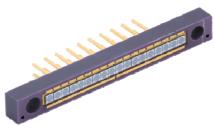
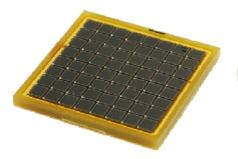


# **Zecotek Photonics Inc.**





MAPD Photo-Detectors



Detector and Scintillator Arrays for PET





Components for PET Medical Scanners & the Large Hadron Collider

# Management's Discussion & Analysis

For the quarter ended January 31, 2015

## **Table of Contents**

Forward-Looking Statements	3
Company Overview	3
Patent Portfolio	6
Corporate Strategy	7
Recent Business Activities	7
Selected Annual Information	12
Results of Operations	12
Summary of Quarterly Results	16
Liquidity and Capital Resources	16
Share Capital	17
Subsequent Events	18
Financial Instruments	18
Contractual Obligations	18
Audit Committee	19
Additional Information	20



## MANAGEMENT DISCUSSION AND ANALYSIS

## April 1, 2015

This Management's Discussion and Analysis ("MD&A") of Zecotek Photonics Inc. (the "Company") is dated April 1, 2015. This MD&A should be read in conjunction with the Company's unaudited consolidated interim financial statements for the six months ended January 31, 2015 and should also be read in conjunction with the audited consolidated financial statements and MD&A for the year ended July 31, 2014. The unaudited interim 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 January 31, 2015 as reported by the Bank of Canada, for the conversion of one Singapore dollar into Canadian dollars was \$0.9393.

## **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.

Forward-looking statements are based on the beliefs, opinions and expectations of the Company's management at the time they are made, and the Company may, but does not assume any obligation to, update its forward-looking statements if those beliefs, opinions or expectations, or other circumstances, should change except as may be required by applicable securities laws. Readers should not place undue reliance on forward-looking statements.

## **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.

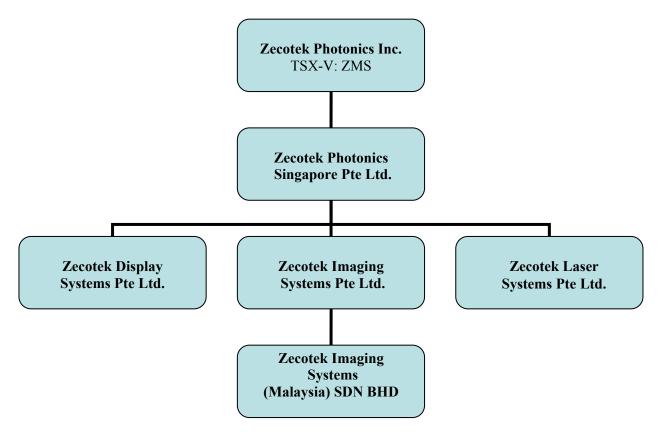
Founded in 2004, the Company has focused on building shareholder value by securing a strong intellectual property portfolio, completing the development of unique technologies for targeted markets and pursuing the optimum commercialization strategy.



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.

## **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) photodetectors. 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.



The Company collaborates with Intellectual Ventures (IV®) of Bellevue, Washington 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.

## 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.

The Company is involved in discussions with certain major electronics companies to co-develop an OLED/LED (organic light emitting diode) based, flat screen, glasses-free, true 3D HD television. Price point, concerns about visual health, and an overall lack of quality in the current 3D televisions requiring glasses, have all contributed to a declining consumer market. Zecotek's 3D display offers a realistic, HD, glasses free, multi-viewer 3D experience and now OLED/LED based flat screen display technologies are now meeting higher switching speeds necessary to support Zecotek's 3D display technology.

## 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. Zecotek is revising this division's technology portfolio and is re-structuring its business activities. Management is opting for ready technologies geared to cater for the ever expanding security market demands.

## 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 April 1, 2015, 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
· · · · · · · · · · · · · · · · · · ·	7,944,465	27-02-06	US, CA, AU	Granted
	13/108,249	16-05-11	US	Pending
	8,243,127	27-06-07	US	Granted
	PCT/IB2007/003309	07-11-07	PCT, IN, JP	Pending
	201070065	07-11-07	EA (RU)	Granted
	10-2010-7001958	07-11-07	KR	N. of Allowance
3D displays	EP 2177041	07-11-07	DE, GB, FR, NL	Granted
	200780100317.0	07-11-07	CN	Granted
	13/546,877	11-07-12	US	Pending
	13/742,247	15-01-13	PCT, US	Pending
	14/167,512	29-01-14	US	Pending
	14/167,544	29-01-14	US	Pending
	7,132,060	21-07-05	US	Granted
	2242545	04-11-03	RU	Granted
LFS scintillation	PCT/RU2004/000094	12-03-04	PCT, AU, CA, CN, EA, DE, FR, GB, JP, NL	Granted
crystals	1493/KOLNP/2006	12-03-04	IN	Pending
	13/861,971	12-04-13	US	Pending
	PCT/CA2013/000349	26-04-13	СА	Pending
	2316848	01-06-06	RU	Granted
	PCT/RU2007/000287	31-05-07	PCT, AU, CA, EP, IN, MY	Pending
	148413	31-05-07	SG	Granted
G : 1 / 1 /	200780024920.5	31-05-07	CN	Granted
Semiconductor photo-	12/034,603	20-02-08	US	N. of Allowance
detectors (MAPD)	5320610	31-05-07	JP	Granted
	10-2008-7032265	31-05-07	KR	Granted
	13/609,136	10-09-12	US	Pending
	61/382,632	13-08-13	US	Pending
	7,956,331	27-10-08	US	Granted
PET imaging technologies	8,003,948 B2*	03-11-08	US	Granted
	PCT/US2008/082273*	03-11-08	PCT, AU, CA, EP, JP, KR, CN	Pending
	13/125,966*	22-10-09	US	N. of Allowance
	8,431,904*	26-10-09	US	Granted
	8,309,932*	18-08-11	US	Granted
	13/232,944	14-09-11	PCT, US	Pending
	13/609,136	10-09-12	US	Pending
	2013-528480	14-03-13	JP	Pending
	13/750,995*	25-01-13	US	Pending
	14/051,328	10-10-13	PCT, US	Pending
Visible fibre lesers	12/182,951	30-07-08	PCT, US	Pending
Visible fibre lasers	2006119198	02-06-06	RU	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.



Zecotek's research and development success depends on having a quality portfolio of patents, which are not only technically valuable, but are properly filed and maintained in appropriate jurisdictions. The Company devotes a significant effort to the administration of its portfolio, ensuring that any applications are duly filed in appropriate jurisdictions. It maintains carefully balanced mix of internal and external patent administration.

## **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

On December 22, 2014 the Company announced that Zecotek Imaging Systems Pte. Ltd. had reached a settlement with both Philips and Saint Gobain with respect to the legal proceedings started in February 2012 in connection with the alleged patent infringement of Zecotek's U.S. Patent Number 7,132,060. While terms of the settlement remain confidential, Zecotek and Philips have identified areas of cooperation in the field of medical imaging and look forward to establishing a meaningful business relationship.

## Patents

On December 9, 2014 Zecotek announced that the Japanese Patent Office has issued a patent for its Microchannel Avalanche Photodiode (MAPD) silicon photomultiplier as the Company continues to secure important intellectual property related to key elements of a high performance positron emission tomography (PET) medical scanner, high energy physics (CERN) and retrofit industrial imaging sectors.

In October 2014 the U.S. Patent and Trademark Office published two new strategic patents covering more advanced variants of Zecotek's flagship lutetium-based LFS scintillation crystals and solid-state MAPD photodetector arrays. The compositions and variants of Zecotek's existing LFS crystals, are used as single elements, arrays and plates for a wide spectrum of applications.

In May 2014 the Company filed a patent application on its highly innovative method of manufacturing crystal block arrays with the United States Patent Office. The enhanced LFS scintillation crystal array manufacturing and assembling process results in a more flexible production output at a significantly improved price point. The enhanced process also allows for manufacturing of LFS crystal arrays with various sizes and configurations at a competitive price when compared to single element prices.



In March 2014 the Korean Intellectual Property Office granted Zecotek a Notice of Allowance for its 3D/2D switchable optical imaging system for its glasses-free 3D auto-stereoscopic display system. This patent grant adds to the United States Patent Office Notice of Allowance, and the Eurasian Patent Office Notification on Readiness to Grant a Eurasian Patent, granted in May 2012, and the Notification for Patent Registration Formalities from the Chinese State Intellectual Property Office granted in July 2012, for the same technology. 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 March 2014 Zecotek filed two important patents with the US Patent Office relating to front and rearprojection auto-stereoscopic 3D display systems. The first patent application is for a front-projection autostereoscopic 3D display system which enables viewers to experience auto-stereoscopic 3D content through a front-projection system without the need for any special glasses. The second patent application is a rearprojection auto-stereoscopic 3D display system which enables viewers to experience auto-stereoscopic 3D content through a rear-projection system without the need for any special glasses.

In February 2014 the United States Patent Office issued a Notice of Allowance for Zecotek's Micro-channel Avalanche Photodiode (MAPD) solid-state photo detector. This patent allowance is important to securing intellectual property related to all key elements for a high performance PET scanner, and follows patent grants from China (2012) and Russia (2008) for the MAPD solid-state photo detector.

In January 2013 the United States Patent Office issued a Notice of Allowance for Zecotek's improved dataprocessing electronics for positron emission tomography (PET) scanning devices. Patents have been filed and are pending in other jurisdictions.

## Hamamatsu Photonics

On November 13, 2014 Zecotek delivered the first shipment of a \$500,000 order of LFS Crystal Arrays to the NIITFA Automation Research Centre for Technical Physics. The Automation Research Centre for Technical Physics is a leading Russian scientific centre of excellence engaged in the development of medical imaging including a positron emission tomography (PET) medical device program. It is working with manufacturing partners to develop PET medical scanners for Russia and the neighboring markets.

In July 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. 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.

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 has shipped LFS crystals to Hamamatsu for integration in the new IDM modules destined for third party OEM's. The modules are currently undergoing standard testing to optimize the design of the IDM.

Also in July 2013 Hamamatsu ordered \$500,000 of Zecotek's patented Lutetium Fine Silicate (LFS) scintillation crystals, for use 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. This was followed in November 2013 by an additional order of \$1,500,000 of LFS scintillation crystals also for use in PET medical scanning devices. The orders for the scintillation crystals have been delayed due to engineering design upgrades and internal integration processes at the OEMs. Zecotek and Hamamatsu are working closely with the OEMs, and their scientific teams to expedite the integration process. Zecotek has started delivering preliminary amounts of scintillation crystals to Hamamatsu which are being used in various end user's new designs.

## 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. In 2013 CERN scientists confirmed the discovery of the Higgs Boson, a new subatomic particle. As CERN pushes into this new frontier of science, new 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 and Zecotek's imaging technologies are playing an increasingly important role.

In December 2014, the scientific team at CERN ordered additional LFS-3 plates to be integrated into modules for the main Compact Muon Solenoid (CMS) experiment. The order followed the successful test of the newly configured LFS scintillation crystals (LFS-3 plates) using the Large Hadron Collider's high energy beam upgrade. Due to the positive results, The Company was informed by the CERN group that the details of a qualification contract and supply agreement will be finalized in mid-2015.

In September 2014, CERN scientists in the Large Hadron Collider requested new configuration of LFS scintillation crystals (LFS-3 plates). Due to the high quality performance of the individual plates, the scientific team at CERN has ordered enough LFS-3 plates to build initial modules which will be installed in the Large Hadron Collider and subjected to a high energy beam.

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.

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.

Zecotek and Hamamatsu are also working closely with CERN on the adoption of the LFS crystal as a strong candidate to replace the old material. The LFS's high radiation hardness is a prime and essential feature in the design considerations for the next high energy levels required in the Large Hadron Collider experiments.

## Sales/Partnerships

In November 2014, Zecotek announced the first shipment of a \$500,000 order of LFS Crystal Arrays to the NIITFA Automation Research Centre for Technical Physics. The Automation Research Centre for Technical Physics is a leading Russian scientific centre of excellence engaged in the development of medical imaging including a positron emission tomography (PET) medical device program. It is working with manufacturing partners to develop PET medical scanners for Russia and the neighboring markets.

On July 10, 2014 Aquarius Group, Russia's largest computer company and member of Russia's National Computer Corporation, signed a letter of intent to acquire 20 percent of Zecotek Display Systems Pte Ltd., for US\$7 million. The investment in Zecotek Display Systems will be used to complete the commercialization of two patented 3D displays for flat screen and large screen formats, and a novel high-speed 3D printer for rapid manufacturing and rapid prototyping.

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.

## **3D** Printing

On February 2, 2015 Zecotek Display Systems Pte. Ltd. and its strategic partners the Institute of Chemical Physics and LT-Pyrkal announced a unique manufacturing technology for metal powders to be used with 3D printers. The new manufacturing approach uses metal hydrides synthesis and has significant advantages over traditional techniques: high productivity, superior quality of synthesized hydride, significantly lower energy consumption, ecological purity and safety of the process among other key functional parameters.

In July 2014, Zecotek Display Systems signed an agreement with the Institute of Chemical Physics of the National Academy of Sciences in Yerevan, Armenia, to extend the list of high-performance powder metal alloys for use in its compact, high-speed 3D printer. The Institute will work with Zecotek and LT-Pyrkal to fine tune the advanced technology necessary for the fabrication of metal powders from metal hydride compounds.

Also in July 2014, LT-PYRKAL of Yerevan, Armenia, was contracted to assemble and test Zecotek's first compact, high-speed 3D printer which will use high-performance metal alloys and offer technical and commercial advantages over other 3D printing technology. Zecotek and LT-Pyrkal have solved key technical challenges with the new 3D printer, which will be used for both prototyping and distributed manufacturing with specific applications in electronics, aerospace, automotive, mechanical and healthcare industries.



During the quarter ended January 31, 2014 Zecotek announced it had entered the 3D printing market. Zecotek Display Systems Pte. Ltd. is working with LT-Pyrkal of Yerevan, Armenia, a long time contract partner, to design a unique 3D printer which will offer technical and commercial competitive advantages to existing 3D printers. Zecotek is also developing a 3D printing platform which offers significant design, cost, and time advantages when used with Zecotek's glasses free, auto-stereoscopic, multi-view, HD 3D display.

3D printing, also known as additive manufacturing, is the process of making three dimensional solid objects from a digital model by laying down successive layers of material in different shapes. Leading industry analysts predict significant growth with annual sales of 3D printing reaching \$4 billion by 2015, and over \$10 billion by 2021.

## Research & Development & Other Activities

On May 29, 2014 Zecotek completed the initial design engineering for a new data processing module for its patented real-time 3D display, representing a significant milestone in bringing the display system to commercial production. The new configuration provides for real time capability, with a system capable of transferring data for up to ninety views in full High Definition. The new system design eliminates the previous requirement for ALP (accessory light modulator package) boards, allowing for a significantly cheaper and more compact design. The redesign also includes the development of 3D image compression for data interface, and a new application interface to allow direct transfer of data from existing programs such as AutoCAD. These recent developments directly support Zecotek's recent initiative in developing new 3D printers and 3D printer interfaces.

In December 2013 Zecotek Display Systems initiated discussions with certain major electronics companies to co-develop an OLED/LED (organic light emitting diode) based, flat screen, glasses-free, true 3D HD television. Price point, concerns about visual health, and an overall lack of quality in the current 3D televisions requiring glasses, have all contributed to a declining consumer market. Zecotek's 3D display offers a realistic, HD, glasses free, multi-viewer 3D experience and now OLED/LED based flat screen display technologies are now meeting higher switching speeds necessary to support Zecotek's 3D display technology.

## Financings

On November 28, 2014, the Company completed the second tranche of the share subscription agreements for the financing announced October 23, 2014. Under the agreements, the subscribers purchased 5,003,073 units of the Company at a price of \$0.35 per unit, for gross proceeds of \$1,751,076. Each unit consists of one common share and 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.

On November 5, 2014, the Company completed first tranche of the share subscription agreements for the financing announced October 23, 2014. Under the agreements, the subscribers purchased 8,057,140 units of the Company at a price of \$0.35 per unit, for gross proceeds of \$2,819,999. Each unit consists of one common share and 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. During the month of September 2014, 180,000 stock options were exercised at an average rate of \$0.45 per share for total cash proceeds of \$81,000.

During the period from September 2013 to July 2014, 1,895,000 stock options and 5,321,867 warrants were exercised at an average rate of \$0.53 for total cash proceeds of \$3,819,683.



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.

## 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 2014.

	Audited Year Ended July 31, 2014	Audited Year Ended July 31, 2013	Audited Year Ended July 31, 2012
Revenue	\$ 86,535	\$ 39,616	\$ 36,535
Net loss for the year	\$ (8,453,111)	\$ (7,065,355)	\$ (5,162,088)
Net loss per share	\$ (0.09)	\$ (0.09)	\$ (0.08)
Total assets	\$ 1,185,706	\$ 748,435	\$ 722,918
Total long-term liabilities	Nil	Nil	\$ 1,079
Cash dividends declared	Nil	Nil	Nil

## **Results of Operations**

## Net Loss

The Company recorded a net loss of \$2,234,970 or \$0.02 per share in the second quarter of fiscal 2015, compared with \$1,583,939 or \$0.02 per share in the same period of 2014, an increase of 41%. A net loss of \$4,553,216 or \$0.04 per share was recorded during the first six months of fiscal year 2015 compared to \$2,715,750 or \$0.03 per share in the same period of 2014 resulting in an increase of 74%. The operational losses resulted from general and administrative costs such as salaries, consulting fees, travel, rents, various overheads, engineering development and marketing. However the main contributing factor to the increase in loss was due to the costs of the ongoing patent infringement litigation for lawyers, experts and related costs



which has now been settled. Funds were also spent on manufacturing contracts with NNFC (National Nao-Fab Centre), South Korea, for the production of Zecotek's MAPD and MAPT photo detectors.

## Revenue

The Company recorded \$75,630 revenue in the second quarter of 2015 compared to \$41,373 in the same period in 2014, an increase of 83%. For the first six months of fiscal year 2015, revenues increased by 250% to \$173,531 from \$49,528 in the same period of 2014. The revenues are from the sales of MAPD transistor packages and LFS scintillation crystals (imaging division) to a major company that is increasingly testing our products for potential larger scale ramp-up. The Company has limited sales, and revenue fluctuates significantly due to timing of sales.

The purchase order for Hamamatsu Photonics of US \$2 million of patented LFS scintillation crystals is still outstanding. Hamamatsu made the original order after reaching out to major end users of scintillation crystals, with whom it has had long term supply relationships for its detectors and other imaging components. The main users of scintillation crystals are PET scanning device original equipment manufacturers (OEM), and high energy physics centres such as CERN. Due to engineering design upgrades and internal integration processes at the OEMs the orders for the scintillation crystals have been delayed. Zecotek and Hamamatsu are working closely with the OEMs, and their scientific teams to expedite the integration process. Zecotek has started delivering preliminary amounts of scintillation crystals to Hamamatsu which are being used in various end user's new designs.

#### **Operating, General and Administrative Expenses**

Operating, General and administrative ("G&A") expenses amounted to \$1,838,622 in the second quarter of 2015, compared with \$1,231,270 in the same period of 2014, representing an increase in costs of 49%. For the first six months of fiscal year 2015, the G&A expenses amounted to \$3,857,521 as compared to \$1,947,669 for the same period in 2014, representing an increase of 98%. This increase is mainly due to increase in legal expense and overhead costs.

Increases or decreases in specific categories for the second quarter of 2015 are:

- 1. Consulting and other professional fees; amounted to \$1,460,111 in the second quarter of 2015, compared with \$632,609 in the same period of 2014, representing an increase of 131%. For the first six months of fiscal year 2015, the expenses increased 211% from \$909,434 to \$2,831,670 primarily due to the increase in the legal expense for the litigation dispute regarding infringement on our patent rights.
- 2. Marketing and promotion; amounted to \$30,270 in the second quarter of 2015, compared with \$61,318 in the second quarter of 2014, representing a decrease of 51%. For the first six months of fiscal year 2015, expenses decreased 153% from \$80,645 to \$39,388. This is due to less marketing activities during the six months period.
- 3. Salaries and benefits; amounted to \$244,524 in the second quarter of 2015, compared with \$205,808 in the second quarter of 2014, representing an increase of 19%. For the first six months of fiscal year 2015, expenses increased 18% from \$407,126 to \$480,223. This is mainly due to an increase in the exchange rate for Singapore dollar resulting in an increase in our costs for employees in Singapore. There was also an additional employee in Singapore in the first six months of fiscal year 2015.
- 4. Travel; amounted to \$98,499 in the second quarter of 2015, compared with \$122,796 in the same period of 2014, representing a decrease of 20%. For the first six months of fiscal year 2015, travel decreased 20% from \$224,191 to \$179,647 due to less marketing activities during the quarter.



## **Research and Development Expenses**

Research and development ("R&D") expenses amounted to \$471,978 in the second quarter of 2015, compared with \$394,042 in the second quarter of 2014, representing an increase in costs of 20%. For the first six months of fiscal year 2015, the R&D expenses increased 38% from \$630,569 to \$869,226 in the same period in 2014. 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. The R&D expenses also include the amounts spent on manufacturing contracts with NNFC (National Nao-Fab Centre), South Korea, for the production of Zecotek's MAPD and MAPT photo detectors and BOET (Beijing Opto-Electronics Technology Co.), China for the production of the Lutetium Fine Silicate (LFS) scintillation crystals.

## Stock-based Compensation

Stock-based compensation expenses amounted to \$49,663 in the second quarter of 2015, compared with \$163,642 in the same period of 2014, representing a decrease of 70%. For the first six months of fiscal year 2015, stock-based compensation increased 22% from \$240,827 to \$249,494 for the same period in 2014. The decrease in stock compensation in the second quarter of 2014 is due to the non-issuance of options during the last six months.

## Amortization of property and equipment

Amortization expense for the second quarter of 2015 decreased to \$6,558 from \$10,879 in the same period of 2014, a decrease of 39%. For the first six months of fiscal year 2015, the amortization expense amounted to \$13,516 as compared to \$21,104 in the same period of 2014 reflecting a decrease of 36%. 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 second quarter of 2015 increased to \$7,448 from \$7,178 in the same period of 2014 representing an increase of 4%. For the first six months of fiscal year 2015, the amortization expense amounted to \$14,822 as compared to \$14,171 reflecting an increase of 5%. 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. The trade payables increased due to the lawsuit.

	January 31,	January 31,
	2015	2014
Trade payables and accrued liabilities	\$ 1,114,829	\$ 631,696
Wages payable	329,695	320,098
Compensation waivers	1,113,455	1,113,455
Government grants	1,460,403	1,353,434
Total	\$ 4,018,382	\$ 3,418,683

## 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 \$1,460,403), 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, 2013 and 2014. 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 April 1, 2015, EDB had not yet completed reviewing the information provided by the Company.

#### Related party transactions

The Company undertook the following transactions with related parties. These transactions were measured at the exchange amounts which are the amounts of consideration established and agreed upon by the related parties.

- (a) The Company incurred \$69,595 (2014 \$6,069) in legal fees to Boughton Law Corporation, legal counsel to the Company, for legal services rendered during the quarter. A director of the Company is an Associate Counsel of Boughton Law Corporation.
- (b) During the quarter, the Company incurred salaries of \$49,134 (2014 \$47,092) for the Executive Vice President, Operations. The advances to the Executive Vice President, Operations amount to \$2,651 as at January 31, 2015 (2014 \$2,285).
- (c) The Company incurred fees of \$45,000 (2014 \$45,000) during the quarter for consulting services to the chief financial officer. At January 31, 2015, \$41,750 (2014 \$26,750) of the fees was unpaid and included in trade and other payables.
- (d) During the quarter, the Company incurred salaries and allowances of \$48,035 (2014 \$46,300) for the President and CEO and fees of \$112,532 (2014 \$108,186) for consulting services to a company controlled by the President and CEO. The advances to the President and CEO, amount to \$172,629 as at January 31, 2015 (2014 \$nil).
- (e) The Company incurred fees of of \$19,500 (2014 \$19,500) during the quarter for directors' services. At January 31, 2015, \$91,000 (2014 \$84,500) was unpaid and included in trade and other payables.



(f) The Company incurred fees of \$30,000 (2014 - \$30,000) during the quarter for accounting and related services provided by the Corporate Secretary.

## **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. Certain of the comparative figures in the following table have been reclassified to conform to the presentation adopted for 2015.

The significant increase in loss during the quarter ended July 31, 2014 as compared to the quarter ended April 30, 2014 is due to the increase in stock compensation \$1,060,620 and the legal expense \$1,654,408 related to the patent infringement litigation.

During the quarter ended July 31, 2013, there was a significant increase in loss compared to the quarter ended April 30, 2013 as the entire cost of \$2,966,674 (non-cash) for the collaboration agreement with IDMC was expensed during that quarter.

Quarters ended (unaudited)	January 31 2015	October 31 2014	July 31 2014	April 30 2014
Revenue	\$75,630	\$97,901	\$22,723	\$14,284
Net loss	\$2,234,970	\$2,318,246	\$3,959,286	\$1,965,115
Loss per share	\$0.02	\$0.02	\$0.04	\$0.02
Quarters ended (unaudited)	January 31 2014	October 31 2013	July 31 2013	April 30 2013
Revenue	\$41,373	\$8,155	\$25,915	\$0
Net loss	\$1,583,939	\$944,771	\$4,476,672	\$911,049
Loss per share	\$0.02	\$0.01	\$0.06	\$0.01

## Liquidity and Capital Resources

At January 31, 2015 the Company had \$3,322,018 in cash and cash equivalents, compared to \$1,477,667 as at January 31, 2014. The consolidated working capital deficiency was \$3,334,692 at January 31, 2015 compared to \$1,682,577 as at January 31, 2014. The increase in cash and cash equivalents resulted from the deposit received from a major Customer and the financing through private placements. The working capital decreased due to the increase in the customer deposit and the trade and other payables.

For the six months ended January 31, 2015, the Company had a net loss of \$4,553,216 and negative cash flow from operating activities of \$1,315,746 compared to a net loss of \$2,528,710 and negative cash flow from operating activities of \$2,261,361 for the same period in fiscal year 2014. As a result of recurring losses over the Company's history, the Company has accumulated deficit of \$73,314,019 as at January 31, 2015. The



accounts payable and accrued liabilities have increased to \$4,018,382 as of January 31, 2015 compared to \$3,418,683 as of January 31, 2014.

Net cash used for investing activities in the six months ended January 31, 2015 was \$4,613 as compared to \$6,862 in the same period of fiscal 2014. The investment activities include acquisition of equipment.

Net cash provided by financing activities for the six months ended January 31, 2015, was \$4,220,034 compared to \$3,756,643 for the same period in 2014. The financing activities consisted of issuance of shares through private placements and exercise of stock options.

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.

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 April 1, 2015. For additional details, see Notes 7 and 16 of the interim consolidated financial statements for January 31, 2015.

At April 1, 2015	Number outstanding
Common shares	112,258,554
Stock options	14,345,000
Common share purchase warrants	18,230,403
Agent's warrants	1,531,303

Outstanding options represent a total of 14,345,000 common shares issuable. At April 1, 2015, 14,345,000 of these options were exercisable and would provide proceeds of \$9,144,850 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 April 1, 2015 the Company had outstanding 18,230,403 common shares purchase warrants of which 1,264,443 are exercisable at \$0.50 per share expiring on April 10, 2015; 450,056 are exercisable at \$0.50 per share expiring on June 7, 2015; 2,983,469 are exercisable at \$0.75 per share expiring on September 5, 2015; 472,222 are exercisable at \$0.50 per share expiring on June 3, 2016; 8,057,140 are exercisable at \$0.50 per share expiring on November 5, 2016 and 5,003,073 are exercisable at \$0.50 per share expiring on November 28, 2016.

At April 1, 2015 the Company had outstanding 1,531,303 agent's or finder's warrants; 184,021 are exercisable at \$0.50 per share expiring on April 10, 2015; 32,705 are exercisable at \$0.50 per share expiring on June 7, 2015; 403,516 are exercisable at \$0.75 per share expiring on September 5, 2015; 563,998 are exercisable at



\$0.50 per share expiring on November 5, 2016 and 347,063 are exercisable at \$0.50 per share expiring on November 28, 2016.

## **Subsequent Events**

- (a) 3,370,000 and 859,499 common share purchase warrants expired on February 8 and 17, 2015 respectively.
- (b) The expiry dates of 1,264,443 and 450,056 common shares purchase warrants that were issued pursuant to two private placements closed on April 10, 2013 and on June 7, 2013 are extended to October 10, 2015 and December 7, 2015.

## **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 January 31, 2015, 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:

	2015	2016	2017
Rental leases	\$ 83,289	\$ 82,519	\$ 82,520
Research Contracts	\$ 66,422	\$ 66,422	\$ 41,000

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.

## Changes in accounting policies

See the Company's interim consolidated financial statements for the six months ended January 31, 2015, Note 3 for recently adopted and future accounting pronouncements.

## 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 yearend financial statements is available on SEDAR at www.sedar.com.