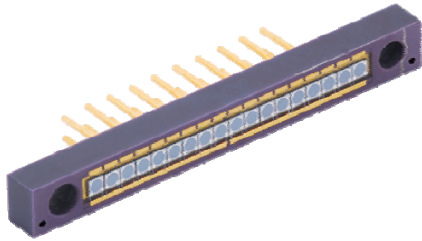
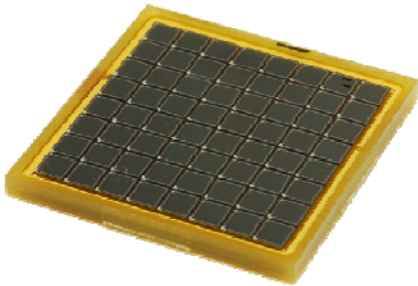




# Zecotek Photonics Inc.



MAPD Photo-Detectors



Detector and Scintillator Arrays for PET



Visible Fiber Lasers

Management's  
Discussion & Analysis

For the year ended  
July 31, 2013

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## MANAGEMENT DISCUSSION AND ANALYSIS

**November 28, 2013**

This Management's Discussion and Analysis ("MD&A") of Zecotek Photonics Inc. (the "Company") is dated November 28, 2013. MD&A should be read in conjunction with the Company's audited consolidated financial statements and accompanying notes for the year ended July 31, 2013. The audited consolidated financial statements are prepared in accordance with International Financial Reporting Standards. All dollar amounts are expressed in Canadian dollars except where noted. The parent company's accounts are maintained in Canadian dollars. The business activities of the Company, carried out through its subsidiaries in Singapore are conducted primarily in Singapore dollars. The rate of exchange on July 31, 2013 as reported by the Bank of Canada, for the conversion of one Singapore dollar into Canadian dollars was \$0.8070.

### Forward-Looking Statements

This discussion may contain forward-looking statements, including statements regarding the business and anticipated financial performance of the Company, which involve risks and uncertainties. These risks and uncertainties may cause the Company's actual results to differ materially from those contemplated by the forward-looking statements. Factors that might cause or contribute to such differences include, among others, Company's ability to successfully complete new product development along the timelines expected; the Company's need for funds to achieve its goals and uncertainties as to the availability and cost of funding; uncertainty as to the continued and future demand for the Company's products; the development of competing technologies and the possibility of increased competition; and other economic trends and conditions in the markets that the Company and its customers serve; and the effect of the risks associated with technical difficulties or delays in product introductions, improvements, implementation, product development, product pricing or other initiatives of the Company and its competitor. All other companies and products listed herein may be trademarks or registered trademarks of their respective holders.

### Company Overview

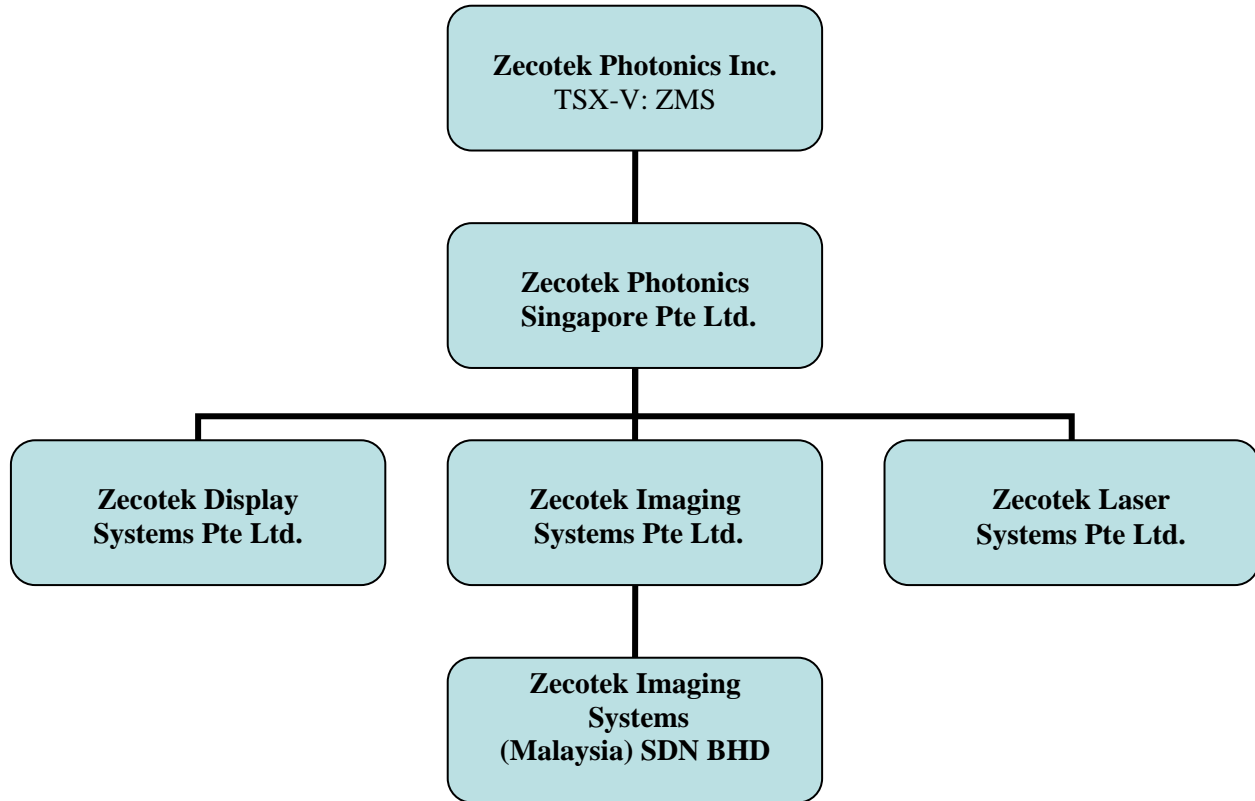
Zecotek Photonics Inc. develops leading-edge photonics technologies and products for commercial and research applications in many different markets: medical, bio-science, high-energy physics, pharmaceutical research, material processing, engineering and industrial design and multi-media.

Founded in 2004, the Company has focused on building shareholder value by securing a strong intellectual property portfolio, completing the development of unique technologies for targeted markets and pursuing the optimum commercialization strategy.

Zecotek Photonics Inc. has three operational subsidiary companies: Zecotek Imaging Systems Pte Ltd. (ZIS); Zecotek Display Systems Pte Ltd. (ZDS); and Zecotek Laser Systems Pte Ltd. (ZLS). All of these subsidiary companies are incorporated in Singapore and owned by Zecotek Photonics Singapore Pte.Ltd., a holding company. Each operational subsidiary is autonomous, in the sense that each has its own patent portfolio and management team..

Zecotek's corporate headquarters is located in Vancouver, B.C. It is a Canadian public company trading on the TSX Venture Exchange under the symbol "ZMS" and on the Frankfurt Stock Exchange under the trading symbol "W11". The Company's website is [www.zecotek.com](http://www.zecotek.com).

*Company Structure*



***Zecotek Imaging Systems Pte Ltd. (ZIS)***

ZIS has research laboratory facilities in Singapore and Moscow, where it has developed its patented lutetium fine silicate (LFS) scintillation crystals and solid-state **Micro-pixel Avalanche Photo Diodes (MAPD)** photo-detectors. It works in partnership with the University of Washington in Seattle, on the integration of PET/MRI for imaging and pharmaceutical research. The focus of the partnership is the integration of a compact design for imaging of specific organs while offering an ideal diagnostic modality.

The LFS crystal and the MAPD are central components for high-resolution PET scanners for medical diagnostics and treatment. They are also key devices to high energy physics experiments, specifically the Large Hadron Collider at CERN, Switzerland and the Linear Accelerator at Fermi Lab, USA. CERN and Fermi Lab have subcontracted ZIS to complete the development of a new version of ZIS’s MAPD with specific parameters for their main new particle detection programs.

***Zecotek Display Systems Pte Ltd. (ZDS)***

ZDS scientists have developed and demonstrated a colour, 32-inch 3D display prototype that offers multiple viewers with true volumetric visualization while exhibiting depth and parallax without the use of external glasses. ZDS’s Real-Time 3D2D Display is a novel, patented display system for the visualization of images and data, which has been developed in-house by Zecotek’s scientific team and technical staff and does not rely on any licensed intellectual property. All intellectual property is owned and controlled by Zecotek. The Zecotek 3D display technology has been granted US and Australian Patents under PCT.

Based on the auto stereoscopic principle, but with patent pending innovation, it represents a new generation of 3D displays. It has the capability of simultaneously presenting to multiple users both 3D and 2D images on the same screen with separate views and at different viewing angles. Its design provides for multi-users, multi-views, freedom of movement, high resolution in both 3D and 2D modes, superior image dynamic range in 2D mode, 2D and 3D simultaneous displays, common brightness, compatibility with existing applications and cost competitiveness at all stages of adoption and levels of application.

The 3D display system provides for viewing a volumetric representation without eye strain. The viewing of such 3D images does not require the use of any supplementary means such as glasses, does not drastically limit the position of the viewer with respect to the display, and allows simultaneous viewing of the 3D display by many viewers from a relatively wide field of view.

#### ***Zecotek Laser Systems Pte Ltd. (ZLS)***

ZLS has a joint laboratory with Inversion Fiber/Novolaser for the integration of tuneable fiber lasers in the visible spectrum. The tuneable visible fiber laser technology platform is now complete and lasers based on the platform have a large area of application in medicine, fundamental research, inspection and other industries. These lasers provide unique output wavelengths and wide tuning range and are specially suited for bio-medical applications using fluorescent techniques, such as gene sequencing, proteomics, scanning laser microscopy and flow cytometry. In these applications they can replace conventional laser types with sub-optimal wavelengths and provide a unified fiber laser platform covering the majority of the visible spectrum. Zecotek's tuneable fiber lasers are able to replace several units of different configurations and modes of operation conventionally used in bio-medical research equipment, such as flow cytometry machines used in pharmaceutical drug discovery. Zecotek technology and products have been endorsed by tests independently conducted by the U.S. National Institute of Health (NIH).

ZLS has focused its efforts on those lasers that have unique commercial, technical and value-added features and present less resistance to market entry.

#### ***Zecotek Key Product Summary***

- Patented LFS family of advanced scintillation materials;
- Patent-pending MAPD solid-state high-sensitivity photo-detector (Micro-pixel Avalanche Photo Diode);
- Patented and patent-pending DOI-enabled scintillation detectors for PET imaging;
- Patented and patent-pending Mini PET/MRI technology;
- Patented and patent-pending 3D/2D auto-stereoscopic multiple-view display;
- Patented and patent-pending widely tunable fiber lasers in the visible spectrum.

#### **Patent Portfolio**

As a result of internal technology development, patent acquisitions and licensing partnerships, the Company's patent portfolio has continued to grow in numbers and technological diversity. As of November 28, 2013, Zecotek owned title to or controlled more than 50 patents and applications. The following table lists the key patents in Zecotek's patent portfolio.

Key Technology	Patent/App. No	Date Filed	Jurisdiction	Status
Visible fibre lasers	12/182,951	30-07-08	PCT, US, CA	Pending
	2006119198	02-06-06	RU	Granted
Solid-state lasers	12/851,427	05-08-10	PCT, US	Pending
	12/881,033	13-09-10	US	Pending
3D displays	7,944,465	27-02-06	US, CA, AU	Granted
	13/108,249	16-05-11	US	Pending
	11/769,672	27-06-07	US	Granted
	PCT/IB2007/003309	07-11-07	PCT, CN, EA, EP, IN, JP, KR	Pending
	201070065	07-11-07	EA	N. of Allowance
	EP 2177041	07-11-07	EP	Granted
	61/586,809	01-15-12	US	Pending
LFS scintillation crystals	13/546,877	11-07-12	US	Pending
	7,132,060	21-07-05	US	Granted
	2242545	04-11-03	RU	Granted
	PCT/RU2004/000094	12-03-04	PCT, AU, CA, CN, EA, DE, FR, GB, IN, JP, NL	Granted
Semiconductor photo-detectors (MAPD)	1493/KOLNP/2006	12-03-04	IN	Pending
	2316848	01-06-06	RU	Granted
	PCT/RU2007/000287	31-05-07	PCT, AU, CA, EP, IN, JP, KR, MY	Pending
	200808979-9	31-05-07	SG	Granted
	200780024920.5	31-05-07	CN	N. of Allowance
	12/034,603	20-02-08	US	Pending
PET imaging technologies	13/609,136	10-09-12	US	Pending
	7,956,331	27-10-08	US	Granted
	13/232,944	14-09-11	PCT, US	Pending
	PCT/US2009/062108*	26-10-09	PCT	Pending
	12/544,174*	19-08-09	US	Pending
	8,003,948 B2*	03-11-08	US	Granted
	PCT/US2008/082273*	03-11-08	PCT, AU, CA, EP, JP, KR, CN, EA, IN	Pending
PCT/US2009/061600*	22-10-09	PCT, US	Pending	
	13/125,962*	26-10-09	US	Granted

\* Zecotek, as principal financier and development partner of imaging components with the University of Washington, has the exclusive license rights for improved data-processing electronics for new generation PET scanning devices.

## Corporate Strategy

Since Zecotek's formation in 2004, it has developed and acquired a significant technology based intellectual property portfolio protected by patents issued or filed worldwide. Furthermore, the Company has integrated a number of technologies into value-added components and products which it has manufactured in limited production runs.

Zecotek's core business strategy is to commercialize photonic products and technologies through strategic alliances with major corporations. The central objective is to enter growth markets with products featuring competitive costs and performance superiority – leading to above average profits and shareholder returns.

Zecotek brings leading-edge photonics technologies to alliances while corporate partners bring their existing product development, marketing, manufacturing and distribution resources. The product delivery vehicle will be generally a joint venture, structured to clearly identify each partner's contributions, efficiently manage

project costs, preserve each partner's IP rights, enable investment by fourth parties and minimize time to market.

## **Recent Business Activities**

### ***Lawsuit***

In February 2012 Zecotek Imaging Systems Pte Ltd., a wholly owned subsidiary filed legal action in the United States Federal District Court in Los Angeles against defendants Saint-Gobain Corporation and Philips for infringement of Zecotek's U.S. Patent Number 7,132,060. The patent covers the substances and chemical formulations used to grow lutetium fine silicate (LFS) scintillation crystals which are characterized by their combined high light yield and ultra-fast decay times and are typically used in medical scanning devices. The lawsuit alleges that Saint-Gobain's LYSO crystals infringe Zecotek's patent, and that Philips infringes by using those crystals in the PET scanners it sells. Due to the fundamental nature of the patent, management believes that the damages caused by the alleged infringement may be substantial. The Company is diligently pursuing the lawsuit and has retained a dedicated and experienced patent lawyer.

On July 1 and 2, 2013, a technical tutorial and a claim construction (Markman) hearing were completed before the Court. In the hearing, the Court considered the meaning of certain technical terminology used in the patent claim. The date of the Court's decision following the Markman hearing was not specified.

### ***Patents***

In January 2013 Zecotek received a Notice of Allowance for improved data-processing electronics for positron emission tomography (PET) scanning devices. The patent allowance represents another important step as the Company focuses on strengthening its patent portfolio specific to PET technology and associated components.

In August 2012 Zecotek received Notice of Allowance from the Chinese State Intellectual Property Office for its Micro-channel Avalanche Photodiode (MAPD) solid-state photo detector. The Chinese Notification for Patent is the second patent granted for the MAPD solid-state photo detector. The first patent was granted by Russia in March 2008. Patents have been filed and are pending in other jurisdictions including the United States.

In July 2012 Zecotek received a Notification for Patent Registration Formalities from the Chinese State Intellectual Property Office for the 3D/2D switchable optical imaging system of the glasses-free 3D auto-stereoscopic display system. This adds to the United States Patent Office Notice of Allowance, and the Eurasian Patent Office Notification on Readiness to Grant a Eurasian Patent, received in May 2012, by the Company, for its 3D/2D switchable optical imaging system for its glasses-free 3D auto-stereoscopic display system. These notices add to the other global patents, including U.S. patent number 7,944,465 covering Zecotek's glasses-free 3D auto-stereoscopic display system.

In August 2012 the United States Patent Office has issued a Notice of Allowance covering a method of data acquisition for positron emission tomography (PET) scanning devices. The data acquisition board and readout system are an important component of PET scanning devices. Zecotek, as principal financier and development partner of various imaging components with the University of Washington, radiology department, has the exclusive license rights for a method of data acquisition and design boards to be used in new generation PET scanners.

***Hamamatsu Photonics***

With approximately US\$1 billion of annual sales, Hamamatsu is the world's leading supplier of optoelectronics components including photo multiplier tubes and photo-diodes used in positron emission tomography (PET) medical scanners, the European Organization for Nuclear Research (CERN) projects and other industrial and scientific applications.

On July 16, 2013 Zecotek formed a strategic partnership with Hamamatsu Photonics of Japan to commercialize existing imaging technologies and to collaborate on the upgrade and manufacture of photo detectors, integrated detector modules (IDM) and associated electronics and data acquisition modules for the imaging markets at large.

The partnership combines the strengths of both organizations where Zecotek's patented and patent pending imaging technologies will benefit from the technological expertise and marketing capabilities of Hamamatsu. Hamamatsu will take over the manufacturing and marketing of most of Zecotek's proprietary imaging technologies, including the commercialization of LFS crystals, solid-state MAPD photo detectors and any other photo-detector variants innovated by Zecotek. Hamamatsu becomes the exclusive sales channel for Zecotek's patented protected LFS scintillation crystal and future generations of the scintillation material. Hamamatsu will take the lead on the technological enhancement, large-scale manufacturing and marketing of all Zecotek's imaging technologies.

Zecotek and Hamamatsu will establish a joint program to improve existing versions of photo-detectors and imaging modules, for immediate commercialization and develop new innovative ones for future markets. Both parties retain full ownership to all their respective patents and intellectual property brought into the collaboration.

On July 31, 2013 Hamamatsu ordered \$500,000 of Zecotek's patented Lutetium Fine Silicate (LFS) scintillation crystals. These LFS scintillation crystals were used in third party positron emission tomography (PET) medical scanning devices.

In November 2013, Zecotek joined Hamamatsu Photonics at the Nuclear Science Symposium and Medical Imaging Conference in Seoul, Korea to showcase patented imaging technologies including an assembled integrated detector module (IDM) composed of LFS arrays and corresponding solid-state photo detectors.

On November 19, 2013 Hamamatsu ordered \$1,500,000 of Zecotek's patented LFS scintillation crystals for a third party original equipment manufacturer (OEM) of positron emission tomography medical scanning devices.

***The European Organization for Nuclear Research (CERN)***

CERN is one of the world's largest and most respected centres for scientific research and has become a very important partner of Zecotek. At CERN some of the world's largest and most complex scientific instruments are being used to study the basic constituents of matter and Zecotek's imaging technologies are playing an increasing role.

In May 2013, Zecotek announced the European Organization for Nuclear Research (CERN) is to assess the optimum size configurations for its patented LFS crystal material for use in new experiments clarifying the existence of the Higgs Boson. In March 2013, CERN scientists confirmed that a new subatomic particle



discovered at the world's most powerful particle accelerator is the Higgs Boson. As CERN pushes into this new frontier of science, additional experiments are required to determine the particle's properties and its true form. High energy scintillation crystals with high radiation hardness are paramount for the success of the next stage of experiments.

In early 2012, following an extensive test bench study on the characteristics of Zecotek's patented fourth generation Micro-pixel Avalanche Photo Diodes (MAPD-3N) conducted by the University of Bergen in Norway, and after completing a 40 day heavy ion experiment with 320 channels of MAPD-3A readout, CERN ordered the MAPD-3N for two projects: the ALICE Experiment and the NA61 Experiment.

These and other experiments at CERN are demanding higher energies than ever before and require five key parameters for photo detectors: low cost, high photo-detection efficiency, very high linearity, significant radiation hardness, and a low recovery time. Zecotek's solid-state MAPD-3N photo detectors meet all of the parameters including an optimum low recovery time, which has been fine tuned to a level commanded by all CERN experiments.

In December 2012, Zecotek announced that the COMPASS experiment at CERN has selected the Company's solid-state MAPD-3N photo detectors, for the multi-purpose experiment in high-energy physics taking place at CERN's Super Proton Synchrotron accelerator located in Switzerland. The MAPD-3N will be used in the electromagnetic calorimeter.

There are six CERN experiments using Zecotek's solid-state MAPD photo detectors:

- The Alice Experiment,
- The NA612 Experiment,
- The Swiss Federal Institute of Technology,
- The Joint Institute for Nuclear Research,
- The Compact Muon Solenoid Experiment,
- The Compass Experiment.

#### ***Sales/Partnerships***

On June 28, 2013 Zecotek signed a joint collaboration agreement with Intellectual Ventures (IV®) of Bellevue, Washington. IV is the global leader in the business of invention which collaborates with leading inventors, partners with pioneering companies, and invests both expertise and capital in the process of invention. The two companies will collaborate on intellectual property strategy, including the sourcing, development, and monetization of new inventions related to photonics. IV is one of the largest owners of U.S. patents and works closely with inventors to develop and protect intellectual property.

In February 2013 Zecotek announced that it had received an additional order for its patented Lutetium Fine Silicate (LFS) scintillation crystals from a positron emission tomography (PET) original equipment manufacturer (OEM) based in Japan. The LFS scintillation crystals are to be installed in a PET Crystal Module and used in a trial PET scanning device. This is a follow-up order to previously announced trial orders received from a PET OEM and a radiation detection OEM based in Japan. The PET Crystal Module units are used in PET medical scanners manufactured in South Korea.

In January 2013 Zecotek announced it had received trial orders for its patented Lutetium Fine Silicate (LFS) scintillation crystals from a positron emission tomography (PET) original equipment manufacturer (OEM) and

a radiation detection OEM based in Japan. Trial orders represent an important opportunity for Zecotek as each PET scanner requires a large number of scintillation crystals which make up a significant portion of the cost of each device.

In July 2012 Zecotek announced the selection of the National NanoFab Center (NNFC) to manufacture its patented Micro-channel Avalanche Photodiode (MAPD) solid-state photo detector arrays. The NNFC is a world class nanotechnology and semiconductors center, located in Daejeon City, Korea, approximately 150 km from Seoul. The NNFC has the manufacturing and technological capabilities to meet the growing market demand for MAPD and to provide technical support and service for future MAPD upgrades.

In February 2012 Zecotek announced a joint development agreement with NuCare Medical Systems of Seoul, Korea to integrate a high performance positron emission tomography (PET) medical scanning device using Zecotek's patented LFS scintillation crystals, solid-state MAPD photo detectors and a new data acquisition board and readout system. This followed the announcement in November 2011 when NuCare ordered Zecotek's patented LFS scintillation crystals and arrays for use in a non-destructive assay system and the development of a new positron emission tomography (PET) system. NuCare is known for its innovation in product design and specializes in products in the area of nuclear medical imaging.

In November 2011 Zecotek selected the Beijing Opto-Electronics Technology Co. Ltd. (BOET) to grow and commercialize all versions of its patented LFS scintillation crystals. Founded in 2001, BOET has become a leader in the photonics industry and specializes in the growing, cutting, polishing and the large scale production of crystals. Zecotek selected BOET as its partner as it is known for its competitive cost, continuity of supply and security of intellectual property. BOET is a subsidiary of North-China Research Institute of Electronics-Optics and is partially owned by the Chinese government. It has worked with a number of Canadian companies and other international companies.

#### ***Research & Development & Other Activities***

In January 2013 Zecotek announced that it had successfully completed the functional design concept of an Integrated Detector Module (IDM). The IDM is a patent pending layered structure made of three principle components: an array of LFS scintillation crystals, an array of MAPD solid-state photo detectors, and a readout system. It is a cost effective and scalable design, ideal for new positron emission tomography scanner configurations and various types of gamma cameras.

In December 2012 Zecotek reported that the National NanoFab Center (NNFC) had resolved the most important technological aspects related to the mass production of its upgraded MAPD solid-state photo detector. For the past several years, the positron emission tomography (PET) medical imaging and high-energy physics industries have been progressively revising their requirements for a new class of photo detectors. The demand for timely, cost effective and higher performance PET scanners by the medical sectors as well as the most recent results achieved at CERN, have dictated a challenging upgrade of the photo detector parameters. Zecotek's versatile and scalable MAPD design and NNFC's advanced expertise have allowed for the optimization of recovery time for CERN applications and timing resolution for the new PET scanner configurations.

Zecotek was one of five Canadian companies selected to participate in the Canadian Technology Showcase held on Thursday, February 9, 2012 in Vancouver, BC. The Canadian Technology Showcase was organized

by Foreign Affairs and International Trade Canada to highlight Canadian technologies for visiting senior executives from Sony Corp. of Japan. Zecotek presented its patented glasses-free 3D display technology.

### ***Financings***

On September 4, 2013, the Company completed the share subscription agreements for the financing announced August 20, 2013. Under the agreements, the subscribers purchased 5,966,938 units of the Company at a price of \$0.58 per unit, for gross proceeds of \$3,460,824. Each unit consists of one common share and one half of one share purchase warrant. Each whole warrant entitles the holder to acquire one common share at an exercise price of \$0.75 per share for a period of 24 months after the date of the private placement. The warrant's exercise period will automatically accelerate to 30 days if the common shares of the Company trade above \$1.25 for a period of 10 consecutive trading days.

The Company paid finder's fees in the amount of \$234,040 and 403,516 non-transferable finder's warrants for the financing. Each finder's warrant entitles the holder to purchase one common share at a price of \$0.75 for a period of 24 months after the date that the private placements closed. All shares and warrants are to be subject to a four-month hold period.

On June 7, 2013, the Company completed the second tranche of share subscription agreements for the financing announced on March 8, 2013. Under the agreements, the subscribers purchased 2,980,111 units of the Company at a price of \$0.36 per unit, for gross proceeds of \$1,072,840. Each unit consists of one common share and one half of one share purchase warrant. Each whole warrant entitles the holder to acquire one common share at an exercise price of \$0.50 per share for a period of 24 months after the date of the private placement. The warrant's exercise period will automatically accelerate to 30 days if the common shares of the Company trade above \$1.00 for a period of 10 consecutive trading days.

The Company paid finder's fees in the amount of \$61,670 and 171,305 non-transferable finder's warrants for the financing. Each finder's warrant entitles the holder to purchase one common share at a price of \$0.50 for a period of 24 months after the date that the private placements closed. All shares and warrants are to be subject to a four-month hold period.

On April 10, 2013, the Company completed the first tranche of share subscription agreements for the financing announced on March 8, 2013. Under the agreements, the subscribers purchased 3,784,442 units of the Company at a price of \$0.36 per unit, for gross proceeds of \$1,362,399. Each unit consists of one common share and one half of one share purchase warrant. Each whole warrant entitles the holder to acquire one common share at an exercise price of \$0.50 per share for a period of 24 months after the date of the private placement. The warrant's exercise period will automatically accelerate to 30 days if the common shares of the Company trade above \$1.00 for a period of 10 consecutive trading days.

The Company paid finder's fees in the amount of \$95,368 and 264,909 non-transferable finder's warrants for the financing. Each finder's warrant entitles the holder to purchase one common share at a price of \$0.50 for a period of 24 months after the date that the private placements closed. All shares and warrants are to be subject to a four-month hold period.

On January 21, 2013, the Company amended the terms of 4,450,000 and 1,686,500 warrants issued to subscribers of a private placement which closed on February 8, 2011 and February 17, 2011. The Company re-priced the exercise price of the subscriber warrants to \$0.55 per common share from the initial exercise

price of \$0.70, and extended the expiry date to February 8, 2015 and February 17, 2015. The exercise period automatically accelerates to 30 days if the common shares of the Company trade at \$1.00 or greater for a period of 10 consecutive trading days.

On December 3, 2012 the Company completed the second tranche of share subscription agreements. Under the agreements, the subscribers purchased 944,444 units of the Company at a price of \$0.36 per unit, for gross proceeds of \$340,000. Each unit consists of one common share and one half of one share purchase warrant. Each whole warrant entitles the holder to acquire one common share at an exercise price of \$0.50 per share for a period of 24 months after the date of the private placement. The warrant's exercise period will automatically accelerate to 30 days if the common shares of the Company trade above \$1.00 for a period of 10 consecutive trading days.

The Company paid a finder's fee for the second tranche equal to 7% of the gross proceeds of the sales of the shares and issued 46,666 non-transferable finder's warrants. Each finder's warrant is to entitle the holder to purchase one share at a price of \$0.50 for a period of 24 months after the date that the private placements closed. All shares and warrants are to be subject to a four-month hold period.

On October 10, 2012, the Company completed the first tranche of share subscription agreements. Under the agreements, the subscribers purchased 4,280,000 units of the Company at a price of \$0.36 per unit, for gross proceeds of \$1,540,800. Each unit consists of one common share and one half of one share purchase warrant. Each whole warrant entitles the holder to acquire one common share at an exercise price of \$0.50 per share for a period of 24 months after the date of the private placement. The warrant's exercise period will automatically accelerate to 30 days if the common shares of the Company trade above \$1.00 for a period of 10 consecutive trading days.

The Company paid a finder's fee for the first tranche equal to 7% of the gross proceeds of the sales of the shares and issued 299,600 non-transferable finder's warrants. Each finder's warrant is to entitle the holder to purchase one share at a price of \$0.50 for a period of 24 months after the date that the private placements closed. All shares and warrants are to be subject to a four-month hold period.

### **Selected Annual Information**

The Company's fiscal year end is July 31. Certain of the comparative figures in the following table have been reclassified to conform to the presentation adopted for 2013.

	<b>Audited Year Ended July 31, 2013</b>	<b>Audited Year Ended July 31, 2012</b>	<b>Audited Year Ended July 31, 2011</b>
Revenue	\$ 39,616	\$ 36,535	\$ 57,659
Net loss for the year	\$ (7,065,355)	\$ (5,162,088)	\$ (4,955,534)
Net loss per share	\$ (0.09)	\$ (0.08)	\$ (0.08)
Total assets	\$ 748,435	\$ 722,918	\$ 3,323,166
Total long-term liabilities	Nil	\$ 1,079	\$ 8,889
Cash dividends declared	Nil	Nil	Nil

## Results of Operations

### *Net Loss*

The Company recorded a net loss of \$4,476,672 or \$0.06 per share in the fourth quarter of 2013, compared with \$1,090,450 or \$0.02 per share in the same period of 2012, an increase of 311%. A net loss of \$7,065,355 or \$0.09 per share was recorded in the fiscal year 2013 compared to \$5,162,088 or \$0.08 per share in the same period of 2012 resulting in an increase of 37%. The increase in the loss is due to the entire cost of the collaboration agreement with IDMC being expensed during the year.

### *Revenue*

The Company recorded \$25,915 revenue in the fourth quarter of 2013 compared to \$2,715 in the same period in 2012. For the fiscal year 2013, revenues increased by 8% to \$39,616 from \$36,535 in the same period in 2012. The revenues are from the sales of MAPD transistor packages and LFS scintillation crystals (imaging division) to major companies and organizations that are increasingly testing our products for potential larger scale ramp-up. The Company has limited sales and revenues fluctuates significantly due to timing of sales.

### *Operating, General and Administrative Expenses*

Operating, General and administrative ("G&A") expenses amounted to \$1,136,372 in the fourth quarter of 2013, compared with \$797,358 in the same period of 2012, representing an increase in costs of 43%. For the fiscal year 2013, the G&A expenses amounted to \$3,208,774 as compared to \$3,955,688 for the same period in 2012, representing a decrease of 19%. This decrease is mainly due to managing and controlling the administrative and overhead costs.

Increases or decreases in specific categories for the fiscal year 2013 are:

1. Consulting and other professional fees –increased 18% from \$897,705 to \$1,055,128 primarily due to the increase in the number of consultants and consulting fee.
2. Insurance –decreased 53% from \$48,233 to \$22,432 due to decrease in insurance coverage for staff.
3. Office and General – decreased 4% from \$155,922 to \$150,432 as in the prior year there were relocation costs for the facilities in Singapore.

4. Marketing and promotion – increased 55% from \$42,668 to \$66,306. This is due to the increase in marketing activities.
5. Rent – decreased 19% from \$186,905 to \$152,225.
6. Salaries and benefits – decreased 2% from \$1,114,108 to \$1,097,057. There has not been any significant change in the staffing levels and remuneration.
7. Travel – decreased 58% from \$229,734 to \$97,199 due to increased usage of information and communication technology.

***Research and Development Expenses***

Research and development (“R&D”) expenses amounted to \$399,541 in the fourth quarter of 2013, compared with \$295,807 in the fourth quarter of 2012, representing an increase in costs of 35%. For the fiscal year 2013, the R&D expenses decreased 25% from \$1,242,935 to \$929,523 in the same period in 2012. The focus of the research and development projects that are still being currently carried out in Zecotek laboratories are to meet the specifications required by the OEM and adapting and improving our technologies for different applications demanded by the market.

***Collaboration costs***

Due to uncertainty over the future economic benefits of the joint collaboration agreement with IDMC, the fair value of the shares issued under the agreement \$2,966,674 were expensed entirely in fiscal 2013.

***Stock-based Compensation***

Stock-based compensation expenses amounted to \$213,869 in the fourth quarter of 2013, compared with \$292,502 in the same period of 2012. For the fiscal year 2013, stock-based compensation amounted to \$549,783 compared to \$1,416,301 for the same period in 2012. The 61% decrease is due to the fewer options granted over time to certain officers, consultants and directors.

***Amortization of property and equipment***

Amortization expense for the fourth quarter of 2013 decreased to \$8,524 from \$13,822 in the same period of 2012, a decrease of 38%. For the fiscal year 2013, the amortization expense amounted to \$48,914 as compared to \$43,968 in the same period of 2012 reflecting an increase of 11%. The variances are due to the accelerated depreciation methods used by the Company and change in foreign exchange rates.

***Amortization of patent costs***

Amortization expense for the fourth quarter of 2013 amounted to \$6,734, which is consistent as compared to \$6,922 in the same period of 2012 representing a decrease of 3%. For the fiscal year 2013, the amortization expense amounted to \$27,632 as compared to \$27,216 reflecting an increase of 2%. There is not much change in the amortization of patent costs as all the current patent costs incurred are being expensed.

***Trade and other payables***

Trade and other payables consists of trade payables and accrued liabilities, wages payable, compensation waivers and government grants.

	2013	2012
Trade payables and accrued liabilities	\$ 742,283	\$ 613,786
Wages payable	296,745	184,080
Compensation waivers	1,113,455	1,113,455
Government grants	1,254,706	1,242,579
<b>Total</b>	<b>\$ 3,407,189</b>	<b>\$ 3,153,900</b>

***Compensation waivers***

In March of 2011, the Company entered into agreements with certain of its consultants, directors and employees (the "individuals"). Under these agreements, the individuals waived salaries and fees owed to them totaling \$1,113,455 in favor of bonus payments of the same amounts, which are to be paid upon certain triggering events, including a sale of substantially all of the assets of the Company, or the shares of the Company, commercialization of any of the technologies of the Company, a public listing of shares of a subsidiary of the Company, or cash inflows exceeding \$3,000,000 in any three month period.

***Government grants***

The Company has received grants from the Government of Singapore - Economic Development Board ("EDB") and the Government of Malaysia - Industrial Development Authority ("MIDA"). During the 2009 year, the Company received Singapore dollars \$1,554,778 (Canadian dollars \$1,232,162) and recorded this as a reduction in expenditures and expenses as management believed there was reasonable assurance that the amounts would not have to be repaid. The EDB grant is contingently repayable should the Company not meet certain requirements in respect to local employment, expenditures and production. As at July 31, 2010, it was determined that certain of these conditions were not met in respect to the EDB grant.

The Company received correspondence from the EDB in August 2010 in which the EDB required repayment of cumulative grants received by the Company in the amount of Singapore dollars \$1,554,778 (Canadian dollars \$1,254,706), referring to the Company not meeting all original conditions of the grant. The amount has been recognized as a liability, under accounts payable, as at July 31, 2012 and 2013. The Company disputes the repayment requirement, believes the EDB had previously waived or postponed some conditions and is in discussion with the EDB seeking to eliminate the amount owing by the Company.

In May 2012, EDB requested the Company to provide a fresh update on all the grant conditions to better evaluate the Company's appeal for changes to the grant conditions in order to reduce the repayment to EDB. As at the end of July 31, 2013, EDB had not yet completed reviewing the information provided by the Company.

***Related party transactions***

The Company undertook various transactions with related parties as detailed out in Note 13 of the audited consolidated financial statements for the year ended July 31, 2013. These transactions were measured at the exchange amounts which are the amounts of consideration established and agreed upon by the related parties.

## Summary of Quarterly Results

The following table is a summary of the unaudited consolidated operating results of the Company presented in accordance with IFRS for the last eight quarters. The increase in the loss in the fourth quarter of 2013 as compared to the fourth quarter of 2012 is due to the entire cost of collaboration agreement with IDMC being expensed. Certain of the comparative figures in the following table have been reclassified to conform to the presentation adopted for 2013.

Quarters ended (unaudited)	July 31 2013	April 30 2013	January 31 2013	October 31 2012
Revenue	\$25,915	\$0	\$13,701	\$0
Net loss	\$4,476,672	\$911,049	\$844,210	\$833,424
Loss per share	\$0.06	\$0.01	\$0.01	\$0.01
Quarters ended (unaudited)	July 31 2012	April 30 2012	January 31 2012	October 31 2011
Revenue	\$2,715	\$3,514	\$28,545	\$1,761
Net loss	\$1,090,450	\$1,126,496	\$1,575,349	\$1,369,793
Loss per share	\$0.02	\$0.02	\$0.02	\$0.02

## Liquidity and Capital Resources

For the year ended July 31, 2013, the Company has a net loss of \$7,065,355 and negative cash flow from operating activities of \$3,216,796 compared to a net loss of \$5,162,088 and negative cash flow from operating activities of \$3,249,121 for the same period in fiscal year 2012. As a result of recurring losses over the Company's history, the Company has accumulated deficit of \$60,307,692 as at July 31, 2013. The accounts payable and accrued liabilities have increased to \$3,407,189 as of July 31, 2013 from \$3,153,900 as of July 31, 2012.

Net cash used by investing activities in the fiscal 2013 was \$9,426 as compared to \$99,072 used in the same period in fiscal year 2012. The investment activities include deposits and leasehold improvements.

Net cash provided by financing activities in the fiscal 2013 was \$3,318,764 as compared to \$647,314 for fiscal 2012. In 2013, the financing activities consisted mainly of the issuance of shares through non-brokered private placements. No shares were issued in the fiscal year 2012.

The Company has suffered recurring losses from operations and currently revenues do not generate enough cash to sustain its operations. Its ability to conduct operations, including the commercialization of its technologies, development of new technologies and the acquisition of additional technologies is dependent on its ability to raise funds as needed.



At July 31, 2013 the Company had \$211,107 in cash and cash equivalents, an increase of \$84,108 from \$126,999 cash and cash equivalents available at July 31, 2012. The consolidated working capital deficiency was \$2,947,332 at July 31, 2013, improved by \$533,562 from \$3,480,894 of consolidated working capital deficiency at July 31, 2012. The change in working capital mainly resulted from the increase in cash and settlement of share subscription amount from liability to equity account.

The Company has disclosed in Note 1(b) to the financial statements that there was substantial doubt as to the ability to continue as a going concern.

## Share Capital

Set out below is the outstanding share data of the Company as November 28, 2013. For additional details, see Note 7 of the audited consolidated financial statements for July 31, 2013.

At November 28, 2013	Number outstanding
Common shares	91,037,684
Stock options	14,380,000
Common share purchase warrants	14,944,468
Agent's warrants	1,185,997

Outstanding options represent a total of 14,380,000 common shares issuable. At November 28, 2013, 12,717,500 of these options were exercisable and would provide proceeds of \$7,764,800 to the Company if all the vested options were exercised in full. The exercise of these options is completely at the discretion of the holders and the Company has no indication that any of these options will be exercised.

At November 28, 2013 the Company had outstanding 14,944,468 common shares purchase warrants of which 4,330,000 are exercisable at \$0.55 per share expiring on February 8, 2015; 1,686,500 are exercisable at \$0.55 per share expiring on February 17, 2015; 2,140,000 are exercisable at \$0.50 per share expiring on October 10, 2014; 472,222 are exercisable at \$0.50 per share expiring on December 3, 2014; 1,892,221 are exercisable at \$0.50 per share expiring on April 10, 2015, 1,440,056 are exercisable at \$0.50 per share expiring on June 7, 2015 and 2,983,469 are exercisable at \$0.75 per share expiring on September 5, 2015.

At November 28, 2013 the Company had outstanding 1,185,997 agent's or finder's warrants; 299,600 are exercisable at \$0.50 expiring on October 10, 2014; 46,666 were exercisable at \$0.50 expiring on December 3, 2014, 264,909 are exercisable at \$0.50 per share expiring on April 10, 2015, 171,306 are exercisable at \$0.50 per share expiring on June 7, 2015 and 403,516 are exercisable at \$0.75 per share expiring on September 5, 2015.

On June 26, 2013 Zecotek Photonics Inc. entered into an agreement with Invention Development Management Company, LLC for collaboration on intellectual property strategy, including the sourcing, development and monetization of new invention related to photonics. The agreement will also provide the company with the opportunity to licence IP and technologies from IDMC's own portfolio of photonics related inventions and patents created with its network of inventors.

In consideration, the Company agreed to issue to IDMC 5,393,951 common shares over a period of 6 months.

The Company issued 2,157,581 common shares on June 26, 2013; 1,078,790 common shares on September 30, 2013 and 1,078,790 common shares on October 26, 2013. The remaining 1,078,790 common shares are to be issued on December 26, 2013.

### **Subsequent Events**

On September 4, 2013 the Company completed the share subscription agreements for the financing announced August 20, 2013. Under the agreements, the subscribers purchased 5,966,938 units of the Company at a price of \$0.58 per unit, for gross proceeds of \$3,460,824. Each unit consists of one common share and one half of one share purchase warrant. Each whole warrant entitles the holder to acquire one common share at an exercise price of \$0.75 per share for a period of 24 months. The warrant's exercise period will automatically accelerate if the common shares of the Company trade above \$1.25 for a period of 10 consecutive trading days.

The Company paid finder's fees in the amount of \$234,040 and 403,516 non-transferable finder's warrants for the financing. Each finder's warrant entitles the holder to purchase one common share at a price of \$0.75 for a period of 24 months after the date that the private placements closed. All shares and warrants are to be subject to a four-month hold period.

The Company has issued 1,078,790 common shares on August 26, 2013 and 1,078,790 common shares on October 26, 2013 to IDMC; the remaining 1,078,790 common shares are to be issued on December 26, 2013 as per the provision included in the joint collaboration agreement to develop and source new inventions related to photonics.

On October 9, 25 and 28, 2013, 50,000, 10,000 and 110,000 common share purchase warrants were exercised respectively at an average rate of \$0.54 per share for total cash proceeds of \$91,000. On October 4 and 9, 2013, 25,000 and 30,000 stock options were exercised respectively at \$0.45 per share for total cash proceeds of \$24,750.

### **Financial Instruments**

(a) Credit risk:

Financial instruments that potentially subject the Company to concentration of credit risks include cash and restricted short term investments. The Company places its cash and restricted short term investments with high credit quality financial institutions. Short term investments are generally held in fixed rate securities. Concentration of credit risks with respect to receivables is limited.

(b) Foreign exchange risk:

Foreign exchange risk is the risk that the fair value or future cash flow of a financial instrument will fluctuate because of changes in foreign exchange rate. The Company has significant operations in Singapore, which gives rise to significant foreign currency translation risks from fluctuations and volatility of foreign exchange rate between the Canadian dollar and the Singapore dollar (SGD). A significant change in the currency exchange rates between the SGD relative to the Canadian dollar could have an effect on the Company's financial performance, financial position and cash flows. The Company does not use derivative instruments to reduce its exposure to exchange rate risk.

(c) Interest rate risk:

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. Short-term investments with fixed interest rates include guaranteed investment certificates with original maturities of greater than three months, exposing the Company to interest rate risk. The Company does not use financial instruments to mitigate this interest rate risk.

(d) Liquidity risk:

Liquidity risk is the risk that the Company will not be able to meet its financial obligations as they become due. The Company currently settles its financial obligations using cash and cash equivalents. The Company manages its liquidity risk by forecasting cash flows from operations and anticipating any investing and financing activities. Trade and other payables and Loans payable have contractual maturity of 6 months or less.

### Contractual Obligations

The following table summarizes the Company's contractual obligations as at July 31, 2013, and the effect such obligations are expected to have on our liquidity and cash flows in future years. The table excludes amounts already recorded in the consolidated balance sheet as current liabilities and certain other purchase obligations:

	2014	2015	2016
<b>Rental leases</b>	\$ 133,992	\$ 83,974	\$ -
<b>Research Contracts</b>	\$ 50,942	\$ 60,942	\$ 60,942

Purchase orders for fourth party components, finished goods and other goods and services are not included in the above table. Management is not able to determine the aggregate amount of such purchase orders that represent contractual obligations, as purchase orders may represent authorizations to purchase rather than binding agreements. For the purpose of this table, contractual obligations for purchase of goods or services are defined as agreements that are enforceable and legally binding on the Company and that specify all significant terms, including: fixed or minimum quantities to be purchased; fixed, minimum or variable price provisions; and the approximate timing of the transaction.

The Company has entered into contracts for other outsourced services. However, the obligations under these contracts are not significant and the contracts generally contain clauses allowing for cancellation without significant penalty. The expected timing of payment of the obligations discussed above is estimated based on current information. The timing of payments and actual amounts paid may be different depending on the time of receipt of goods or services, or for some obligations, changes to agreed-upon amounts.

On June 26, 2013 Zecotek Photonics Inc. entered into an agreement with Invention Development Management Company, LLC for collaboration on intellectual property strategy, including the sourcing, development and monetization of new invention related to photonics. The agreement will also provide the company with the opportunity to licence IP and technologies from IDMC's own portfolio of photonics related inventions and patents created with its network of inventors.

In consideration, the Company agreed to issue to IDMC 5,393,951 common shares over a period of 6 months; pay IDMC 5% of the gross proceed on any settlement of or damage award in any of the Company's patent infringement litigation involving U.S. patent number 7.132.060 (or any of its related family members) commenced before date of the Agreement; and if a settlement includes any licensing royalty settlement component ("Licensing Component") for a period of 60 months commencing on receipt of first licensing royalty settlement payment, pay IDMC 5% of such Licensing Component.

### **Audit Committee**

In compliance with the TSX Venture Exchange Policy 3.1 "Directors, Officers and Corporate Governance" section 10.1, the Audit Committee is comprised of three members, David Toyoda (independent), Canada; Dr. Jalil Ali (independent), Malaysia and Dr. A.F Zerrouk (CEO). Mr. Toyoda is the Chairman of the Audit Committee.

David Toyoda is a lawyer with a Bachelor of Commerce degree with honors and serves on several Boards as Director. Dr. A.F. Zerrouk has many years experience serving on the board of high tech organizations, he is a technology developer and scientific entrepreneur and founder of various technology companies. Dr. Jalil Ali has held several faculty and research positions since 1987. He is a member of OSA, SPIE and the Malaysian Institute of Physics and was head of the technology transfer and innovation department at the University Technology Malaysia.

The Audit Committee will serve until the next Annual General Meeting at which time the new Board of Directors will appoint or re-appoint the Audit Committee.

### **Additional Information**

Additional information relating to the Company, including the Annual Information Form and its audited year-end financial statements is available on SEDAR at [www.sedar.com](http://www.sedar.com).