was primarily due to the \$30,144 increase in rent expense due to the addition of the Company's new location in Silicon Valley and the \$41,000 increase in investor relations and travel expenses. The Company also incurred \$26,000 in the quarter related to the costs of closing the Uconn lab and moving equipment and other assets to the new Silicon Valley location. The increased costs ensured an orderly transition with no loss of valuable development time or know-how.

Non-cash stock-based compensation had the most significant increase from Q4 2014 to Q4 2015. This expense increased by \$447,383 from \$1,044,330 in Q4 2014 to \$1,491,713 in Q4 2015. The valuation of stock options is driven by a number of factors including the quantity 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 from time to time consistent with the provisions of the 2015 Plan which grants discretion to the Board of Directors.

Explanation of Results for the Year Ended December 31, 2015

During the year ended December 31, 2015, the Company recorded a loss of \$12,070,170 compared to a loss of \$11,785,800 for the year ended December 31, 2014. Changes in major expense categories are discussed below:

SBIR Grant Income

The Company had \$169,832 in SBIR grant income for the year ended December 31, 2014. During 2014 the Company decided to eliminate its use of SBIR grants in order to focus all of its resources on developing and monetizing the POET technology. The Company had no SBIR grant income for the year ended December 31, 2015.

Research and Development

During the year ended December 31, 2015 \$2,980,076 was spent on R&D, of this amount, \$1,560,819 was spent on subcontract services as compared to \$582,943 in fiscal 2014. The subcontract fees related to work done with the Company's VCSEL technology, epitaxy substrates and technical design kits. This development process required the

use of third party consultants to both test and prove the concepts. During the year ended December 31, 2015, the Company expanded on its development roadmap which included additional proof of concept tests conducted by the Company's then primary R&D consultant, Anadigics, Inc. The Company also engaged other R&D services providers such as Epiworks Inc., Intelligent Epitaxy Technology and Wavetek to expand the technology development. The Company has transitioned to an outsourcing model to expedite the development process. This transition is part of the Company's ultimate objective of working with a "pure-play" foundry offering a wide range of dedicated, flexible and competitive foundry services. Additionally, in early 2015, the Company had expanded the capacity of the work being undertaken by BAE but stopped this activity in the second half of 2015 with a transition to Anadigics. BAE was the Company's primary subcontractor in 2014, most of the subcontract fees for that year were spent on services provided by BAE.

R&D wages during the year ended December 31, 2015 increased by 38% or \$341,296 over 2014. The increase in wages relate to the addition of a CTO and Program Manager along with additional over-time hours. These new employees were not with the Company in 2014. In addition, improper installation of equipment which was purchased in 2014 contributed to the team working significant over time hours to identify the cause of poor test results generated by this piece of equipment. The issues relating to the faulty installation were rectified in the first quarter of 2015. The increase is consistent with the Company's 2015 budget.

Management and Consulting Fees

Management and consulting fees increased for the year ended December 31, 2015 by \$70,104 over 2014. The increase was mainly due to the compensation of the Executive Co-Chairman who joined the Company in July 2014. The Company had some reduction in consulting fees due to discontinuing services that the Company felt were not adding material value.

General and Administrative

General and administrative increased by \$422,635 for the year ended December 31, 2015 over 2014. The increase is primarily due to increased investor relations, travel and promotion, which collectively increased by \$255,000. The Company implemented a promotion program for POET which included advertisements on Bloomberg TV and the Fox News Network. The Company also had its annual general meeting in Silicon Valley which resulted in increased logistics costs. Multiple Asian trips in securing new opportunities with potential service providers and partners increased the travel costs during the year over 2014.

Additionally, maintenance and repair costs, included in general and administrative, increased by \$25,000 for the year ended December 31, 2015 over 2014. These costs resulted primarily from the improper installation of new equipment by a third party. The Company consulted with specialists in the field to assist with correcting the issues related to the faulty installation. The issues relating to the faulty installation were rectified in the first quarter of 2015. The Company also spent \$17,000 on specialized software that was required to operate the equipment along with optimizing the optical elements of the POET process.

Rent expense increased by approximately \$73,000 over 2014 due to the addition of the Company's new location in Silicon Valley.

Wages and Benefits

Wages and benefits decreased by \$394,549 from 2014 to 2015 as a result of the cessation of employment of the former president in September 2014 and the non-repetition of 2014 performance bonuses of \$337,000 paid to the former interim CEO and former COO. The compensation to the former president included a one-time debt settlement of \$100,000 which was settled in February 2014. Wages and benefits will, however, increase over the short-term with the addition of the new CEO and COO, and the transition of responsibilities between the CEO and former interim CEO. While the Company experienced decreases relating to bonuses paid to the former interim CEO and wages payable to the former president, there was a partial offsetting due to the addition of the new COO and CEO salaries.

Professional Fees

Professional fees decreased by 11% from \$907,794 in 2014 to \$812,115 in 2015. Professional services in 2015 were primarily on routine operational matters as compared to 2014 when the Company incurred additional fees for the updated Pellegrino valuation report which indicated a median value for the Company of approximately \$2.3 billion. Additionally, increased fees were incurred in 2014 for submitting a registration statement on Form 20-F in connection with the registration of its common stock under the U.S. Securities Exchange Act of 1934.

Non-Cash Stock-based Compensation

Non-cash stock-based compensation increased by \$202,123 from \$4,615,997 in 2014 to \$4,818,120 in 2015. The Company granted 11,655,000 stock options during the year ended December 31, 2015 as compared to 6,155,000 in 2014. The number of options granted for the year ended December 31, 2015 were unusually high due to the recruitment

of two new senior executive officers. The valuation of stock options is driven by a number of factors including the quantity 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 from time to time consistent with the provisions of the 2015 Plan which grants discretion to the Board of Directors.

Shares issued for the reduction of license fee

For the year ended December 31, 2014, the Company had a one-time non-cash issuance of 2,000,000 common shares to the University of Connecticut valued at \$1,439,898 for the reduction of certain royalty rights in exchange for an investment in the Company. The parties agreed to restructure the payment provisions of the License Agreement by reducing royalty payments to three percent (3%) of amounts received from unaffiliated third parties in respect of the exploitation of the Intellectual Property defined in the License Agreement, in consideration for 2,000,000 common shares of the Company. The Company did not have a similar expense for the year ended December 31, 2015.

Explanation of Material Variations by Quarter for the Last Eight Quarters

Q4 2015 compared to Q3 2015

In Q4 2015, professional fees increased by \$114,729 over Q3 2015 due to the legal fees incurred relating to the expanded coverage of the Company's patent portfolio and additional fees related to testing the effectiveness of the Company's internal controls as required by the Sarbanes Oxley Act.

General and administrative increased by \$67,557 in Q4 2015 as compared to Q3 2015 due to the increase in investor relations and travel during the quarter. The Company engaged in a European road show in November 2015 to generate interest in the Company and its technology. Additionally, the Company incurred moving and travel costs associated with the closure of the Uconn facilities.

In Q4 2015, the costs associated with new established foundry and technology development relationships with companies like Anadigics Inc., Epiworks Inc. and Intelligent Epitaxy Technology to expedite the technology development were incurred. The Company incurred costs of \$449,200 relating to these new parties on the expedited technology work being done as compared to \$290,215 in Q3 2015.

In Q4 2015, non-cash stock-based compensation decreased by \$130,038 from Q3 2015. This is a result of the timing of stock based compensation expense relative to the vesting date of the historical granted stock options. The valuation of stock options is driven by a number of factors including the quantity 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.

Q3 2015 compared to Q2 2015

In Q3 2015, professional fees decreased by \$243,503 from Q2 to Q3 2015. The Company successfully recruited two high profile executive officers (CEO and COO). The Company paid \$200,000 in recruitment fees related to Drs. Deshmukh's and Venkatesan's employment in Q2. Both executives were appointed in June 2015. No recruitment fees were paid in Q3 2015.

Wages and benefits increased by \$154,199 due to the addition of the new CEO and COO. Wages and benefits will be higher over the short term as the transition of responsibilities continues from the former interim CEO to the new CEO as both salaries are incurred by the company in the transition period.

Non-cash stock-based compensation in Q3 2015 was \$510,993 higher than the expense in Q2 2015. The increase was impacted by timing of the expense related to the 10,430,000 stock options granted in 2015. The Company granted 7,857,000 stock options to new executives (CEO and COO). The valuation of stock options is driven by a number of factors including the quantity 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.

Q2 2015 compared to Q1 2015

In Q2 2015, professional fees increased by \$231,176 over Q1 2015. The Company successfully recruited two high profile executive officers (CEO and COO). The Company paid \$200,000 in recruitment fees in Q2 related to Drs. Deshmukh's and Venkatesan's employment. Both executives were appointed in June 2015.

In Q2 2015, the Company increased its R&D efforts. Additional consultants were engaged by the Company. The \$151,130 increase in R&D, is partially comprised of an additional \$60,000 in consulting fees during Q2 in excess of Q1. The remaining increase was a result of the expanded scope of BAE's foundry services to the Company.

General and administrative in Q2 2015 was \$241,088 as compared to \$364,316 in Q1 2015, a decrease of \$123,228. In Q1 2015, the Company increased its investor relations, travel and promotion. The Company implemented a promotion

program for POET which included advertisements on Bloomberg TV and the Fox News Network, which was expensed solely in Q1. Additionally, there were increases in maintenance and repair costs, resulting from the improper installation of new equipment by a third party and the purchasing of \$15,000 of specialized software required to optimize the optical elements of the POET process.

Non-cash stock-based compensation in Q2 2015 was \$516,860 in excess of the expense in Q1 2015. The increase was impacted by 9,930,000 stock options granted in Q2 as compared to 500,000 granted in Q1 2015. The Company granted 7,857,000 stock options to new executives (CEO and COO) in Q2. The valuation of stock options are driven by a number of factors including the quantity 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.

Q1 2015 compared to Q4 2014

In Q1 2015, research and development expenses increased by \$107,132 over Q4 2014 due to the addition of a Program Manager in Q1 2015 along with substantial overtime incurred during the quarter in connection with the rectification of improper installation of new equipment as previously discussed. The issues relating to the improper installation were rectified in Q1 2015.

Wages and benefits in Q1 2015 were \$198,965 compared to \$578,071 in Q4 2014. Q4 2014 included \$230,000 paid in bonuses and \$165,000 paid in directors fees. No bonuses were paid in Q1 2015 and director fees consisted of \$39,981 in Q1 2015. The director fees in Q4 2014 included an expense for two quarters (Q3 payment and Q4 accrual).

In Q1 2015, non-cash stock-based compensation decreased by \$450,432 from Q4 2014. This is a result of the timing of stock based compensation expense relative to the vesting date of the historical granted stock options. The valuation of stock options is driven by a number of factors including the quantity 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.

In Q1 2015, general and administrative increased by \$159,459 over Q4 2014 due to increased investor relations, travel and promotion in this period. The Company implemented a promotion program for POET which included advertisements on Bloomberg TV and the Fox News Network which was expensed solely in Q1. Additionally, increases were incurred in maintenance and repair costs, resulting from the improper installation of new equipment by a third party and the leasing of specialized software required to optimize the optical elements of the POET process.

Q4 2014 compared to Q3 2014

Stock-based compensation and professional fees both decreased significantly from Q3 2014 to Q4 2014. Stock based compensation was \$2,613,335 in Q3 2014 compared to \$1,044,330 in Q4 2014. The valuation of stock options is driven by a number of factors including the quantity 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.

Professional fees were \$325,695 in Q3 2014 compared to \$134,339 in Q4 2014. In Q3, the Company updated the Pellegrino valuation report. Additionally, professional fees were incurred in recruiting the new Executive Co-Chairman in Q3 2014.

Wages and benefits increased by \$173,214 from Q3 2014 to Q4 2014, due primarily to a performance bonus of \$230,000 paid to the former interim CEO and former COO of the Company.

Q3 2014 compared to Q2 2014

Professional fees increased by \$179,638 from Q2 2014 to Q3 2014. The increase was primarily due to the updated Pellegrino valuation report and the professional fees incurred in recruiting the new Executive Co-Chairman.

In Q3 2014, non-cash stock-based compensation increased by \$2,244,797 over Q2 2014 as a result of the 3,940,000 annual Company stock options granted in Q3 compared to 215,000 granted in Q2 2014. The valuation of stock options is driven by a number of factors including the quantity 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.

In Q2 2014, the Company had a one-time non-cash issuance of 2,000,000 common shares to the University of Connecticut valued at \$1,439,898 for the reduction of certain royalty rights in exchange for an investment in the Company. The parties agreed to restructure the payment provisions of the License Agreement by reducing royalty payments to three percent (3%) of amounts received from unaffiliated third parties in respect of the exploitation of the Intellectual Property defined in the License Agreement, in consideration for 2,000,000 common shares of the Company.

In Q3 2014, management and consulting fees increased by of \$150,000 due primarily to the consulting services provided by a firm for the recruitment of the executive co-chair.

Q2 2014 compared to Q1 2014

Professional fees decreased from \$301,703 in Q1 2014 to \$146,057 in Q2 2014. The decrease in professional fees was a result of reduced professional services resulting from the successful completion of the filing of Form 20-F in Q1 with the SEC to register the Company's shares in the United States. Additional accounting fees associated with the annual financial statements were also incurred in Q2.

In Q2 2014, non-cash stock-based compensation decreased by \$221,216 from Q1 2014. This is a result of the timing of stock based compensation expense relative to the vesting date of the historical granted stock options. The valuation of stock options is driven by a number of factors including the quantity 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.

Segment Disclosure

The Company and its subsidiaries currently operate in a single segment - the design of semi-conductor products for military and industrial applications. The Company's sole 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 operating segment is below:

ODIS Inc. ("ODIS")

ODIS is the developer of the POET platform semiconductor process IP for monolithic fabrication of integrated circuit devices containing both electronic and optical elements on a single die.

The Company operates geographically in the United States and Canada. Geographical information is as follows:

2015				
As of December 31,	US	Canada	Consolidated	
Current assets	\$ 3,055,947	\$ 11,504,972	\$	14,560,919
Property and equipment	924,443	22,664		947,107
Patents and licenses	426,813	-		426,813
Total Assets	\$ 4,407,203	\$ 11,527,636	\$	15,934,839
	US	Canada	Consolidated	
For the year ended December 31,				
General and administration	\$ 6,622,514	\$ 1,991,595	\$	8,614,109
Research and development	3,532,492	-		3,532,492
Investment income	-	(76,431)		(76,431)
Net Loss	\$ 10,155,006	\$ 1,915,164	\$	12,070,170
2014				
As of December 31,	US	Canada	Consolidated	
Current assets	\$ 3,106,274	\$ 8,425,091	\$	11,531,365
Property and equipment	1,054,636	4,224		1,058,860
Patents and licenses	260,721	-		260,721
Total Assets	\$ 4,421,631	\$ 8,429,315	\$	12,850,946
	US	Canada	Consolidated	
For the year ended December 31,				
General and administration	\$ 5,827,262	\$ 3,850,443	\$	9,677,705
Research and development	2,277,927	-		2,277,927
Other income	(169,832)	-		(169,832)
Net Loss	\$ 7,935,357	\$ 3,850,443	\$	11,785,800

Note: Certain prior amounts have been reclassified to conform to the current year's presentation

Liquidity and Capital Resources

The Company had working capital of \$14,045,498 on December 31, 2015 compared to \$11,079,641 on December 31, 2014. The increase and maintenance of the higher working capital was due to the approximately \$12.1 million dollars raised through the exercise of stock options and warrants during the year ended December 31, 2015.

The Company's balance sheet as at December 31, 2015 reflects assets with a book value of \$15,934,836 (2014 - \$12,850,946) of which 91% (2014 - 89%) or \$14,560,919 (2014 - \$11,531,365) is current and consists primarily of cash totaling \$14,409,996 (2014 - \$11,287,864). The Company's liquidity and unencumbered balance sheet will allow for investments in capital equipment and valuable human capital which are necessary to enable the Company to achieve its technical and operational milestones.

Based on current plans and cash utilization, we believe we have sufficient liquidity to support our operations and technological programs beyond the end of 2016, which include further development of the POET semiconductor process and increasing the POET intellectual property portfolio to enable us to exploit POET, through licenses and collaborative arrangements.

The Company expects to increase its research and development program in the short term to advance the POET process, this will result in increased subcontractor fees expense for 2016.

The Company is embarking on an aggressive plan of attempting to monetize POET while simultaneously improving shareholder value. The focus, therefore, is to remain sufficiently capitalized to facilitate this.

Subsequent to December 31, 2015, the Company received \$1,965,327 from the exercise of 2,686,947 warrants and 628,000 stock options.

Related Party Transactions

Compensation to key management personnel were as follows:

December 31.	2015	2014
Salaries	\$1,979,601	\$1,363,417
Share-based payments (1)	3,283,361	1,167,245
Total	\$5,262,962	\$2,530,662

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

During the year ended December 31, 2014, the Company settled \$100,000 that was advanced to the former CEO of the Company. The amount was non-interest bearing and short-term in nature. The Company settled the amount due from the former CEO in return for a reduction in his compensation and certain other entitlements.

In 2014, the former CEO of the Company received a severance package of \$185,000 to be paid over one year. The full amount of the severance package was accounted for in 2014.

The Company paid or accrued \$104,790 in fees and disbursements for the year ended December 31, 2015 (2014 - \$174,549) to a law firm, of which a director is counsel, for legal services rendered to the Company.

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

Critical Accounting Estimates

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.

Recent Accounting Pronouncements

The Company has considered all recently issued accounting pronouncements and does not believe the adopting of such pronouncements will have a material impact on its consolidated financial statements. Please see note 3 of the financial statements for additional information.

Financial Instruments and Risk Management

The Company's financial instruments consist of cash and accounts payable and accrued liabilities. Unless otherwise noted, it is management's opinion that the Company is not exposed to significant interest or credit risks arising from these financial instruments. The Company estimates that the fair value of these instruments approximate the carrying values due to their short term nature.

Exchange Rate Risk

The Company is exposed to foreign currency risk with the Canadian dollar. The Company maintains bank accounts and cash reserves in both currencies with the majority of reserves currently in Canadian dollars which has exposure to currency fluctuations. Most of the company's operations are transacted in US dollars. A 10% change in the Canadian dollar would increase or decrease other comprehensive loss by \$1,135,639.

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.

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.

Liquidity Risk

The Company predominately relies on equity funding for liquidity to meet current and foreseeable financial requirements.

Strategy and Outlook

There are a number of projects planned for 2016 which the Company expects will address the short-term and long-term growth plans of the Company including, but not limited to the following:

- Continue to expand and develop the POET technology platform.
- Re-profile the current engineering team as critical lab activities transitioned out of the lab into a commercial foundry environment.
- Expand the POET executive team, through an ongoing executive recruiting program, which includes amongst other positions a VP, Technology Development and various positions listed on the POET careers website [<http://www.poet-technologies.com/careers>].
- Procure additional equipment which may be required for the continuing development and expansion of the POET platform.
- Continue to develop and expand the IP patent portfolio.
- Facilitate the adoption of the POET process into opto-electronic products by providing ease of access to the platform with initiatives such as the development of the PDKs.
- Continue the lab-fab transition through ongoing evaluation of external partners for both the epi stack growth and commercial foundry fabrication.
- Actively search out opportunities to monetize POET.

Outstanding Share Data

Common Shares

As of December 31, 2015 and March 17, 2016, there were respectively, 197,097,815 and 200,412,762 outstanding common shares of the Company.

Stock Options and Warrants

As of December 31, 2015, there were 8,369,233 warrants and compensation warrants outstanding to purchase common shares at exercise prices ranging from CA\$0.23 – CA\$1.00.

As of March 17, 2016, there were 1,116,051 compensation warrants outstanding to purchase common shares at an exercise price of CA\$0.23.

Total stock options outstanding as at December 31, 2015 and March 17, 2016, were 26,718,500 and 26,045,500 priced between CA\$0.23 and CA\$1.99 per common share.

Additional detailed share data information is available 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

Dependence Upon Key Personnel – The Company depends on its senior management and technical staff. If the Company is unable to attract and retain key personnel, it may have a material adverse effect on the Company. In an effort to manage this risk, the Company is establishing a competitive compensation grid for all staff that includes certain benefits and stock options. The Company will be benchmarking its rates of pay to similar companies and the compensation package that would normally be offered to senior individuals within the industry.

Technology Development – Delays in either technology development or the transition to large scale application of the technology may cause a material adverse effect to the Company. Technology development in the Company follows a strict path of concept, research, business analysis, design, beta testing and technical implementation. These milestones are reviewed regularly with the head of technology development to ensure timely completion of the technological milestones.

Financial Liquidity – The Company has not earned profits, so its ability to finance operations is chiefly dependent on equity financings. While the Company has been successful in raising equity financing in the past to support the POET initiative, there are no assurances that the Company will be able to continue to raise further equity financing on favourable terms or at all.

Ability to Reach Profitability – The Company has no history of profitability and may not be able to monetize POET.

Market Acceptance of New Products – The Company's POET technology is a new technology which currently does not have an installed base and may not be embraced for use by the semiconductor industry. Branding is a key to creating market acceptance. There is no assurance that these risks can be mitigated through public announcements, demonstrations and advertisements about the competitive advantage of the Company's high efficiency technology.

Technology Changes – The Company's technology is highly reliant upon staying ahead of technological changes, particularly in other competing semiconductor processes. If the Company cannot keep pace, it may have a material adverse effect on the Company. Retaining qualified engineers and scientists has been identified as a key success driver for the Company. Qualified personnel will continue to ensure that the Company is not only keeping in touch with technological developments but is also implementing these new developments as appropriate.

Major Competitors – The Company may face several competitors before or after it brings its technology to market which could result in the lack of acceptance thereby having a material adverse effect on the Company. Through research and competitive data, the Company feels that these markets are ready for a new entrant especially with the efficiency of the POET technology. Staying ahead of the curve with R&D, and consistency in process development and technology transfer will be key to developing, keeping and maintaining industry share.

Please refer to the Company's Annual Information Forms filed on SEDAR for a detailed discussion of Risk and Uncertainties.

Additional Information

Additional information relating to the Company is available on SEDAR at www.sedar.com including the information contained in the Company's Annual Information Forms filed on SEDAR.



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