

POET TECHNOLOGIES INC.

Management's Discussion and Analysis 6-months ended June 30, 2014

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MANAGEMENT'S DISCUSSION AND ANALYSIS FOR THE SIX MONTHS ENDED JUNE 30, 2014

The following discussion and analysis of the operations, results, and financial position of POET Technologies Inc., ("PTI" or the "Company") for the six months ended June 30, 2014 (the "Period") should be read in conjunction with the Company's June 30, 2014 unaudited condensed interim consolidated financial statements and the Company's December 31, 2013 audited consolidated financial statements 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 August 12, 2014. 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", "except", "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

Today's world has become almost completely dependent on electronics for day-to-day functioning. As that dependency grows, so does the need for smaller, faster and more power efficient devices. Thus, progress in the electronics and semiconductor industry continues to heavily influence day-to-day life in the developed world; the way we work, communicate, transport and entertain ourselves.

It has become the general consensus of the industry that silicon-based semiconductor technology is being pushed to its limits. According to IC Insights (2013), R&D spending by the top 10 semiconductor companies has grown to a record-high \$28.0 billion, or an equivalent of 16.7% of total semiconductor sales, its highest level in 4-5 years. Capital investments are high and cash intensive, which in-turn creates swings in the semiconductor market place. This high capital spending is necessary because the industry is in need of new technology that pushes beyond the boundaries of conventional silicon processes, that is not fab-specific nor highly dependent on current processes or materials.

PTI has developed a unique, proprietary process that addresses the needs of speed, size, energy and cost efficiency associated with the current silicon-based technology. The development of its solution has been predicated on an ability to be accommodated in existing semiconductor fabs with minimum re-tooling.

The Company currently has a number of issued patents and patents pending primarily for this process – the semiconductor Planar Opto-Electronic Technology ("POET") process - which was developed through its U.S. subsidiary ODIS Inc. ("ODIS"). Through ODIS, the Company's focus is on the design of III-V semiconductor devices and processes for military, industrial and commercial applications, including infrared sensor arrays and ultra-low-power random access memory. The POET platform enables the monolithic fabrication of integrated circuits containing both electronic and optical elements, with potential high-speed and power-efficient applications in devices such as servers, tablet computers and smart phones.

The Company is currently positioned as a fabless semiconductor company, with an aim to leverage existing and potential partnerships in establishing a POET design and manufacturing value chain, and in commercializing POET-based devices.

PTI 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

PTI is currently conducting research related to expansion of the POET platform via additional processes for the POET IP portfolio. It is also engaged in developmental work related to existing POET processes for a wide array of devices for potential military, consumer, commercial, and industrial applications. PTI continues to develop gallium arsenide-based chip design processes having several potential major market applications, including: (i) infrared sensor arrays for military as well as domestic monitoring and imaging applications, and (ii) the unique combination of optical lasers, and electronic control circuits on the same microchip for potential use in various military programs and telecom applications. The use of III-V materials such as gallium arsenide and gallium nitride are key factors in ODIS' POET process development for these products. Upon deployment, the POET process has the potential to fundamentally alter the landscape of computing for a broad range of applications by offering components with dramatically lower cost together with increased speed, density, and reliability.

The Company has:

- 1. Successfully produced numerous distinct devices under the POET process, including on-chip continuous-wave lasers and switching lasers with the potential for eliminating chip-to-chip metallic interconnects, hetero-structure field effect transistors (HFETs), optical thyristors, pulsed lasers, super-radiant light emitting devices, and infrared sensors with potential for multi-spectral and uncooled operation all able to be monolithically fabricated via the POET process.
- 2. Established Technology Design Kits ("TDK") documentation. TDKs comprise a library of comprehensive design rules and device parameters for the Company and will enable customers and partners the ability to implement the POET process into preferred foundries. The TDKs will also help licensed designs in a POET device ecosystem to proliferate and help existing silicon library functions to migrate to POET technology-based circuitry in a minimum amount of time.
- 3. Achieved the 100nm milestone and is currently working towards optimizing performance. The optimization process may involve the help of third party foundries or partners.
- 4. Validated its fabrication process, as well as specific device operation over both electronic and optical regimes, numerous times in an independent third-party foundry.

PTI has also recently applied for several key patents for the development of ancillary devices pertinent to the area of quantum computing. This intellectual property is expected to play a strategic role in long-term development, rather than having an impact on near-term deliverables.

ODIS has been awarded more than a dozen U.S. Department of Defense and NASA projects since 2000. These have helped to support the development of the POET process, including infrared sensing technology, sensor/laser development and validation of our monolithic integration process. The Company was contracted in 2012 to complete further projects with the U.S. Department of Defense, the U.S. Air Force Research Laboratory, and a major U.S. Defense Contractor. One such project involved the development of a much-sought-after infrared (IR) detector device, the achievement of which we announced as a key milestone. While important to continuing development, the work conducted with military applications will not restrict the Company's ability to monetize POET.

The Company continues aggressively with its objective which is to explore opportunities to monetize this breakthrough technology.

Industry Outlook⁽¹⁾

The semiconductor market is projected to grow to over \$372 billion by 2015 and remains a rapidly growing segment of the economy. The convergence of internet-capable and mobile technologies will drive the strength of the semiconductor device market through 2017.

Primary drivers include:

• Pad, Tablet and Cloud OS-type PC devices—Demand continues to surge for tablet-class and phablet-class devices, and the market for servers underpinning cloud-based services is heating up. The increase in cloud-based services, such as Microsoft's recent port of its MS Office suite to iPads, and the use of virtual fileservers such as

⁽¹⁾ As summarized in IC Insights 2013 and Gartner 2013 publications

Dropbox, will be a further impetus to growth in this area, particularly for businesses. One example of a device that is key to this market is DRAM which is projected to be a \$35.0 billion market in 2015; another example is logic circuitry which is projected to be a \$115 billion market in 2015.

- Smartphones—Semiconductor content of this fast-growing segment represents approximately 31% of the average selling price, compared to 23% for ordinary cellphones. 3G/4G smartphones are set to impact on the future analog, DSP, logic, and NAND flash memory IC markets. The mobile phone semiconductor market alone is projected to be \$64.1 billion for 2015. The market for other wearable mobile devices, such as smart watches, will further contribute to an expanded outlook.
- **Digital and Smart TVs**—Streaming capability via the Internet will be the must-have technology in 2014; this points to increased revenues for LED drivers, power management ICs, and MCUs/MPUs. MPUs/CPUs are forecast to be \$92.6 billion for 2015.
- Smart Grids and Advanced Metering Infrastructure (AMI)— Residential appliances and related electrical systems are now being designed for interaction with power utilities via the Internet and local networks. Smart grid technology investment is forecast to grow 19% annually through 2016.
- "Internet of Things"— The identification, monitoring, and control of objects with an addressable Internet protocol has been gaining momentum for over a decade with no abatement. The acquisition by Google of Nest, a smart-home-monitoring device company, underlines the importance of this area. The sensor and actuator semiconductor market, one of the areas impacted by this sector, is projected at \$14.1 billion.

PTI's POET technology is applicable in a large portion of this semiconductor market as it represents, possibly, the most comprehensive solution to increasing semiconductor performance in an economical and functional manner. The ability to be adapted to existing fabs with a minimum of re-tooling requirements, compared to alternatives, is an important differentiator. Business indicators suggest that POET may provide significant value to the ever growing market, where it addresses a need for power consumption, speed, size, and cost efficiency.

We are striving to develop the POET platform to provide the following advantages to the industry:

- Up to 100x speed improvement over CMOS silicon (silicon hits a "power wall" at about 4 GHz that has limited circuit speeds to about 3.2 GHz over the last 10 years);
- Up to 90% power efficiency improvement over CMOS silicon (depending on application);
- **Flexible application** that can be applied to virtually any technical application, including memory, digital/mobile, sensor/laser and electro-optical, among many others; and
- No major retrofit or other modifications to existing silicon fabs required Since POET/PET are CMOStype technologies fabricated using standard lithography techniques, they are easily integrated into current semiconductor production facilities extending the profitable utilization of fabrication equipment and production lines that would otherwise be considered at the end of life.

PTI's strategy is to continue research towards expansion of IP and the aggressive development by ODIS as it relates to the deployment of the POET platform.

The disruptive potential of the POET technology was first recognized within the military community, and this recognition has remained strong. Despite this connection, historical military development work will not constrain the commercial application of the POET Technology.

Key Success Drivers

PTI continued to develop its enhancements to the POET platform during 2013 and throughout the second quarter of 2014.

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 higher speeds and reduced power consumption compared to conventional silicon-based devices. The Company will continue to drive research as expansion of the IP portfolio is paramount to the future of POET. The currently developed technology is still in its early deployment stages. 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. PTI has demonstrated such successes in the past and continues to establish and achieve significant milestones. Significant milestones achieved over the last sixteen months 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. The team is aiming to optimize the operating frequencies to up to 300-350 GHz range for the n-channel device.

- 2) The integration of the complementary inverter. Specifically, PTI 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 for monolithic fabrication of integrated electronic and optical devices on a single semiconductor wafer. Adding to its significance is the fact that the POET wafer used for the IR devices were fabricated with an independent foundry, BAE Systems' Microelectronics Center in Nashua, New Hampshire. BAE Systems has produced compound semiconductor devices based on gallium arsenide for more than 20 years for use in its defense, radar, and communications systems. This milestone, therefore, represents the integration by a third party of the optoelectronic process previously demonstrated in POET laboratories.

Timely capital investment is also key to the success of semiconductor companies. The Company acquired and installed approximately \$900,000 in new equipment during 2013. This equipment has resulted in the ability to target milestones further down the development roadmap than previously mapped. It has also enabled the Company to define and develop an important planar electronic technology (PET) subset of the POET platform.

The Company has successfully raised over CA\$17.5 million in equity financing through private placements and an additional CA\$8.1 million through the exercise of stock options and warrants since June 2012.

The prestigious University of Connecticut recently converted certain royalty rights into a significant 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 continues to build on those success drivers to remain operationally sustainable. The Company's future success will also be driven by focusing on the same factors, as well as critical human capital. In this regard, the Company recently added Mr. Daniel DeSimone and Mr. Ajit Manocha to the POET team.

Mr. DeSimone joined the Company as Vice President, Product Development. Mr. DeSimone was most recently Senior Manager, Test and Wafer Sort Engineering, at Fairchild Semiconductor. Under his leadership, the Fairchild team achieved significant increases in quality and yield during wafer production in several 0.5 and 0.35 micron CMOS/BiCMOS/BiPolar technologies. In addition to manufacturing experience, Mr. DeSimone brings to the Company two distinct experiences:

- i) Strategic product roadmap definition addressing server and storage vertical markets; and
- ii) broad integrated circuit development encompassing analog mixed signal through large digital application specific integrated circuits.

Mr. Manocha joined the Board as Executive Vice Chairman. In this capacity, Mr. Manocha will help in determining the strategic direction of the Company, and work closely with the Company's Executive Chairman and interim CEO in carrying out actions to support that strategic direction, specifically including: mergers and acquisitions (M&A), and related transitions; joint ventures, collaborations, partnerships and other industry relationships; assistance in capital raises; and identification and installation of a permanent CEO.

Mr. Manocha was most recently CEO of Global Foundries, the second-largest semiconductor foundry in the world, formerly the manufacturing arm of Advanced Micro Devices (AMD), and expanded via the acquisition of Chartered Semiconductor. Global Foundries produces integrated circuits (IC) in high volume for semiconductor companies such as AMD, Apple, Broadcom, Qualcomm, Samsung, and STMicroelectronics.

Significant Events and Milestones During 2014

In 2014, PTI continued to execute on its stated strategic plan. The Company has achieved the following significant milestones thus far in 2014:

- 1. On January 24, 2014, the Company submitted 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.
- 2. On February 11, 2014, Peter Copetti, who previously served as Executive Director and Chair of the Special Strategic Committee, was named Executive Chairman and interim CEO.
- 3. On February 13, 2014, the Company completed a \$4,546,000 (CAD \$5,000,000) private placement financing. The financing consisted of 7,692,307 units at a price of \$0.59 (CAD \$0.65) per unit. Each unit comprised one

common share and one common share purchase warrant. One warrant allows the holder to acquire one common share of the Company at an exercise price of \$0.91 (CAD \$1.00) per share for a period of 2 years. No commission was payable with respect to this financing.

- 4. On February 24, 2014, the Company achieved the fabrication of infrared (IR) detectors, using its proprietary planar optoelectronic technology (POET) platform for monolithic fabrication of integrated electronic and optical devices on a single semiconductor wafer. Adding to its significance is the fact that the POET wafers used for the IR devices were fabricated by an independent foundry, BAE Systems' Microelectronics Center in Nashua, New Hampshire.
- 5. On March 4, 2014, the Company achieved the long-awaited milestone (MS-5) the operation of its switching laser within the POET platform. This achievement has far-reaching implications for on-chip and optical communications applications. This single demonstration is a giant leap forward for an integrated circuit industry looking for ways to push complementary metal-oxide semiconductor (CMOS) processes past some challenging technical barriers.
- 6. On March 4, 2014, the Company filed new IP portfolio protection documents with the U.S. Patent and Trademark office (USPTO) and in other key jurisdictions to support strategic applications in POET-based quantum computing.
- 7. On March 4, 2014, the Company announced the addition of Mr. Daniel DeSimone to the POET team as Vice President, Product Development.
- 8. On April 7, 2014, the Company completed and made available, the POET Technology Design Kit (POET/TDK) documentation to the industry. POET/TDK provides complete documentation for the entire catalog of active electronic and electro-optical devices currently supported by the POET process. It comprises a comprehensive device parameter library, and enables potential customers and partners including semiconductor foundries and device and library developers to ease the implement the POET process.
- 9. On April 28, 2014, the Company announced Taylor Rafferty, LLC as the Company's Investor relations firm. The change in investor relations counsel follows Christopher Chu rejoining Taylor Rafferty, LLC where he previously assisted leading blue-chip companies in cross-border investor relations campaigns.
- 10. On July 1, 2014, the Company completed registration of its Form 20-F with the SEC.
- 11. On July 7, 2014, the Company announced the appointment of Mr. Ajit Manocha to the Board as Executive Vice Chairman.

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. All amounts herein are expressed in United States dollars unless otherwise indicated:

	<u>Jun. 30/14</u>	<u>Mar. 31/14</u>	Dec. 31/13	Sep. 30/13	<u>Jun. 30/13</u>	<u>Mar. 31/13</u>	Dec. 31/12	Sep. 30/12
Other (income)	\$ (85,204)	\$ (84,628)	\$ (80,890)	\$ (84,628)	\$ (86,269)	\$ (91,087)	\$ (126,736)	\$ (112,070)
Shares issued for the reduction of license fee	1,439,898	-	-	-	-	-	-	-
Research and development	362,848	312,302	438,777	352,486	256,914	312,551	265,146	240,494
Depreciation, amortization	50,276	50,407	38,892	24,478	10,180	2,548	1,838	3,258
Professional fees	146,057	301,703	277,505	92,176	128,758	76,863	24,351	17,650
Stock-based compensation	368,558	589,774	960,705	1,332,554	993,179	734,715	651,317	379,243
General and administrative	656,344	650,651	346,497	561,829	675,868	589,427	412,416	297,854
Investment (income), including interest	-	-	(18,371)	-	-	-	-	-
Discontinued opera- tions (income) loss	-	-	-	-	-	-	210,754	(382,666)
Net loss	\$2,938,777	\$1,820,209	\$1,963,115	\$2,278,895	\$1,978,630	\$1,625,017	\$1,439,086	\$ 443,763

Explanation of Quarterly Results for Q2 2014

In Q2 2014, the Company continued to receive payments pursuant to a \$750,000 SBIR contract granted to the Company in 2012. In Q2 2014, \$85,204 was received compared to \$86,269 in the same period in 2013. The Company continues to receive payments under the contract and expects it to be completed this year. The Company's strategy, however, is to eliminate its use of SBIR grants.

During Q2 2014, the Company reported a loss of \$2,938,777 compared to a loss of \$1,978,630 for the same period in 2013.

The most significant impact to the Company's operating loss during the period as compared to 2013 was 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.

During the period, professional fees increased by almost 13% from \$128,758 in 2013 to \$146,057 in 2014. On January 24, 2014, the Company submitted 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. In preparation for this filing, the Company incurred substantial legal and accounting fees. Legal fees relating to this SEC filing were approximately \$37,000 (nil – 2013). Accounting fees related to professional guidance associated with the filing of Form 20-F were \$40,000 (\$nil – 2013). The filing of the Form 20-F is the first step in the Company's plan to attempt to list the Company's securities on a U.S. exchange. If successful, it is anticipated that this would result in more liquidity for the Company's shares, access to other capital markets and greater visibility to prospective partners during the process of monetization. There can be no assurances that the Company's shares will be registered on a U.S. exchange.

Research and development increased by \$105,934 from \$256,914 in Q2 2013 to \$362,848 in Q2 2014. The increase was primarily due to the increased wages and benefits resulting from the appointment of the new VP Product Development. The VP Product Development brings to the Company two distinct experiences: strategic product roadmap definition - addressing server and storage vertical markets; and broad integrated circuit development encompassing analog mixed signal through large digital application specific integrated circuits.

Non cash stock-based compensation decreased by \$624,621 from \$993,179 in Q2 2013 to \$368,558 in Q2 2014. Stock option compensation is calculated on the date of the stock option grant and is amortized and expensed in the period that the stock options vest. Criteria such as stock price at the grant date, and number of stock options granted will affect the value of the granted stock and in turn the stock option compensation as this amount is amortized at the stock option vest date. It is important to note that this non-cash expense is considered an integral part of the Company employing and maintaining highly qualified and competent personnel to reach its goals. For the purposes of clarity and simplicity, the Company reclassified any stock based compensation included in research and development costs to stock-based compensation.

The Company granted 215,000 stock options in Q2 2014 while 2,250,000 were granted in Q2 2013.

Depreciation and amortization increased by \$40,096, from \$10,180 in Q2 2013 to \$50,276 in Q2 2014. The Company added new equipment throughout 2013 aggregating approximately \$900,000. All equipment that was planned and budgeted has now being installed and is operational. The new equipment provides the Company with a unique opportunity to advance the POET process within the confines of its own lab and advance its timelines toward monetization.

Explanation of Six Months Results for the Six Months Ended June 30, 2014

The losses in the six months ended June 30, 2014 of \$4,758,986 as compared to \$3,599,769 in the six months ended June 30, 2013 were a result of a few significant factors. The most significant of which was the 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, however, experience a decrease in non-cash stock based compensation of \$769,562. The expense decreased from \$1,727,894 in the six months ended June 2013 to \$958,332 in the six months ended June 2014. Stock option compensation is calculated on the date of the stock option grant and is amortized and expensed in the period that the stock options vest. Criteria such as stock price at the grant date, and number of stock options granted will

affect the value of the granted stock and in turn the stock option compensation as this amount is amortized at the stock option vest date. It is important to note that this non-cash expense is considered an integral part of the Company employing and maintaining highly qualified and competent personnel to reach its goals. For the purposes of clarity and simplicity, the Company reclassified any stock based compensation included in research and development costs to stock-based compensation.

The Company granted 215,000 stock options in the six months ended June 30, 2014 while 2,250,000 were granted in the six months ended June 30, 2013.

General and administrative expenses increased by approximately 3% or \$41,700, increasing from \$1,265,295 in the six months ended June 2013 to \$1,306,995 in the six months ended June 2014. While most items included in this general grouping decreased, wages and benefits increased by \$120,482. \$100,000 of which was paid to the former CEO in return for a reduction in his compensation and other entitlements.

Research and development increased by \$105,685 from \$569,465 in the six months ended June 2013 to \$675,150 in the six months ended June 2014. The increase was primarily due to the increased wages and benefits resulting from the appointment of the new VP Product Development. The VP Product Development brings to the Company two distinct experiences: strategic product roadmap definition - addressing server and storage vertical markets; and broad integrated circuit development encompassing analog mixed signal through large digital application specific integrated circuits.

Explanation of Material Variations by Quarter for the Last Eight Quarters

During the quarter ended June 30, 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.

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 associated with the filing of Form 20-F with the SEC in an attempt to obtain a registration of the Company's shares in the United States. Additionally, accounting fees associated with the annual financial statements were incurred in Q1. Accounting fees paid in Q2 were primarily tied to the review and filing of the Form 20-F.

In the quarter ended December 31, 2013, professional fees increased over the previous quarter by approximately \$185,329. The increase was due to the additional legal and accounting fees incurred in preparing the Company's registration statement – Form 20-F for filing with the SEC. The filing of the Form 20-F was the first step in the Company's plan to attempt to list the Company's securities on a U.S. exchange. If successful, it is anticipated that this would result in more liquidity for the Company's shares, access to other capital markets and greater visibility to prospective partners during the process of monetization. There can be no assurances that the Company's shares will be registered on a U.S. exchange. Additional legal and other professional costs are required to be incurred to execute on these changes.

In the quarter ended December 31, 2013 research and development increased by approximately \$86,000 over the three month period ended September 30, 2013. The increased research and development costs contributed to the Company achieving milestone 6 which is the integration of the complementary inverter, the basis of all on-chip logic.

In the quarter ended September 30, 2013, the Company had a significant increase of \$339,375 in the stock option compensation expense. The expense was \$1,332,554 as compared to \$993,179 in the quarter ended June 30, 2013. Stock option compensation is calculated on the date of the stock option grant and is amortized and expensed in the period that the stock options vest. Criteria such as stock price at the grant date, and number of stock options granted will affect the value of the granted stock and in turn the stock option compensation as this amount is amortized at the stock option vest date.

The Company granted 3,380,000 stock options in the quarter versus only 2,250,000 in the quarter ended June 30, 2013.

Research and development costs increased from \$256,914 in Q2 2013 to \$352,486 in Q3 2013. The Company increased its R&D expenses by \$95,572 in an effort to quickly and sustainably monetize POET. The increase in R&D costs has enabled to Company to reach a number of goals as enumerated in the section on Significant Events and Milestones During 2014.

In the quarter ending June 30, 2013, the Company disposed of its remaining assets available for sale to a third party in consideration for the assumption of the associated disposal group liabilities relating to its discontinued solar segment. No gain or loss was recorded on the disposal. Also, stock option expenses increased by \$258,464 in the quarter over the previous quarter. Substantially all of the new option grants were to new Board members and to advisors to the SSC which was subsequently dissolved after presenting its report.

In the quarter ending March 31, 2013, the Company's professional fees and general and administrative expenses were cumulatively \$725,121. This amount is \$288,466 greater than the previous quarter ended December 31, 2012. The increase was a result of professional fees relating to discontinuing the solar operations, the hiring of a new investor relations firm, salaries and benefits paid to new technical staff engaged to drive the technical development of POET, and severance payments related to redundant staff.

In the quarter ending December 31, 2012, the Company divested itself of a portion of its solar segment. The assets were sold to a third party for \$1,000,000. No gain or loss was recorded on the disposition of these assets as the loss was recognized in a prior period.

In the quarter ending September 30, 2012, PTI's results showed a profit of \$382,666 included in discontinued operations through the negotiation of lower payments on some of its accounts payable and the completion of some final sales commitments to customers. These were the final billings associated with the discontinued solar business.

In the quarter ending June 30, 2012, PTI made the decision not to continue the solar related side of its business. All assets and operations were reviewed and the Company posted a loss on discontinued operations of \$3,480,717. By the end of the year, all losses associated with discontinuing the solar division totaled \$4,685,449.

All eight quarters in the table above have been retroactively restated to show the effects of the discontinuation of PTI's solar business and a change in accounting policy relating to the Company's treatment of patent registration costs.

Segment Disclosure

The Company and its subsidiary operates in a single segment - the design of semi-conductor products for military and industrial applications. In prior years, the Company had two operating segments, however, in 2012, management made a decision to discontinue one segment. 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 operating segment is below:

ODIS Inc. ("ODIS")

ODIS develops gallium arsenide-based processes and semi-conductor microchip products having several potential major market applications: infrared sensor arrays for Homeland Security monitoring and imaging along with the unique combination of optical lasers and electronic control circuits on the same microchip for potential applications in various military programs and, potentially telecom for Fibre to The Home. ODIS' technology also provides the opportunity for higher speed computing capabilities.

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

2014								
US		Canada		Consolidated				
\$	3,635,285 850,579 175,900	\$	9,119,034 -	\$	12,754,319 850,579 175,900			
\$	4,661,764	\$	9,119,034	\$	13,780,798			
US		Canada		Consolidated				
*		.						
\$	· · ·	\$, ,	\$	3,833,755			
	(169,832)		-		1,095,063 (169,832)			
\$	3,000,013	\$	1,758,973	\$	4,758,986			
	\$	\$ 3,635,285 850,579 175,900 \$ 4,661,764 US \$ 2,074,782 1,095,063 (169,832)	US \$ 3,635,285 \$ 850,579 175,900 \$ 4,661,764 \$ US US \$ 2,074,782 \$ 1,095,063 (169,832)	US Canada \$ 3,635,285 \$ 9,119,034 \$ 4,661,764 \$ 9,119,034 \$ 4,661,764 \$ 9,119,034 US Canada \$ 2,074,782 \$ 1,758,973 1,095,063 - (169,832) -	US Canada C \$ 3,635,285 \$ 9,119,034 \$ 850,579 - 175,900 - \$ 4,661,764 \$ 9,119,034 \$ US Canada C \$ 2,074,782 \$ 1,758,973 \$ 1,095,063 - (169,832) -			

	2013						
As of June 30, Current assets Property and equipment Patents and licenses Construction in progress		US		Canada		consolidated	
	\$	2,140,044 211,095 132,075 673,655	\$	3,409,646 - -	\$	5,549,690 211,095 132,075 673,655	
	\$	3,156,869	\$	3,409,646	\$	6,566,515	
	US Canada		Consolidated				
Six months ended June 30, General and administration Research and development Other income	\$	825,262 759,588 (177,356)	\$	2,196,153	\$	3,021,415 759,588 (177,356)	
	\$	1,407,494	\$	2,196,153	\$	3,603,647	

Liquidity and Capital Resources

The Company had working capital of \$12,515,922 on June 30, 2014 compared to \$3,272,349 on December 31, 2013. The increase and maintenance of the higher working capital was due to the \$4.5 million dollars of financing completed on February 13, 2014 in addition to the \$6.9 million dollars raised through the exercise of stock options and warrants in the period. The Company continues to raise capital through the exercise of stock options and warrants. Between January 1, 2014 and August 13, 2014, the Company received over \$8 million dollars from the exercise of stock options and warrants. The Company has no significant operational or capital commitments.

The Company continues to attract the interest of investors who have financially supported the Company and its efforts.

The Company's balance sheet as at June 30, 2014 has assets with a book value of \$13,780,798 (2013 - \$4,557,844) of which 93% (2013 - 79%) or \$12,754,319 (2013 - \$3,528,376) is current and primarily cash of \$12,695,936 (2013 - \$3,260,967). This liquid and unencumbered balance sheet has allowed a flurry of activity already undertaken and further expected in the year, including but not limited to achieving technical and operational milestones.

Based on current plans and cash utilization the Company believes it has sufficient liquidity to support its operations and technological programs over at least the next 24 months.

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 through lean operations.

Related Party Transactions

Compensation to key management personnel were as follows:

	Three Months Ended June 30,			Six Months Ende June 30,			
	2014	20)13		2014		2013
Salaries	\$ 183,006	\$ 23	35,831	\$	558,660	\$	372,231
Share-based payments (1)	171,319	48	81,901		399,867		647,143
Total	\$ 354,325	\$ 7	17,732	\$	958,527	\$	1,019,374

(1) Share-based payments are the fair value of options granted to key management personnel and expensed during the year.

During the six months ended June 30, 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.

During the three and six months ended June 30, 2014, the Company paid \$168,795 and \$223,540 (2013 -\$39,600 and \$96,000) in salary to the executive chairman and CEO.

During the three and six months ended June 30, 2014, the Company paid \$13,686 and \$27,372 (2013 - \$25,200 and \$50,400) in consulting fees to the vice chairman of the Board.

The Company paid \$32,243 and \$85,227 in fees and disbursements (2013 - \$13,226 and \$16,647) to a law firm, of which a director is counsel, for legal services rendered to the Company for the three and six months ended June 30, 2014.

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.

Change in Accounting Policy

During the period, the Company made an accounting policy change to capitalize its patent registration costs. The previous accounting policy was to charge all patent registration costs against profit and loss in the year those costs are incurred (see note 2 of the June 30, 2014 financial statements – Patents and licences).

The new accounting policy was adopted in the current period and has been applied retrospectively. Management believes that the change in accounting policy will provide more relevant and reliable information. The Company is developing an intangible process which is increasing the net worth of the Company. Each patent filed, increases the value of the Company. This retrospective change in accounting policy provides more transparent information relating to these assets as they are expected to provide future economic benefits and they can be measured reliably.

The impact of the change in accounting policy on the Consolidated Statement of Operations and Deficit, Consolidated Statement of Comprehensive Loss, Consolidated Statement of Financial Position and Consolidated Statements of Cash Flows is set out below:

Three Mor June 20		June 30,	
\$ (1,	974,540) \$ (3,658,2	388)	
	(4,090) 54	,741	
(1,	978,630) (3,603,6	647)	
(60,	774,062) (59,149,0	045)	
\$ (62,	752,692) \$ (62,752,6	692)	
\$	(0.01) \$ (0).03)	
\$	(0.01) \$ (0).03)	
	\$ (62,836,6	640)	
	20	207	
	-	,207 ,741	
		,	
		\$ (62,752,	

Consolidated Statements of Operations and Deficit:

Consolidated Statements of Comprehensive Loss:

	Thre	ee Months Ended June 30, 2013	Six Months Ended June 30, 2013		
Comprehensive loss previously reported Adjustment to net loss due to change in accounting policy	\$	(2,093,575) (4,090)	\$	(3,894,540) 54,741	
Comprehensive loss	\$	(2,097,665)	\$	(3,839,799)	

Consolidated Statements of Financial Position:

		Balance as previously reported December 31, 2013		Change in accounting policy		Balance as adjusted	
Patents and licenses previously reported, December 31, 2013	\$	38,790	\$	86,886	\$	125,676	
Deficit	\$	(67,081,588)	\$	86,886	\$ (6	56,994,702)	

Consolidated Statements of Cash Flows:

Patents and licenses that are capitalized are included as part of cash flows from investing activities whereas patent registration costs that are expensed, and amortization of capitalized costs are included as part of cash flows from operating activities. This has resulted in additional cash outflows from investing activities being relating to capitalized patent registration costs of \$62,923 for the year period ended June 30, 2013. This has also resulted in a corresponding reduction being reflected in the net cash outflow from operating activities of \$62,923. Non-cash operating activities relating to the amortization of patent registration costs increased by \$8,183 for the period ended June 30, 2013.

Other Events

Changes to the Board and Executive Team

On February 11, 2014, the Company made the following changes to the Executive Team and the Board:

- Peter Copetti has been named Executive Chairman and interim CEO.
- Leon M. Pierhal has stepped aside as CEO and will continue his role as President and member of the Board. He did not stand for re-election at the Annual General Meeting.
- Mark Benadiba has stepped down as Executive Chairman of the Board and remained a member of the Board, as Vice Chairman, until he resigned on July 1, 2014.
- On July 7, 2014, the Company announced the appointment of Mr. Ajit Manocha to the Board as Executive Vice Chairman.

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 other 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, accounts receivable, marketable securities, 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. A 10% change in the Canadian dollar would increase or decrease other comprehensive income by \$911,703. Since the Company's operations predominantly transact their sales and purchases in their respective domestic currencies, the exposure is reduced. Therefore, the Company typically does not hedge accounts receivable and accounts payable that are denominated in a foreign currency.

Interest Rate Risk

Short-term investments 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 PTI'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

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

Market Risk

Market risk arises from the possibility that changes in market prices will affect the value of the financial instruments of the Company. The Company is exposed to fair value fluctuations on its short-term investments and marketable securities. The Company's other financial instruments (cash, accounts receivable and accounts payable and accrued liabilities) are not subject to market risk, due to the short-term nature of these instruments.

Strategy and Outlook

During 2014, there are a number of projects planned which 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.
- Expand the ODIS engineering team with placement of additional team members at the ODIS' R&D facility.
- 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 mainstream products by providing ease of access to the platform with initiatives such as the documentation of the TDK's.
- Actively search out opportunities to monetize POET, bringing maximum value to shareholders.

Outstanding Share Data

Common Shares

As of June 30, 2014 and August 12, 2014, there were 159,629,759 and 163,773,384 respectively, outstanding common shares of the Company.

Stock Options and Warrants

As at June 30, 2014 and August 12, 2014, the Company had 33,189,539 and 32,282,413 respectively, warrants and compensation warrants outstanding to purchase common shares at exercise prices ranging from 0.22 - 1.00

Total stock options outstanding as at June 30, 2014 and August 12, 2014 were 23,667,750 and 22,367,750, priced between \$0.22 and \$1.68 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 – PTI depends on its senior management and technical staff. If PTI 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 PTI 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. Since June 2012, the Company has raised over 25 million dollars in equity financing in support of the POET initiative.

Governmental Incentives – Projects that PTI might participate in directly or through ODIS may not be funded due to reductions, changes in timing, and/or the removal of government incentives. The Company has made a strategic decision to eliminate its use of SBIR grants.

Ability to Reach Profitability - PTI has no history of profitability and may not be able to monetize POET.

Market Acceptance of New Products – ODIS' 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 – PTI's technology is highly reliant upon staying ahead of technological changes, particularly in other competing semiconductor processes. If PTI 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 – PTI 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, PTI 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.

Additional Information

Additional information relating to the Company is available on SEDAR at <u>www.sedar.com</u>.



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