

**MICROMEM TECHNOLOGIES INC.  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
FOR THE FISCAL YEAR ENDED OCTOBER 31, 2014  
PREPARED AS OF FEBRUARY 27, 2015**

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**INTRODUCTION**

The following sets out the Management's Discussion and Analysis ("MD&A") of the financial position and result of operations for the fiscal year ending October 31, 2014 of Micromem Technologies Inc. (the "Company", "Micromem" or "we"). The MD&A should be read in conjunction with the Company's audited consolidated financial statements and accompanying notes for the fiscal years ending October 31, 2014 and 2013 which are prepared in accordance with International Financial Reporting Standards (IFRS) as issued by the International Accounting Standards Board. Additional information regarding the Company is available on the SEDAR website at [www.sedar.com](http://www.sedar.com).

The Company's shares are traded on the OTCQX under the symbol MMTIF and on the Canadian National Stock Exchange ("CNSX") under the symbol MRM. In November 2007, the Company incorporated Micromem Applied Sensor Technologies Inc. ("MAST") for the purpose of moving forward with the planned commercialization of its technology.

Certain information provided by the Company in this MD&A and in other documents publicly filed throughout the year that are not recitation of historical facts may constitute forward-looking statements. The words "may", "would", "could", "will", "likely", "estimate", "believe", "expect", "forecast" and similar expressions are intended to identify forward-looking statements.

Readers are cautioned that such statements are only predictions and the actual events or results may differ materially. In evaluating such forward-looking statements, readers should specifically consider the various factors that could cause actual events or results to differ materially from those indicated by such forward-looking statements.

**FORWARD LOOKING STATEMENTS**

This MD&A contains forward-looking statements and forward looking information within the meaning of applicable Canadian securities legislation ("forward looking statements"). Any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, potentials, future events or performance (often, but not always, using words or phrases such as "believes", "expects" or "does not expect", "is expected", "anticipates" or "does not anticipate", or "intends" or stating that certain actions, events or results "may", "could", "would", "might" or "will" be taken or achieved) are not statements of historical fact, but are "forward-looking statements". Such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause the actual results, performance or achievements of the Company, or developments in the Company's business or in its industry, to differ materially from the anticipated results, performance, achievements or developments expressed or implied by such forward-looking statements. Forward-looking statements include disclosure regarding possible events, conditions or results of operations that are based on assumptions about future conditions, courses of action and consequences. Forward-looking statements may also include, without limitation, any statement relating to future events, conditions or circumstances. The Company cautions you not to place undue reliance upon any such forward-looking statements, which speak only as of the date they are made. Forward-looking statements relate to, among other things, the successful commercialization of our technology, comments about potential future revenues, joint development agreements and expectations of signed contracts with customers, etc. A number of inherent risks, uncertainties and factors affect the operations, performance and results of the Company and its business, and could cause actual results to differ materially from current expectations of estimated or anticipated events or results. Some of these risks and uncertainties include the risk of not securing required capital in future, the risks of not successfully concluding agreements with potential partners on a timely basis, the risks associated with commercializing and bringing to market our technology. These risks are affected by certain factors that are beyond the Company's control: the existence of present and possible future government regulation, competition that exists in the Company's business, uncertainty of revenues, markets and profitability, as well as those other factors discussed in this MD&A report. This list is not exhaustive of the factors that may affect any of the Company's forward-looking statements and reference should also be made to the Company's Annual Information Form (prepared and filed in the form of a Form 20-F Annual Report pursuant to The Securities Exchange Act of 1934) for a description of risk factors.

Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in forward-looking statements, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, readers should not place undue reliance on forward-looking statements. The Company does not undertake to update any forward-looking statements that are incorporated by reference herein, except in accordance with applicable securities law.

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*(Unless other indicated dollar amounts reported are stated in U.S. dollars)*

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**1. OVERVIEW AND BACKGROUND**

Micromem is a company that develops customized, proprietary sensor-based solutions for large multinational corporations. Over the past three years it has presented its technology platform to numerous companies who are seeking solutions to various and complex challenges in the measurement of operating performance and real time diagnostics in their operating systems and assets. At October 31, 2014 the Company has secured contracts to produce sensor-based technology solutions for a number of these customers. These contractual arrangements are discussed further in the body of this document.

In essence, Micromem has typically initially developed proposed technology solutions at its own cost and where a company agrees to move forward with Micromem to develop a commercial application, Micromem will negotiate a cost sharing arrangement with that company where the company will absorb the continued development costs associated with the project. Development milestones are established with the company and Micromem will invoice against these milestones in accordance with the contracted terms. Micromem's recurring revenue stream is anticipated to be derived from product royalties, product licensing agreements and outright product sales.

While the applications for Micromem's technology solutions are industry agnostic and cross virtually every industry vertical, the Company has identified the following industry verticals as significant immediate term opportunities to pursue – the oil and gas sector, the automotive sector, the power generation and utilities sector and other specific industrial applications. These key market segments are discussed further in Section 2 – Company Profile at October 31, 2014.

The Company's current business activities began in 2008. **Appendix 1** illustrates the Company's development between 2008-2012 during which period it raised approximately \$ 16 million in financing to support its continued development.

Additional background information of the Company is available on its website, [Micromem.com](http://Micromem.com) and on the website of its subsidiary, [MAST INC.com](http://MAST INC.com)

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**2. COMPANY PROFILE AT OCTOBER 31, 2014**

In 2014, the Company successfully converted the eight targeted client driven product developments, described at our 2013 Annual General Meeting, into more formalized and ongoing working arrangements with our clients.

**Profile at October 31, 2014**

The Company conceives of, designs and engineers, creates, develops and delivers extremely unique sensor solutions to our clients. These sensor solutions are very small, typically employing MEMS or NEMS feature size technology. These sensor solutions are precisely driven by client requirements, typically addressing a difficult business and/or process problem. The solution typically involves integrating multiple different sensor modalities, seen in disparate market segments, different from the target client use that addresses the client's needs. Due to the extremely small size, the final form factor allows our solutions to be deployed throughout the application space, in heretofore inaccessible ruggedized environments. The Company's approach is to take advantage of the revenue opportunity associated with the projected trillion-sensor market.

**Product Development Process**

In 2014, the Company substantially advanced our client driven product development activity, taking advantage of our knowledge from previous years and leveraging the rapidly changing advances in the MEMS/NEMS technology landscape.

1. **Securing potential clients:**

The Company pursues potential clients with the goal of entering into Joint Product Development Agreements and realizing long term annuity-like revenue streams from royalty and licensing agreements relating to its technology applications and intellectual property.

The process that the Company will typically follow in securing client opportunities includes:

- a. Initial discussions with prospective clients to identify their operating challenges and to assess the potential for a technology solution building on the Company's proprietary sensor technology.
- b. The Company will then reach out to its global network of leading experts in the various technology domains. Through this resource network, we are able to bring the world's best domain experts to the client. This reduces the client's perceived risk of moving forward with new product development and related capital expenditures.

- c. The Company performs a patent analysis and freedom to commercially operate analysis in the problem space.
- d. The Company will solicit third party validation of our proposed solution to assess the potential market and revenue opportunity for the Company.
- e. If this analysis indicates good fundamentals, the Company proceeds with presenting the proposed product development solution to the client.
- f. The Company will fund the initial costs of facilitating a Proof of Concept demonstration given that, upon successfully meeting that goal, the client participates in the follow-on development costs. The Company's product development proposal to the client indicates the specific funding responsibility the client has in testing the product in the targeted environment, and in deriving revenue to the client through deployment of the solution into their business.

2. Product development process:

Once the Company has engaged a client where it will pursue a development project with that client, the typical phases of the product development process include:

- a. Proof of concept demonstration: designed to demonstrate to the client that the proposed technology will perform as anticipated.
- b. Engineering prototype and extended testing: Product development is refined, engineered and made more robust. The client then places the product into the field for an extended evaluation.
- c. Pre-Manufacturing Prototype: Based on the client's initial field test evaluation, changes, if any, are made to the product and it is prepared for manufacturing.
- d. Manufacturing: The client provides a formal purchase order for initial manufactured product to be deployed in their business and/or process. To date, no products have reached the manufacturing stage.
- e. Commercialization: Establishment of manufacturing partners, licensing and/or sale of the product to others well suited to take advantage of the global market opportunity.

The Company's expertise is in rapidly completing the Proof of Concept demonstration. What used to take several months or initially several years can now be completed in a much shorter timeframe given the experience that the Company has developed over the past five years.

The joint development process is built upon protecting our intellectual property. Our clients will participate in the patenting process and the resultant patent is collaborative and protects both the Company's intellectual property rights in the product and our client's interest to use the product within their business space.

To date the Company has advanced its current client development projects to stages 2(a) – 2(c) as above. It has not yet successfully commercialized products to the stage where it will realize its goal of securing long term annuity-like revenue streams from royalty and licensing agreements.

### **Product Portfolio**

The following is a summary of the products for which the Company has been engaged and which are in the various stages of the product development process described above:

1. ***Nanoparticle Detector Platform:*** Joint product development was initially contracted by Saudi Aramco and the proof of concept has been approved by the client. The detector platform is capable of detecting magnetic nanoparticles in a flowing oil stream at concentrations as low as 100 parts per trillion. The next steps will be to deliver manufactured versions to oil company laboratories.  
  
In a parallel product development, MAST has begun work on ruggedizing the nanoparticle detector platform so that it can be installed and operated directly on an oil well.  
  
The Company anticipates up to \$2 million in client funding in fiscal year 2015 associated with field ruggedization, although there can be no guarantees that it will generate such funding.  
  
The Company has filed provisional patents with the United States Patent and Trademark office ("USPTO") for this product.
2. ***Magnetic Nanoparticle Interwell Tracers:*** In 2013 the Company began to work with Chevron Energy Company to develop and test fluorescent magnetic nanoparticles capable of behaving in a conservative manner in the application of interwell tracers. This proof of concept and the prototype engineering phases were successfully completed. The Company suggested a parallel product development program aimed at detecting existing interwell tracer chemicals in the field with on well real time detection platform technology.  
  
The Company has filed provisional patents with the USPTO for this product.
3. ***In Line Real Time Interwell Tracer Detection Platform:*** In 2014 the Company executed a Joint Product Development Agreement with Chevron Energy Company to develop a well head real time detection platform for the detection of existing interwell tracer chemicals to measurement levels of 300 parts per trillion. The Company has obtained an exclusive license of the base line cavity ring down technology from Entanglement Technologies Inc., for use in interwell tracer detection applications. This work will progress with a laboratory demonstration of the Company's ability to differentiate between 8-9 interwell tracers simultaneously. This will be followed by an in-field demonstration and ultimately, if successful, possible deployment of the platform throughout the client organization.



The Company has filed provisional patents with the USPTO for this product.

The Company has received \$704,478 of funding from the client to date and anticipates up to an additional \$2.3 million in client funding in 2015 associated with field-testing, followed by up to \$23 million in deployment revenue thereafter, although there can be no guarantees that the Company will receive such additional funding/revenue.

4. ***Intellibolt™ Automotive Oil Pan Plug Sensor Suite:*** In 2014, the Company negotiated an exclusive agreement with Flextronics to commercialize, test, manufacture and market the Company's patented oil pan plug sensor suite to automotive OEMs. The initial licensing agreement calls for the Company to receive an estimated \$18 million in revenues if and when the initial deployment occurs after 2015, although there can be no guarantees that the product will be deployed or that the Company will receive such revenues.

In 2014, one of the Company's six provisional patents related to this product was issued by the USPTO.

5. ***Real Time Detection of Wear Elements in Lubricating Fluids:*** In 2014 the Company executed a Joint Product Development Agreement with Castrol Innoventures to develop a MEMS solution for field deployment in ocean going vessels, wind turbine gearboxes, heavy duty trucks and automobiles. The goal of product development is a 50 cc form factor utilizing laser induced breakdown spectroscopy that will take in line real time oil samples and analytically determine, to precise levels of detection, the various wear elements in the lubricating fluid. In 2014, the Company successfully demonstrated the bench top Proof of Concept demonstration, ie. the initial stage in the product development process. To date, the Company has received \$488,485 of funding from the client for this project. It anticipates that it will receive additional client funding in 2015 of up to \$1.2 million although there can be no guarantee that it will receive such additional funding.

The Company has filed provisional patents associated with this product with the USPTO.

6. ***Transformer Partial Detection Platform:*** In 2014 the Company successfully demonstrated with Northeast Utilities the ability to detect partial discharges inside a transformer using very small sensors. Northeast Utilities accepted the proof of concept and made a progress payment of \$200,000. Product development is proceeding into the next phase associated with extended engineering prototype evaluation.

The Company has filed provisional patents associated with this product with the USPTO.

7. **Power Line Condition Monitoring:** In 2014 the Company began development with Northeast Utilities on a low cost power line condition-monitoring device that is to be designed for pervasive deployment on distribution and transmission catenaries. The Company has filed provisional patents associated with this product with the USPTO.
8. **Gas Pipeline Corrosion Detection using Autonomous Robotics:** In 2014 the Company began early development with Northeast Utilities on a very small robotic platform integrated with a full suite of the Company's sensors and designed to be deployed autonomously inside distribution gas pipelines. The sensor platform is designed to establish a corrosion profile, along with an electronic mapping and database of 100% of the pipe. The Company has filed provisional patents associated with this product with the USPTO.
9. **Cement Integrity Sensor:** In 2014 the Company began a joint development project with the Chevron Energy Company to develop a sensor platform that can be pumped into oil wells with cement. Once in place, these sensors will scavenge the necessary power from the environment and communicate to the surface valuable information about the ongoing quality of the cement. The Company has filed provisional patents associated with this product with the USPTO.

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**INTELLECTUAL PROPERTY:**

The Company has been active in building its intellectual property portfolio during 2014 as it has furthered the above-noted development projects. We have engaged a Washington, DC based law firm to assist us in these efforts. The Company incurred \$176,381 of patent related costs in 2014.

**FINANCING:**

During 2014 the Company successfully raised a total of approximately \$6.8 million of additional financing from the exercise by warrant holders of common share purchase warrants issued in earlier private placement financings that the Company has arranged.

**DEVELOPMENT COSTS:**

The Company reports \$3,525,456 (2013 - \$928,077) as deferred development costs in its consolidated balance sheet as of October 31, 2014. These are costs that it has incurred with respect to these development projects and contracts that it continues to pursue in the immediate term and for which it expects to generate future revenue streams. These costs relate primarily to the active projects described above. The movement in deferred development costs is summarized as below:

	<b>2014</b>	2013
Opening balance	\$ 928,077	\$ 718,163
Additional project costs incurred	3,936,459	677,445
Recovery of deferred development costs	(662,290)	(233,290)
Writedown of project costs	(676,790)	(234,241)
Closing balance	<u>\$ 3,525,456</u>	<u>\$ 928,077</u>

**SHARE CAPITAL:**

At October 31, 2014 the Company reports 188,436,724 common shares outstanding (2013: 158,491,425). Additionally, the Company has 12,105,000 stock options outstanding with a weighted average exercise price of \$0.27 per share (2013: 11,475,000 options outstanding with a weighted average exercise price of \$0.24 per share) and a total of 4,485,463 outstanding warrants to acquire common shares with a weighted average exercise price of \$0.37 per share (2013: 29,761,012 outstanding warrants with a weighted average exercise price of \$0.27 per share).

**MANAGEMENT AND BOARD OF DIRECTORS:**

At our Annual Meeting of Shareholders held on Friday, January 30, 2015, Salvatore Fuda, Joseph Fuda, David Sharpless, Steven Van Fleet, Oliver Nepomuceno, Larry Blue, Alex Dey, Craig Carlson and Brian Von Herzen were re-elected to serve on our Board of Directors. Messrs. Salvatore Fuda, Joseph Fuda, Dan Amadori and Steven Van Fleet continue to serve as officers of the Company. Andrew Brandt did not stand for reelection.

Our management team and directors, along with their 2014 remuneration is presented as below:

Individual	Position	2014 remuneration		
		Cash	Options	Total
Salvatore Fuda	Chairman, Director	137,172	-	137,172
Joseph Fuda	President, Director	768,505	-	768,505
Steven Van Fleet	President, MAST Inc., Director	231,280	17,529	248,809
David Sharpless	Director	-	12,521	12,521
Andrew Brandt	Director	-	5,008	5,008
Oliver Nepomuceno	Director	-	12,521	12,521
Larry Blue	Director	23,877	12,521	36,398
Alex Dey	Director	-	15,025	15,025
Craig Carlson	Director	14,866	12,521	27,387
Brian Von Herzen <sup>(1)</sup>	Director	-	217,394	217,394
Dan Amadori	CFO	205,047	10,017	215,064

(1) Refer to additional comments below.

**TRANSACTIONS WITH RELATED PARTIES:**

The Company reports the following related party transactions:

- (a) Chairman: The Chairman receives cash compensation on a month to month basis calculated at an annual rate of \$150,000 CDN.

The Chairman was not granted any stock options in 2014. In 2013 the Chairman was awarded a total of 140,000 stock options at an average price of \$0.29 CDN per share (2012 - 100,000 stock options at an average price of \$0.35 per share).

The total compensation paid to the Chairman during the year ended October 31, 2014 was \$137,172 of cash compensation and \$nil of stock based compensation (2013 - \$146,599 of cash compensation and \$ 21,163 of stock based compensation; 2012 - \$149,565 of cash compensation and \$23,697 of stock based compensation).

In 2014 the Company provided a short term non-interest bearing advance of \$38,084 against monthly compensation due to the Chairman. This advance was repaid subsequent to October 31, 2014.

(b) Management and consulting fees and advances:

Included in professional fees, other fees and salaries as reported are management fees and consulting fees paid on payable to individuals (or Companies controlled by such individuals) who served as officers, directors and employees of the Company. The total compensation paid to such parties is summarized as:

	2014	2013	2012
Cash compensation	\$ 1,482,153	\$ 805,574	\$ 709,075
Less portion capitalized to deferred development costs	(169,664)	(202,820)	-
	<u>1,312,489</u>	<u>602,754</u>	<u>709,075</u>
Stock based compensation	325,074	195,720	401,773
	<u>\$ 1,637,563</u>	<u>\$ 798,474</u>	<u>\$ 1,110,848</u>

In 2014 these parties were awarded a total of 540,000 options at an average price of \$0.76 CDN per share (2013 – 1,292,500 options at an average price of \$0.29 per share; 2012 – 1,755,000 options at an average price of \$0.35 per share)

In 2014 the Company was invoiced \$1,874,993 by a Company whose major shareholder, Brian Von Herzen, is a director of the Company and who also serves as its chief technology officer. This individual was appointed as a director on February 19, 2014 and these related party transactions are disclosed as invoiced amount from this date forward. These charges have been capitalized as deferred development costs. Included in accounts payable at October 31, 2014 is \$208,425 owing to RPI.

In February to March 2014, the CFO was provided with an advance of \$119,757 against monthly compensation due to him. Interest on the advance was charged at a rate of 1% per month on the opening monthly balance outstanding. He repaid \$78,036 through October 31, 2014 and was awarded a performance based bonus at October 31, 2014 which was applied to the repayment of the remaining balance of the advance.

In May 2014, the President of MAST was provided with an advance of \$244,074 against monthly compensation due to him. No interest was charged on the advance and this balance remained outstanding at October 31, 2014. In February 2015, he was awarded a performance based bonus which was applied to and eliminated the total amount of the outstanding advance.

In 2014, a senior employee was provided with an advance of \$80,916 against monthly compensation due to the employee. This advance was non-interest bearing. The advance was repaid subsequent to October 31, 2014.

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**3. DISCUSSION OF OPERATING RESULTS – FISCAL YEAR ENDING OCTOBER 31, 2014**

(a) *Financial Position as at October 31, 2014:*

	Year ended	
	October 31, 2014 (\$'000)	October 31, 2013 (\$'000)
Cash	936	821
Deposits and other receivables	873	235
	1,809	1,056
Property and equipment, net	21	14
Deferred development costs	3,525	928
Intangible assets, net	77	97
Patents, net	204	72
	5,637	2,167
Accounts payable and accrued liabilities	774	340
Bridge loans	-	290
	774	630
Shareholders' Equity		
Share capital:		
Share capital	70,803	57,758
Contributed surplus	27,437	32,822
Deficit	(93,377)	(89,043)
	4,863	1,537
	5,637	2,167

Refer also to Table 1 which provides a summary of the quarterly statements of financial position for the fiscal years ending October 31, 2012 – 2014.

Commentary:

1. The Company's working capital position improved to \$1,034,921 at October 31, 2014 from \$425,808 at October 31, 2013. During 2014 the remaining bridge loan of \$290,014 outstanding at October 31, 2013 was converted by the lender into equity.
2. At October 31, 2014 the Company reports outstanding advances to officers and employees in the amount of \$386,031 (2013 – nil). As of February 25, 2015, this amount has been recovered by the Company through repayment by the officers and employees in cash and through the award of performance based compensation.
3. The Company reports amounts receivables of \$450,000 (2013 – nil) due from two of its current clients; these funds were collected subsequent to October 31, 2014.
4. The Company reported \$16,508 of capital asset additions in 2014 (2013 - \$14,839). These expenditures relate to the purchase of additional IT equipment in each year.
5. At October 31, 2013, the Company reported deferred development costs associated primarily with two ongoing client projects. During 2014 it incurred \$3,936,459 of additional costs with respect to the existing and to additional client projects which it undertook. It recovered \$662,290 of such costs from its clients and wrote down \$676,790 of costs relating primarily to one client project where it had closed out the initial project phases for which it was contracted.

Management has satisfied itself that the projects to which deferred development costs are reported meet the criteria for deferral and management expects that it will realize future revenues against each of these projects to recover the carrying value reported.

6. The Company capitalized \$176,381 of costs associated with patents in 2014 (2013 - \$44,825). It significantly expanded its filings in 2014 with multiple provisional and patent pending applications and filings in North American and international jurisdictions. These applications and filings relate to the ongoing product development work that the Company has undertaken. A number of these filings are now under review with the USPTO and subsequent to October 31, 2014 the Company was granted its first sensor based patent for its proprietary oil pan plug.



7. In 2011 the Company capitalized \$135,465 of costs incurred with respect to its initial development activity in sensor based platforms. This asset relates to the initial technical know-how and expertise that the Company developed in this area. It is amortizing these costs to operations over seven years on a straight line basis through 2017.
8. In 2014 the Company realized \$6,801,619 from the exercise by shareholders of 27,410,651 common share purchase warrants. It also issued 2,517,501 units as settlement of the bridge loan which was outstanding at October 31, 2013 and was converted to equity in 2014. It issued 17,081 common shares as settlement of a third party supplier invoice in the amount of \$8,353 as requested by that supplier.

In 2013 the Company issued 16,106,957 units to investors consisting of one common share and one common share purchase warrant per unit. It realized total proceeds of \$2,910,532 from these financings. Additionally it realized proceeds of \$822,391 from the exercise by shareholders of 5,953,913 warrants.

This information is highlighted in **Table 3**.

(b) *Operating Results:*

The following table summarizes the Company's operating results for the years ended October 31, 2014 and 2013:

	Years ended October 31,	
	2014 (\$000)	2013 (\$000)
Revenue	-	-
Administration	325	378
Professional fees and salaries	2,361	1,573
Stock-based compensation	379	369
Research and development	704	161
Travel and entertainment	330	211
Foreign exchange loss (gain)	59	12
Amortization of property and equipment	7	5
Amortization of intangible assets and patents	-	19
Total expenses	4,165	2,728
(Gain) loss on revaluation of embedded derivatives	-	(41)
(Gain) loss on revaluation of derivative warrant liability	-	3,247
Net comprehensive loss	4,165	5,934
Loss per share	(0.02)	(0.04)

Refer also to **Tables 1 and 2** which are appended to this MD&A. Table 1 sets forth selected information from the consolidated statements of loss and comprehensive loss for the fiscal years ending October 31, 2012-2014 and for the related quarterly information through October 31, 2014. Table 2 sets forth selected information from the consolidated statements of financial position for the fiscal years ending October 31, 2012-2014 and the related quarterly information through October 31, 2014.

COMMENTARY

1) Administrative related expenses compare as follows: (\$000)

	2014	2013
General and administrative	67	54
Rent and occupancy cost	85	84
Bad debt expenses	24	20
Interest income	(30)	(20)
Interest expense	29	79
Accretion expense	-	19
Office insurance	62	61
Telephone	23	17
Investor relations, listing and filing fees	65	64
	<u>325</u>	<u>378</u>

- (a) The Company relocated its offices in June 2012 to lower cost premises. Current monthly rental costs approximate \$7,000 per month.
- (b) Bad debt expense in each of 2014 and 2013 relate to interest income booked on the Unotron promissory note receivable. This relates to a project that the Company undertook in 2009-2010. The Company has a judgment in it's the favor and continues to pursue collection of the outstanding principal and interest totaling \$145,815. This balance is fully reserved.
- (c) Interest expense relates to the interest paid on convertible bridge loans. In 2013 we carried two bridge loans; in 2014 the remaining bridge loan was converted to equity.
- (d) Accretion expense relates to the convertible bridge loans, all but one of which were repaid or converted by October 31, 2013. Accretion expense is a non-cash item.

2) **Professional, other fees and salaries (\$000)**

The components of this expense category include:

	2014	2013
Audit related fees	119	147
Legal fees	287	154
Other fees	428	191
CEO	769	314
CFO	205	180
Chairman	137	144
OTCQX related fees	12	-
	1,957	1,130
Salaries & benefits	404	443
	2,361	1,573

Commentary:

- 1) Audit fees were higher in 2013 as a result of additional work required relating to various IFRS reporting related matters.
- 2) Legal fees increased in 2014 due to additional contract related work with various clients. We incurred approximately \$16,000 in additional fees with respect to one legal matter resolved in the Company's favor in 2014. We also spent approximately \$4,000 perfecting a judgment against a company to whom the Company advances funds as a promissory note in 2010.
- 3) Other fees include the portion of the fees paid to the President of MAST which were not capitalized as deferred development costs of \$45000 (2013 = \$90000) financing related fees of \$226000 (2013 = nil), part time accounting services of \$30000 (2013 = \$22000), other fees paid to 3rd party consultants of \$89000 (2013 = \$79000) and fees paid to other directors of \$38000 (2013 = nil).
- 4) The CEO's annual base compensation has remained unchanged since 2008. In 2014, performance based compensation was also awarded to the CEO.
- 5) The CFO's base compensation remained unchanged in 2014 at \$150,000CDN. His performance bonus in 2014 was \$55,000 (2013: \$30,000).
- 6) The Company upgraded its listing status to OTCQX in 2014 and incurred \$12,000 of related costs.

3) **Travel related expenses compare as follows (\$000)**

	2014	2013
Airfare	109	69
Hotel	82	40
Meals	91	68
Entertainment	1	3
Transportation	47	31
	330	211

Travel and entertainment costs increased to \$329,779 in 2014 from \$210,852 in 2013. The Company incurred higher costs associated with its dealings with an increasing number of shareholders in 2014. MAST incurred higher travel costs in 2014 with respect to its dealings with potential and existing clients.

4) **Research and development (\$000)**

The components of research and development expenses are as follows:

	2014	2013
Project expenses incurred (recovered)	27	(73)
Write-down of deferred development costs on specific projects	677	234
	704	161

In October 2013 the Company wrote down its remaining investment in GSI Westwind when that project was terminated.

In 2014 the Company wrote down its remaining investment in an oil company client project when it closed out the current phases of the development work that it had undertaken commencing in 2010. The Company recovered \$300,000 of funding provided by the client through to the completion of these initial phases. While it expects that the next phases of development will commence in 2015, it decided to write down its remaining investment in the related deferred development costs on this project as of July 31, 2014.

C) **Unaudited Quarterly Financial Information – Summary**

Three months ended (unaudited)	Revenues \$	Expenses \$	Loss in period \$	Loss per share \$	Adjusted loss <sup>(1)</sup> \$
January 31, 2013	-	728,564	(416,078)	-	(557,000)
April 30, 2013	-	591,372	(17,012)	-	(583,000)
July 31, 2013	-	485,137	(261,031)	-	(477,000)
October 31, 2013	-	923,103	(5,239,307)	(0.03)	(709,000)
January 31, 2014	-	552,123	(552,123)	-	(534,000)
April 30, 2014	-	922,183	(922,183)	(0.01)	(544,660)
July 31, 2014	125,000	1,727,411	(1,602,411)	(0.01)	1,589,183
October 31, 2014	(125,000)	963,154	(1,088,154)	(0.01)	(1,052,130)

The quarterly expenses for the three months ended October 31, 2013 were higher than the expenses reported in Q1, Q2 and Q3 in that the Company recorded certain fourth quarter write downs to deferred development costs and paid \$120,000 in salary adjustments to office staff that have been subject to a salary freeze for the past three years. The loss reported in Q4 2013 also includes a \$4.2 million non-cash expense relating to the elimination of the derivative warrant liability previously reported once the Company converted all outstanding Canadian denominated common share purchase warrants to \$US.

Refer also to Tables 1 and 2 for summarized quarterly information.

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MICROMEM TECHNOLOGIES INC.  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
FOR THE FISCAL YEAR ENDING OCTOBER 31, 2014  
PREPARED AS OF FEBRUARY 27, 2015

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**4. RISKS AND UNCERTAINTIES OVERVIEW**

There are a number of risks which may individually or in the aggregate affect the long-term commercial success of the Company, both known and unknown. An investment in the Company should be considered speculative due to the nature of the Company's activities and its current stage of development:

*Stage of Development of Technology:*

The Company has made considerable strides in advancing its technology and in developing a product portfolio as outlined in Section 2 of this MD&A report. Our various products are in different phases of development and there remains the risk that the Company must successfully complete development work on these products to have available commercially viable products which can be licensed or sold.

*Customers' Willingness to Purchase:*

We have entered into multiple joint development agreements whereby our prototype products are being subjected to rigorous testing by our partners. We expect to be successful in completing remaining development work on our product portfolio. If we are successful in doing so, our partners will then have to decide the extent to which they will adopt our technology for future use for their applications. The future revenue streams for the Company are dependent upon the rate of adoption by our customers and their willingness to do so.

*Patent Portfolio:*

The Company has spent a considerable amount of time and effort and incurred significant costs with respect to the maintenance and development of our intellectual property portfolio. However, given the nature of IP development, the Company is subject to continuing risks that our patents could be successfully challenged and that our patent pending files may not ultimately be granted full patent status. While we continue to make specific efforts to broaden our IP claims, this is an ongoing process and requires continued effort and vigilance. The Company does not have extensive in-house resources so as to manage its IP portfolio in this environment and has traditionally relied heavily on its patent attorneys for these services.

*Financing:*

The Company has successfully raised funding over the past several years to continue to support its development initiatives and fund the Company's corporate structure and overheads. The financing environment for early stage technology companies remains challenging and there cannot be certainty that the Company will be able to continue to raise financing as it has in the past to continue to support its business initiatives.

To put this risk into proper perspective, however, the Company notes that it has raised an additional \$6.8 million in 2014 (Table 3) It is essential to also note that the development projects that the Company is now pursuing are based on having its customers pay for development work tied to performance milestones as the Company incurs these costs.

*Competitors:*

The Company is subject to competition from other entities that may have greater financial resources and more in-house technical expertise.

*Management Structure:*

The Company is highly dependent on the services of a small number of senior management team members. If one of these individuals were unavailable, the Company could encounter a difficult transition process.

*Foreign Currency Exposure:*

The Company expects to sell its products and license technologies in the United States, in Canada and abroad. The Company has not hedged its foreign currency exposure, which has not been significant to date. In future, foreign currency fluctuations could present a risk to the business.

**5. CRITICAL ACCOUNTING POLICIES**

Our significant accounting policies are set forth in Note 4 to our consolidated financial statements. Refer to Appendix 1 of this MD&A document for Management's discussion of Critical Accounting Policies and Estimates.

**6. COMPLIANCE RELATED REPORTING MATTERS**

**(a) Financial Instruments:**

It is management's opinion that the Company is not exposed to significant interest rate and credit risks arising from financial instruments and that the fair value of financial instruments approximates the carrying value.

*Fair values:* The Company's financial instruments consisting of deposits and other receivables, accounts payable and accrued liabilities and bridge loans approximate their carrying values due to their short-term maturity. The Company's financial instruments measured at fair value on the statement of financial position date consist of cash, derivative warrant liability and the conversion feature of bridge loans.

*Credit risk:* Financial instruments, which subject the Company to potential credit risk, consist of deposits and other receivables. The Company does not always require collateral or other security for deposits and other receivables. The Company estimates its provision for uncollectible amounts based on an analysis of the specific amount and the debtor's payment history and prospects.



*Foreign exchange:* The Company completes transactions denominated in Canadian and in United States dollars and, as such, is exposed to fluctuations in foreign exchange rates. The Company does not use derivative instruments to reduce its exposure to foreign currency risk.

*Interest rate risk:* Cash flow interest rate risk is the risk that the future cash flow of a financial instrument will fluctuate because of changes in market interest rates.

Financial assets and financial liabilities with variable interest rates expose the Company to cash flow interest rate risk. The Company's cash and promissory note receivable earn interest at market rates. The Company manages its interest rate risk by maximizing the interest income earned on excess funds while maintaining the liquidity necessary to conduct operations on a day-to-day basis. Fluctuations in market rates of interest may have an impact on the Company's results of operations.

*Liquidity risk:* Liquidity risk is the risk that the Company will not be able to meet its obligations as they fall due.

The Company manages its liquidity risk by forecasting cash flows from operations and anticipated investing and financing activities. Senior management is actively involved in the review and approval of planned expenditures.

All financial liabilities are due within 1 year from the balance sheet at October 31, 2014.

**(b) Commitments and Contingencies:**

*Commitments:*

The Company secured new leased premises in June 2012. The lease term is for 5 years and stipulates base monthly rental expenses of \$3800 CDN. Lease commitments are as follows – commitments less than one year of \$44,000 CDN; commitments in years 2 and 3 total \$77,000CDN.

The Company has certain outstanding commitments to third party subcontractors with respect to deferred development costs. These commitments are as follows – commitments less than one year of \$1,799,000; commitments between years 2-5 total \$934,000.

*Legal Matters:*

As of October 31, 2014 there were no outstanding legal matters to which the Company is a party. We have agreed to indemnify our directors and officers and certain of our employees in accordance with our by-laws. We maintain insurance policies that may provide coverage against certain claims.

On November 17, 2014, the Company and MAST, as plaintiffs, commenced a lawsuit in the United States District Court for the Southern District of New York against Dreifus Associates Limited and Henry Dreifus, as defendants. The plaintiffs' original complaint contained five causes of action by which they sought money damages, declaratory relief and specific performance relating to certain contracts. On February 24, 2015 the plaintiffs filed an amended complaint to add a claim for declaratory relief relating to a patent held by the plaintiffs it is anticipated that defendants will deny the substantive allegations in the amended complaint and/or seek to have the action transferred to Florida, where defendants reside and/or maintain an office.

*Contingencies:*

In 2013 the Company recovered \$181,180 of accounts payable balances recorded in previous years and relating to third party vendors whose accounts the Company has disputed. The Company has concluded that these amounts are not payable. If these amounts were successfully contested by these vendors, the Company could have an obligation for such costs.

The Company has disputed amounts charged by certain third party vendors during previous fiscal years, one of which is the firm noted above, against which the Company has taken action (Note 23). The amount charged by the vendors exceeds the amount recorded as a provision by \$181,780. No claims have been made by the vendors to date related to the disputed amounts.

**(c) Disclosure Controls/Internal Controls:**

The Company was classified as an accelerated filer in 2014 and, accordingly, is required to complete an external audit on its internal controls. It filed its last audit report on internal controls in 2010.

The audit report issued by the external auditors on the internal control over financial reporting dated February 27, 2015 concluded that the Company has maintained, in all material respects, effective internal control over financial reporting as of October 31, 2014 based on the criteria established by the regulatory authorities.

Management and the Board of Directors, primarily through the Audit Committee, have instituted review procedures on all of our periodic filings. We have established a Disclosure Committee consisting of independent directors. Committee charters have been developed and has been ratified by our Board of Directors. We engage legal counsel, as required, to provide guidance and commentary on our press releases.

Management has concluded that our disclosure controls and procedures meet required standards. These disclosure controls and procedures are designed to provide reasonable assurance that information required to be disclosed in its various reports is recorded, processed, summarized and reported accurately. In spite of its evaluation, management does recognize that any controls and procedures, no matter how well designed and operated, can only provide reasonable assurance and not absolute assurance of achieving the desired control objectives.

**a. Off-Balance Sheet Arrangements:**

The Company has no off-balance sheet financial commitments and does not anticipate entering into any contracts of such nature other than the addition of new operating leases for equipment and premises as may be required in the normal course of business.

**b. Going Concern:**

The consolidated financial statements have been prepared on the “going concern” basis, which presumes that the Company will be able to realize its assets and discharge its liabilities in the normal course of business for the foreseeable future.

There are uncertainties related to conditions and events that cast doubt about the Company’s ability to continue as a going concern for a reasonable period of time in future. During the year ended October 31, 2014, the Company reported a net loss and comprehensive loss of \$4,164,871 (2013 - \$5,933,928; 2012- 1,775,065) and negative cash flow from operations of \$2,883,079 (2013-\$2,515,315; 2012-\$2,573,982). The Company’s working capital position as at October 31, 2014 is \$1,034,921 (2013 – \$425,888).

The Company’s future success depends on the profitable commercialization of its proprietary magnetic sensor technology. There is no assurance that the Company will be successful in the profitable commercialization of its technology. Based upon its current operating and financial plans, management of the Company believes that it will have sufficient access to financial resources to fund the Company’s planned operations through fiscal 2015; however, the ability of the Company to continue as a going concern is dependent on its ability to secure additional financing and/or to profitably commercialize its technology. The financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classifications of liabilities that may result from the possible inability of the Company to continue as a going concern.

If the “going concern” assumption were not appropriate for these consolidated financial statements then adjustments would be necessary to the carrying value of assets and liabilities, the reported expenses and the balance sheet classifications used; in such cases, these adjustments could be material.

**c. Liquidity and Capital Resources:**

*Liquidity:*

**Table 3** provides a summary of the financing that was raised during the 2012-2014 fiscal years.

We currently report negative cash flow from operations. This result will only change once we are generating sufficient revenue from either license fees, royalties or the sale of products utilizing our technology. In 2014 and subsequent to the end of the fiscal year, the Company raised significant funding from the exercise of warrants by warrant holders.

We currently have no lines of credit in place. We must obtain financing from investors or from clients in support of our development projects.

We have granted to our directors, officers and employees options to purchase shares at prices that are at or above market price on the date of grant. As presented in **Table 4**, there are 12.105 million options outstanding at an average exercise price of \$0.27 per share.

*Capital Resources:*

We have no commitments for capital expenditures as of October 31, 2014.

**7. SUBSEQUENT EVENTS**

The Company reports the following as subsequent events:

- (a) As of February 27, 2015 it has raised an additional \$565,714 of financing through the exercise of a total of 2,988,876 common share purchase warrants.
- (b) It collected a total of \$1,392,978 from development partners with respect to its ongoing joint product development projects with its current customers. Included in the amounts collected is \$450,000 recorded as amounts receivable at October 31, 2014.
- (c) The Company settled in full the \$244,074 advance to the President of MAST (as described above in Section 2- Related Party Transactions) through the award of additional performance based compensation to that officer in February 2015.
- (d) The advances to the Chairman and the senior employee (described above Section 2- Related Party Transactions) were repaid to the Company in December 2014.
- (e) On November 17, 2014, Micromem and MAST ("Plaintiffs") commenced a lawsuit in the United States District Court for the Southern District of New York against Dreifus Associates Limited and Henry Dreifus, ("Defendants"). The Plaintiffs' original complaint contained five causes of action by which they sought money damages, declaratory relief and specific performance relating to certain contracts. On February 24, 2015 the Plaintiffs filed an amended complaint to add a claim for declaratory relief relating to a patent held by the Plaintiffs. It is anticipated that Defendants will deny the substantive allegations in the amended complaint and/or seek to have the action transferred to Florida, where Defendants reside and/or maintain an office.
- (f) At the Annual General and Special Meeting of shareholders held on January 30, 2015, the Company's stock option plan was revised to increase the maximum number of options in the plan from 15.6 million to 18.84 million options.

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Table 1

Micromem Technologies Inc  
Management Discussion and Analysis  
Annual and Quarterly financial information  
October 31, 2014  
(\$US)

Fiscal year ending October 31	Interest and other income	Net Loss	Loss per share (basic and fully diluted)
2014	-	(4,164,871)	(0.02)
2013	-	(5,933,928)	(0.04)
Quarter ending			
October 31, 2014	-	(1,088,154)	(0.01)
July 31, 2014	-	(1,602,411)	(0.01)
April 30, 2014	-	(922,183)	(0.01)
January 31, 2014	-	(552,123)	(0.00)
October 31, 2013	-	(5,239,807)	(0.03)
July 31, 2013	-	(261,031)	(0.00)
April 30, 2013	-	(17,012)	(0.00)
January 31, 2013	-	(416,078)	(0.00)

Table 2

Micromem Technologies Inc Management Discussion and Analysis Selected Balance Sheet Information October 31, 2014 (\$US)					
Fiscal year ending October 31	Working capital (deficiency)	Capital assets at NBV	Other Assets	Total Assets	Shareholders equity (deficit)
October 31, 2014	1,034,921	21,483	3,806,369	5,636,605	4,862,773
October 31, 2013	425,888	13,998	1,096,433	2,166,455	1,536,319
Quarter ending					
October 31, 2014	1,034,921	21,483	3,806,369	5,636,605	4,862,773
July 31, 2014	262,467	23,319	2,832,160	3,978,560	3,117,946
April 30, 2014	1,305,366	25,892	2,298,210	3,910,994	3,629,468
January 31, 2014	1,397,049	21,771	1,353,498	3,091,426	2,772,316
October 31, 2013	425,888	13,998	1,096,433	2,166,455	1,536,319
July 31, 2013	(1,018,591)	11,438	1,240,317	1,498,756	233,164
April 30, 2013	(977,307)	14,248	1,102,715	1,464,445	139,656
January 31, 2013	(1,665,021)	5,014	1,040,224	1,418,921	(619,783)

Table 3

Micromem Technologies Inc  
Management Discussion and Analysis  
Summary of financing raised by Company  
October 31, 2014

## Summary of financing raised by Company

	2012			2013		
	Shares	Price / share	\$	Shares	Price / share	\$
<b>Private placements</b>						
Q1	2,005,022	0.107	214,478	1,967,117	0.161	316,373
Q2	2,178,592	0.213	464,495	5,358,704	0.159	852,809
Q3	708,333	0.210	148,510	2,126,603	0.158	336,504
Q4	1,452,952	0.147	213,416	6,654,533	0.211	1,404,846
<b>Exercise of warrants</b>						
Q1	-	-	-	3,393,912	0.126	428,650
Q2	1,270,000	0.141	179,270	753,334	0.176	132,220
Q3	4,513,045	0.127	573,927	1,120,000	0.115	129,064
Q4	6,292,813	0.119	746,516	686,667	0.193	132,457
<b>Conversion of bridge loan</b>						
July 31, 2012	1,120,000	0.098	109,825			
October 31, 2012	740,080	0.158	117,075			
	<u>20,280,837</u>		<u>2,767,512</u>	<u>22,060,870</u>		<u>3,732,923</u>
<b>2014</b>						
	Shares	Price / share	\$			
<b>Exercise of warrants</b>						
Q1	6,325,224	0.235	1,486,022			
Q2	6,023,399	0.232	1,400,080			
Q3	3,653,495	0.299	1,090,889			
Q4	11,408,599	0.248	2,824,628			
<b>Conversion of bridge loan</b>						
Q1	2,517,501	0.120	302,100			
Q2	-	-	-			
Q3	-	-	-			
Q4	-	-	-			
<b>Shares issued against A</b>						
	17,081	0.489	8,353			
	<u>29,945,299</u>		<u>7,112,072</u>			

Table 4

Micromem Technologies Inc Management Discussion and Analysis October 31, 2014
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Outstanding options at 10/31/2014	Strike price	Expiry date
125,000	0.35	April 5, 2016
7,275,000	0.20	October 31, 2016
1,905,000	0.35	April 10, 2017
1,090,000	0.30	January 22, 2018
780,000	0.27	September 16, 2018
300,000	0.35	October 17, 2018
350,000	0.85	February 10, 2019
280,000	0.64	April 25, 2019
<b>12,105,000</b>	<b>0.27</b>	
Total proceeds if all options exercised:		<b>\$ 3,284,800</b>
<b>Outstanding Warrants</b>		
123,276	0.75	November 11, 2014
429,686	0.80	November 14, 2014
600,000	0.77	December 14, 2014
815,000	0.56	December 16, 2014
2,252,501	0.12	January 23, 2015
265,000	0.11	January 23, 2015
<b>4,485,463</b>	<b>0.37</b>	
Total proceeds if all warrants exercised:		<b>\$ 1,655,574</b>



**MICROMEM TECHNOLOGIES INC.  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
AT OCTOBER 31, 2014  
RECENT HISTORY: 2008-2012**

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**1) Corporate Development:**

The Company's current profile began to develop with incorporation of Micromem Applied Sensor Technologies Inc. in 2008. The historical development is highlighted below;

**2008:** The Company's current profile began to develop with the incorporation of MAST. MAST contracted to work with BAE Systems in Nashua New Hampshire to use Micromem's patented MRAM design and develop a memory cell for a gallium arsenide foundry in a radiation hardened environment for military applications. In the course of that work, we determined that the Hall sensor had performance characteristics that could, on its own, be of value to the Company.

**2009:** We contracted with Frost and Sullivan to assess current market opportunities in the Hall sensor market. Their report suggested current market potential of approximately \$2 billion. We began to market the Company's sensor capabilities, initially through traditional public relations firms. Ultimately, the Company assumed full responsibility for promoting its technology through its own market research and solicitation, by participating in technical conferences and by developing its website content. We decided to develop, at our own cost, proof of concepts for products that we identified as having significant potential market value. We collaborated with companies in development efforts for a magnetic gold sensor, an oil condition sensor, an oil and gas aerial exploration platform, sensors designed for computer hardware systems, medical detection sensors and acoustic sensor applications. These were time consuming, difficult and expensive undertakings. Certain provisional patents were created on this work.

**2010:** In 2010 we were contacted by Lux Research, an independent research and advisory firm that operates internationally, and provides strategic advice and intelligence on emerging technologies. Lux was seeking a company to create small magnetic sensors for their client in down hole use in producing oil fields. MAST was engaged by Lux's client (a major international oil company) to develop and deliver a sensor platform for detecting nanometer sized magnetic particles in a flowing oil stream at concentrations of less than one part per billion.

A second development project was secured with UK based GSI Westwind, a leading designer/manufacturer of air bearing spindles for customers who produce high speed air bearing motors.

**2011:** Through its continued development efforts, MAST had concluded that a significant market opportunity existed for it to leverage MEMS/nanofabrication methodologies and create unique combinations of sensors to provide solutions for complex unmet technology needs. MAST began its interaction with NineSigma Inc. at that time.

NineSigma is a Cleveland-based international company that has pioneered, over the past decade, an Open Innovation model, connecting innovation seeking companies to the best solutions, capabilities and partners around the world. MAST's relationship with NineSigma has developed significantly since 2011 and has provided us with enhanced access to global Fortune 1000 companies. Through NineSigma, MAST has responded to multiple RFPs and has built up a robust sales proposal pipeline.

Micromem decided to suspend all further research and development efforts in the (MRAM) memory space, which it had begun to deemphasize commencing in 2008. This market was crowded with large competitors who had significantly greater resources to deploy. The memory market is mature and is very costly to pursue. Micromem's patents in this area were developed between 2000 and 2006 and have not been advanced since then.

**2012:** MAST pursued a number of projects that it had initially developed in 2010 – 11. The prototype milestones established in the GSI Westwind project were met and the Company submitted initial billings to recover a portion of the costs it had incurred. Testing began on pilot production samples.

MAST continued to advance the development work for the international energy company that it began in 2010 through the Lux Research introduction. A beta version of the product was developed for client testing. The Company submitted an initial billing to recover a portion of the costs incurred to date on this project.

MAST was successful in initiating new projects in 2012. It began development work on an oil pan plug sensor in conjunction with a major international automotive company and advanced this project to testing in the customer's test facilities. Additionally, MAST demonstrated its breast cancer detection prototype technology in Europe for a group that was developing a franchised business model for such testing. Finally, MAST entered into negotiations with several international energy companies for use of its sensor technology for diagnostic control and monitoring systems.

## **2) Financing:**

Between 2008-2012, the Company raised \$16.968 million from private placements, from the exercise of warrants and through bridge loans.

## **3) Financial reporting:**

The Company converted to IFRS reporting in 2011. Between 2011-2013 it raised a portion of its financing from Canadian denominated warrants which, under IFRS, was reported as a derivative warrant liability. In October, 2013 all warrants were converted to US dollars, being the Company's functional currency and the derivative warrant liability was eliminated in the financial statements.

## **4) Project development cycle:**

The Company has developed a standardized approach to dealing with client projects. It will engage a client by proposing a sensor based platform solution to a significant operating challenge or problem for which the client is seeking a solution. Its proposal to the client is a multi phased work schedule characterized as follows:

**Phase 1:** Initial assessment – completion of initial project plan, cost and volume estimates, product specifications and tolerances, establishing working principles.

**Phase 2:** Preliminary design work, specification of manufacturing processes, evaluation of manufacturing options.

**Phase 3:** Sensor electronics manufacturing test methods, completion of initial prototypes for beta testing by client.

**Phase 4:** Pilot production stage where product is certified, test protocols are established and quality processes are optimized.

**Phase 5:** Commercial production.

The Company will typically assume the costs associated with Phase 1 and Phase 2 of the development process. Thereafter, it looks to engage the client in a Joint Product Development Agreement where the ongoing costs of the phased activity are underwritten by the client.

The ultimate objective in this process is to secure long term annuity-like revenue streams from licensing and royalty agreements.

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**MICROMEM TECHNOLOGIES INC.  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
AT OCTOBER 31, 2014  
CONVERSION TO IFRS REPORTING**

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The Company was required to convert to International Financial Reporting Standards (IFRS) commencing with its fiscal year ending October 31, 2012 and retroactive to October 31, 2011. This conversion to IFRS reporting was completed at that time and the Company continues to report both on a quarterly basis (unaudited) and for its annual audited financial statements as at October 31, 2014. Our auditors have provided unqualified opinions on the yearend financial statements in 2013 and 2014.

IFRS reporting has principally impacted our financial reporting in several areas as described below:

- a. The concept of functional and reporting currencies was introduced. In the Company's case, both its functional and its reporting currency are the US dollar.
- b. We are required to measure certain of our assets and liabilities at fair value – these are described as “financial instruments designated at fair value through profit & loss” (FVTPL). These financial instruments are recorded at fair value and this fair value must be updated at each quarter end.
- c. Because we have raised financing through unit private placements (consisting of a common share and a common share purchase warrant), in Canadian funds, we have the underlying warrant exercisable in Canadian funds. Under IFRS reporting, the value of the warrant is reported under FVTPL as a derivative warrant liability (US denominated private placements are not afforded this treatment; in this latter case the entire private placement is recorded within the Shareholders' Equity section of the statement of financial position). This means that for Canadian denominated warrants, we record the value of the warrants as a liability in our consolidated balance sheet. Additionally, we are required to revalue these outstanding warrants liability at each quarter end.
- d. In the past we have on occasion raised financing through the issuance of convertible debt. Between 2010 and 2012 we secured nine different convertible bridge loans. We did not secure any further such loans in 2013 and at October 31, 2013 there remained outstanding one bridge loan in the amount of \$290,014 which amount was converted to equity in 2014.

The conversion feature on the bridge loan is measured as an embedded derivative under IFRS reporting where the conversion price is in \$CDN. This has required us to calculate and report the bridge loan in several components – the value of the debt component and the value of the embedded derivative (ie, the intrinsic value of the conversion feature itself). While these components are reported in our financial statements at October 31, 2013, the practice of raising financing through convertible bridge loans has been discontinued and this will no longer be a reporting matter to contend with in future.

- e. Under IFRS, as under Canadian GAAP, reporting we continue to measure certain financing transactions using the Black Scholes option pricing model which is the established norm for all reporting issuers. The Black Scholes model is an arithmetic algorithm which is based on a number of inputs, certain of which are judgemental. In any event, we apply the Black Scholes model to value both Canadian and US denominated warrants, embedded derivatives and the intrinsic value of stock options which are granted from time to time.

In the Company's view it is essential to recognize the following realities with respect to our financial reporting under IFRS and in utilizing the Black Scholes model for measurement purposes: the stock compensation cost associated with the periodic grant of stock options is a non-cash expense; the periodic quarterly revaluation of the derivative warrant liability which yields a gain or a loss at each quarter end in a non-cash item. The Company believes that in reviewing its financial statements, the reader must be cognizant of these items because they are significant and material non cash dollar amounts.

After October 31, 2013 the Company no longer reports a derivative warrant liability on its balance sheet and will not, accordingly, have any related gain (loss) on revaluation reported in its statement of income.

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**MICROMEM TECHNOLOGIES INC.  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
AS AT OCTOBER 31, 2014  
CRITICAL ACCOUNTING POLICIES**

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At October 31, 2014 the critical accounting policies utilized by the Company are summarized as below:

a) Basis of consolidation:

Subsidiaries are legal entities controlled by the Company. Control exists when the Company has the power, directly or indirectly to govern the financial and operating policies of an entity so as to obtain benefits from its activities. The financial statements of the subsidiaries are included in the consolidated financial statements from the date that control commences until the date control ceases.

These consolidated financial statements include the accounts of the Company and its wholly-owned subsidiaries. All inter-company transactions and balances have been eliminated. The accounting policies have been consistently applied by the Company's subsidiaries.

b) Foreign currency translation:

IFRS requires that the functional currency of each entity in the consolidated entity be determined separately in accordance with specific indicators and should be measured using the currency of the primary economic environment in which the entity operates (the "functional currency"). As a result of an assessment of the primary indicators, management assessed the functional currency of the Company and its subsidiaries to be U.S. dollar ("USD"). The consolidated financial statements of the Company are prepared and presented using the USD.

Foreign currency transactions denominated in other than U.S. dollars are translated into the functional currency on the following basis:

- i) Monetary assets and liabilities are translated at the rates of exchange prevailing at the statement of financial position date.
- ii) Non-monetary assets and liabilities that are measured at historical cost are translated using the exchange rate at the date of the transaction.
- iii) Income and expenses for each income statement line item presented are translated at average exchange rates during the quarter in which they are recognized.

Exchange differences resulting from the settlement of foreign currency transactions are recognized directly in the consolidated statement of loss and comprehensive loss in the period in which incurred.

c) Financial Instruments: Recognition, Measurement, Disclosure and Presentation:

The Company initially recognizes loans and receivables and deposits on the date that they are originated. All other financial assets including assets designated at fair value through profit or loss (FVTPL) are recognized initially on the trade date at which the Company becomes a party to the contractual provisions of the instrument.

The Company derecognizes a financial asset when the contractual rights to the cash flows from the asset expire.

Financial assets and liabilities are offset and the net amount presented in the statement of financial position only when the Company has the legal right to offset the amounts and intends either to settle on a net basis or to realize the asset and settle the liability simultaneously.

The Company has the following financial assets: cash, deposits and other receivables and promissory note receivable.

All financial assets and financial liabilities, including derivatives, are initially measured in the statement of financial position at fair value, except for loans and receivables, investments held-to maturity and other financial liabilities, which are measured at amortized cost. Measurement in subsequent periods depends on whether the financial instrument had been classified as FVTPL, available-for-sale, held-to-maturity, loans and receivables, or other liabilities.

FVTPL financial assets are measured at fair value and all gains and losses are included in the statement of loss and comprehensive loss in the period in which they arise. Available-for-sale financial assets are measured at fair value with revaluation gains and losses included in other comprehensive income until the assets are removed from the statement of financial position.

The Company classifies cash as FVTPL. Deposits and other receivables and promissory note receivable are classified as loans and receivables, and are initially measured at fair value and subsequently at amortized cost using the effective interest rate method. Accounts payable and accrued liabilities and bridge loans are classified as other liabilities, and initially measured at fair value and subsequently at amortized cost using the effective interest rate method. The derivative warrant liability and embedded derivatives in bridge loans are classified at FVTPL and are measured at fair value with unrealized gains or losses reported in the consolidated statement of loss and comprehensive loss.

d) Compound Financial Instruments

Compound financial instruments issued by the Company comprise convertible notes that can be converted to share capital at the option of the holder and the number of shares to be issued does not vary with changes in their fair value.

The liability component of a compound financial instrument is recognized initially at the fair value of a similar liability that does not have an equity conversion option.

The equity component, if the conversion feature of the convertible note is in US dollars, is recognized initially as the difference between the fair value of the compound financial instrument as a whole and the fair value of the liability component. Any directly attributable transaction costs are allocated to the liability and equity components in proportion to their initial carrying amounts.

Subsequent to initial recognition, the liability component of a compound financial instrument is measured at amortized cost using the effective interest rate method. The equity component of a compound financial instrument is not remeasured subsequent to initial recognition.

Interest, dividends, losses and gains relating to the financial liability are recognized in profit or loss except for borrowing costs on qualifying assets which are added to asset cost. Distributions to the equity holders are recognized in equity, net of any tax.



e) Hybrid Financial Instruments:

Financial instruments with embedded derivative liabilities are accounted for as hybrid financial instruments. The Company has hybrid financial instruments when the embedded derivative conversion option right of the convertible notes gives the right to the holder to convert into common shares in Canadian dollars ("CDN").

An embedded derivative is a feature within a contract, such that the cash flows associated with that feature behave in a similar fashion to a stand-alone derivative. An embedded derivative is separated from its host contract and accounted for as a derivative only when three criteria are satisfied:

- When the economic risks and characteristics of the embedded derivatives are not closely related to those of the host contract;
- A separate instrument with the same terms as the embedded derivative would meet the definition of a derivative; and
- The entire instrument is not measured at fair value with changes in fair value recognized in the income statement.

Subsequent to initial recognition, the embedded derivative component is re-measured each reporting period using the Black Scholes option-pricing model with the change in fair value recognized in statement of loss and comprehensive loss.

f) Derivative Liability

The Company's derivative financial instruments consist of derivative liabilities in relation to its share purchase warrants.

i) Derivative Warrant Liability:

The Company has issued share purchase warrants in conjunction with private placements for the purchase of common shares of the Company. Until October 2013 a number of these share purchase warrants were issued with an exercise price in CDN, rather than USD (the reporting and functional currency of the Company). Such share purchase warrants are considered to be derivative instruments and the Company is required to re-measure the fair value of these at each reporting date. The fair value of these CDN share purchase warrants are re-measured at each financial position date using the Black Scholes option-pricing model using the exchange rates at the financial position date and measured over their remaining life. Adjustments to the fair value of the derivative warrant liability as at the financial position date are recorded in the statement of loss and comprehensive loss as (gain) loss on revaluation of derivative warrant liability. Share purchase warrants that have expired or have been forfeited are adjusted to the statement of loss and comprehensive loss as (gain) loss on revaluation of derivative warrant liability.

Consideration received upon the exercise of warrants is credited to share capital and the related amount is transferred from contributed surplus (USD warrants) or derivative warrant liability (CDN warrants) to share capital.

ii) Conversion Feature of Bridge Loans

The conversion feature on the bridge loans allows the holder of the option to convert the outstanding principal and interest from time to time to common equity. The Company, using the Black Scholes option-pricing model, accounts for bridge loans as follows:

- (ii.1) At date of origination the bifurcation of the total balance of the loan as debt and equity is calculated. If the conversion feature of the bridge loan is in CDN there is no equity component, resulting in an embedded derivative. Accretion expense is recorded over the term of the loan.
- (ii.2) The total loan proceeds are allocated between the bridge loans and the related embedded derivative based on their relative fair value. The embedded derivative conversion feature is included under the bridge loans in the statement of financial position.
- (ii.3) The conversion feature is revalued at the end of the reporting period and any adjustment is reflected in the statement of loss and comprehensive loss if the conversion feature is in CDN.

g) Loan Impairment:

Impaired loans are accounted for at their face amount net of the allowance for loan impairment. When a loan is deemed to be impaired, its carrying amount is reduced to its estimated realizable amount which is measured by discounting the expected future cash flows at the effective interest rate inherent in the loan. The amount initially recognized as an impairment loan, together with any subsequent change, is charged to the allowance as an adjustment. A write-off of the loan will occur when the loan is believed to have no reasonable expectation of collectability.

h) Intangible Assets

Costs for the general development of the Company's sensor technology are expensed unless they meet the criteria for deferral. Expenditures are capitalized if the Company can demonstrate each of the following criteria: (i) the technical feasibility of completing the intangible asset so that it will be available for use or sale, (ii) its intention to complete the intangible asset and use or sell it, (iii) its ability to use or sell the intangible asset, (iv) how the intangible asset will generate probable future economic benefits, (v) the availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset, and (vi) its ability to measure reliably the expenditure attributable to the intangible asset during its development; otherwise, they are expensed as incurred. Commencing in 2011, the Company determined that these costs met the criteria and, accordingly, these costs have been capitalized and are tested in each reporting period for impairment. Amortization is provided on a 7 year straight-line basis. Commencing in 2014 amortization expense is capitalized as deferred development costs as these charges are directly related to development.

i) Property and Equipment:

Property and equipment are recorded at cost and are amortized over their estimated useful lives at the following annual rates and methods:

Computers	30% declining balance
Office equipment	30% declining balance

j) Impairment of Long-lived Assets:

Long-lived assets consist of property and equipment, patents, intangible assets, and deferred development costs.

The carrying amounts of property and equipment, patents, intangible assets and deferred development costs, are reviewed for impairment when events or changes in circumstances indicate that the carrying amounts may not be recoverable. When the carrying amount exceeds the estimated recoverable amount, the assets are written down to their recoverable amount.

The recoverable amount of long-lived assets is the greater of fair value less costs of disposal. In assessing value in use, estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. Impairment losses are recognized in the consolidated statements of loss and comprehensive loss.

An assessment is made at each reporting date as to whether there is any indication that previously recognized impairment losses may no longer exist or may have decreased. If such indication exists, the recoverable amount is estimated. A previously recognized impairment loss is reversed only if there has been a change in the estimates used to determine the asset's recoverable amount since the last impairment loss was recognized. If that is the case, the carrying amount of the asset is increased to its recoverable amount. That increased amount cannot exceed the carrying amount that would have been determined, net of amortization, had no impairment loss been recognized for the asset in prior years. Such reversal is recognized in the consolidated statements of loss and comprehensive loss. Following the recognition or reversal of an impairment loss, the amortization charge applicable to the asset is adjusted prospectively in order to systematically allocate the revised carrying amount, net of any residual value, over the estimated useful life.

Gains or losses on the disposal of property and equipment, patents and intangible assets represent the difference between the net proceeds and the carrying value at the date of sale.

The Company uses the relative fair value approach in accounting for the value assigned to the common shares and the common share purchase warrants which it had made available in the unit private placement financings that it secured, calculated in accordance with the Black Scholes option-pricing model.

k) Research and Development Costs:

Research costs are expensed in the period incurred. Development costs are expensed as incurred unless they meet the criteria for deferral. Expenditures during the development phase are capitalized if the Company can demonstrate each of the following criteria: (i) the technical feasibility of completing the asset so that it will be available for use or sale, (ii) its intention to complete the asset and use or sell it, (iii) its ability to use or sell the asset, (iv) how the asset will generate probable future economic benefits, (v) the availability of adequate technical, financial and other resources to complete the development and to use or sell the asset, and (vi) its ability to measure reliably the expenditure attributable to the asset during its development; otherwise, these costs are expensed as incurred. Commencing in 2009, the Company determined that its continuing activities related to the application of its sensor technology to projects met the deferral criteria and, accordingly, these costs have been capitalized and are tested in each reporting period for recoverability. Development costs will be amortized on an appropriate basis at the time each of the developed assets is available for use.

Payments received from development partners on projects are recorded to deferred development costs as a recovery of cost incurred.

l) Patents:

Patents are recorded at cost and are amortized on a straight line basis over their estimated useful lives of 5 years. Patents are recorded net of accumulated amortization with amortization expense capitalized as deferred development costs since the patents are directly related to development.

m) Unit Private Placements:

The Company uses the relative fair value approach in accounting for the value assigned to the common shares and the common share purchase warrants which it had made available in the unit private placement financings that it secured, calculated in accordance with the Black Scholes option-pricing model.

basis over their estimated useful lives of 5 years. Patents are recorded net of accumulated amortization with amortization expense capitalized as deferred development costs since the patents are directly related to development.

n) Stock based Compensation and Other Stock based Payments:

The Company applies the fair value based method of accounting for all stock based payments to employees and non-employees and all direct awards of stock. For non-employees, stock based payments are measured at the fair value of the services received or the fair value of the equity instruments issued or liabilities incurred, whichever is more reliably measurable. Stock based compensation is charged to operations over the vesting period and the offset is credited to contributed surplus.

Consideration received upon the exercise of stock options is credited to share capital and the related amount is transferred from contributed surplus.

The fair value of stock options and warrants is determined by the Black Scholes option-pricing model with assumptions for risk free interest rates, dividend yields, volatility factors of the expected market price of the Company's common shares and an expected life of the option or warrant issued. A forfeiture rate is estimated on the grant date and is adjusted to reflect the actual number of options that vest. In the event that vested stock options expire, previously recognized stock based compensation is not reversed. In the event that stock options are forfeited, previously recognized stock based compensation associated with the unvested portion of the stock options forfeited is reversed. The fair value of direct awards of stock is determined by the quoted market price of the Company's stock.

o) Income Taxes:

Income tax expense comprises current and deferred tax. Current tax and deferred tax are recognized in profit or loss except to the extent that it relates to a business combination, or items recognized directly in equity or in other comprehensive income.

Current tax is the expected tax payable or receivable on the taxable income or loss for the year, using tax rates enacted or substantively enacted at the reporting date and any adjustment to tax payable in respect of previous years.

Deferred tax is recognized in respect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for taxation purposes. Deferred tax is not recognized for the following temporary differences: the initial recognition of assets or liabilities in a transaction that is not a business combination and that affects neither accounting nor taxable income or loss and differences relating to investments in subsidiaries and jointly controlled entities to the extent that it is probable that they will not reverse in the foreseeable future. In addition, deferred tax is not recognized for taxable temporary differences arising on the initial recognition of goodwill.

Deferred tax is measured at the tax rates that are expected to be applied to temporary differences when they reverse, based on the rates that have been enacted or substantively enacted by the reporting date.

Deferred tax assets and liabilities are offset if there is a legally enforceable right to offset current tax liabilities and assets and they relate to income taxes levied by the same tax authority on the same taxable entity, or on different tax entities, but they intend to settle current tax liabilities and assets on a net basis or their tax assets and liabilities will be realized simultaneously.

A deferred tax asset is recognized for unused tax losses, tax credits and deductible temporary differences, to the extent that it is probable that future taxable profits will be available against which they can be utilized. Deferred tax assets are reviewed at each reporting date and are reduced to the extent that it is no longer probable that the related tax benefit will be realized.

p) Earnings or Loss per Share:

Basic earnings (loss) per share are computed by dividing net earnings (loss) by the weighted average number of common shares outstanding for the period. Diluted earnings (loss) per share is computed by adjusting the weighted average number of number of common shares outstanding for the effects of all dilutive potential common shares, which are comprised of outstanding warrants, conversion options and vested stock options. Diluted earnings (loss) per common share assume that any proceeds received for in-the-money warrants and options would be used to buy common shares at the average market price for the period.

q) Changes in Accounting Standards:

As of November 01, 2013 the Company adopted the following new standards, amendments to standards and interpretations which are effective for periods beginning on or after January 1, 2013:

- IFRS 10 – Consolidated Financial Statements
- IFRS 11 – Joint Arrangements
- IFRS 12 – Disclosures of Interests in Other Entities
- IFRS 13 – Fair Value Measurement
- IAS 27 – Separate financial statements
- IAS 28 – Investment in Associates and Joint Ventures

The adoption of these accounting standards had no impact on the consolidated financial statements previously filed by the Company. As a result no reconciliations are provided for the adoption of these new standards.