UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 20-F

[ ] REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934

or

[x] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For The Fiscal Year Ended October 31, 2010

Or

[ ] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

or

[ ] SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
Date of event requiring this shell report

Commission File No. 0-26005

MICROMEM TECHNOLOGIES INC.
(Exact name of Registrant as specified in its charter)

Ontario, Canada
(Jurisdiction of incorporation or organization)

777 Bay Street, Suite 1910,
Toronto, Ontario M5G 2E4, Canada
Tel: (416) 364-6513
Fax: (416) 360-4034
(Address of principal executive offices)

Joseph Fuda; 416-364-6513, JFuda@micromeminc.com, 777 Bay St., Suite 1910 Toronto, On M5G 2E4
(Name, Telephone, E-Mail and/or Facsimile number and Address of Company Contact Person)

Securities registered or to be registered pursuant to Section 12(b) of the Act:
None

Securities registered or to be registered pursuant to Section 12(g) of the Act:
Common Shares without par value

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:
None

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report:
95,324,511 Common Shares

Indicate by check mark if the registrant is a well-known seasoned issuer as defined in Rule 405 of the Securities Act:
Yes __ No X

If this report is an annual or transition report, indicate by check mark if the registration is not required to file a report pursuant to section 13 or 15 of the Securities Exchange Act of 1934:
Yes __ No X

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days:
Yes X No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of "accelerated filer and large accelerator filer" in Rule 12b-2 of the Exchange Act:
Large Accelerated Filer ___ Accelerated Filer __ Non-Accelerated Filer X

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:
U.S. GAAP ______ International Financial Reporting Standards as issued by the International Accounting Standards Board ______ Other ____X_____

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the Registrant has elected to follow:

Item 17 X Item 18

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act):

Yes __ No X

TABLE OF CONTENTS

Part I

		Page
Item 1.	Identity of Directors, Senior Management and Advisors	4
Item 2.	Offer Statistics and Expected Timetable	4
Item 3.	Key Information	4
Item 4.	Information on the Company	14
Item 4A.	Unresolved staff comments	21
Item 5.	Operating and Financial Review and Prospects	21
Item 6.	Directors, Senior Management and Employees	29
Item 7.	Major Shareholders and Related Party Transactions	34
Item 8.	Financial Information	34
Item 9.	The Offer and Listing	35
Item 10.	Additional Information	35
Item 11.	Quantitative and Qualitative Disclosures about Market Risk	42
Item 12.	Description of Securities Other Than Equity Securities	43

Part II

Item 13.	Defaults, Dividend Arrearages and Delinquencies	43
Item 14.	Material Modifications to the Rights of Security Holders and Use of Proceeds	43
Item 15.	Controls and Procedures	43
Item 15T.	Controls and Procedures	44
Item 16.	Not Applicable	44
Item 16A	Audit Committee Financial Expert	44
Item 16B	Code of Ethics	44
Item 16C	Principal Accountant Fees and Services	44
Item 16D	Exemptions from the Listing Standards for Audit Committees	45
Item 16E	Purchases of Equity by the Issuer and Affiliated Purchasers	45
Item 16F	Changes in Registrant’s Certifying Accountant	45
Item 16G	Corporate Governance	45

Part III

Item 17.	Financial Statements	45
Item 18	Financial Statements	45
Item 19.	Exhibits	45
Signatures		47

PART I

INTRODUCTION

Abbreviations

Throughout this document, Micromem Technologies Inc. and/or its affiliates are referred to as “Micromem”, the “Company”, “we”, “us” or “our”.

Forward Looking and Cautionary Statements

This Form 20-F contains certain forward-looking statements. These forward-looking statements are based on current expectations, estimates and projections about the business of our company and the industry in which we operate, our management's beliefs, and assumptions made by our management. Words such as “expects,” “anticipates,” “intends,” “plans,” “believes,” “seeks” and “estimates,” variations on such words and similar expressions are intended to identify such forward-looking statements. These statements are not guarantees of future performance and involve certain risks, uncertainties and assumptions which are difficult to predict. Our actual results could differ materially from those expressed or forecasted in these forward-looking statements as a result of certain factors, including those set forth under Item 3-Key Information – Risk Factors and elsewhere in this Form 20-F.

ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISORS

Not Applicable.

ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE

Not Applicable.

ITEM 3. KEY INFORMATION

A. Selected Financial Data

The following table sets forth our selected consolidated financial data in United States dollars as of and for each of the five fiscal years ended October 31, 2010, 2009, 2008, 2007 and 2006. The selected consolidated financial data has been derived from our audited consolidated financial statements. All information contained in the following table should be read in conjunction with our audited consolidated audited financial statements and the notes thereto in “Item 17-Financial Statements” and "Item 5 - Operating and Financial Review and Prospects”, included elsewhere in this Annual Report on Form 20-F.

Selected balance sheet information
(all amounts in U.S. dollars)

	2010	2009	2008	2007	2006
Working capital (deficiency)	($1,459,460)	($650,044)	($338,079)	($1,531,855)	($448,923)
Capital Assets	16,686	24,442	26,321	-	-
Total Assets	568,336	2,562,479	630,467	329,232	465,440
Capital Stock	50,102,699	48,494,180	44,380,134	37,166,397	36,693,353
Shareholders' equity (deficiency)	(1,019,226)	1,522,839	(311,758)	(1,531,855)	(448,923)

Selected statement of operations and deficit information
(all amounts in U.S. dollars)

	2010	2009	2008	2007	2006
Interest and other income	$22,886	$88,047	$11,762	$2,586	$ 9,930
Research and development expenses	(106,007)	13,880	1,063,508	682,331	368,969
General and administrative and other expenses	4,676,322	2,433,537	3,323,565	1,862,417	1,640,581
Stock compensation expense	95,038	1,951,569	1,041,414	269,216	2,058,560
Loss before income taxes	(4,665,353)	(4,310,939)	(5,416,725)	(2,811,378)	(4,058,180)
Provision for income taxes (recovery)	9,508	-	-	-	-
Net loss	(4,674,861)	(4,310,939)	(5,416,725)	(2,811,378)	(4,058,180)
Loss per share-basic and diluted	0.05	0.05	0.07	0.04	0.06
Weighted average number of basic and diluted shares	92,225,645	86,400,439	78,012,115	70,685,153	66,709,353
Dividends	-	-	-	-	-

Reconciliation between Canadian GAAP and U.S. GAAP:

Our consolidated financial statements for the period have been prepared in accordance with Canadian GAAP which, in our case conforms in all material respects with U.S. GAAP except for how the Company has accounted for development expenditures reported in the fiscal years ended October 31, 2009 and 2010 and the allocation of Unit private placement proceeds using the relative fair value method of accounting for the fiscal years through to October 31, 2008.

Under U.S. GAAP all development expenditures are expensed as incurred. In 2010, the Company has capitalized $221,521 of development costs under Canadian GAAP (2009: $2,000,611).

Until October 31, 2008, for all Unit private placement financings completed, the Company assigned 100% of the proceeds from these financings to the common shares and a nil value to the attached warrants. In the fiscal year ended October 31, 2009, the Company changed the estimates that it used to value the common shares and warrants included in the Unit private placement financings which it completed in the fiscal year then ended. It assigned the value to the warrants which formed part of these Unit private placements calculated in accordance with the Black Scholes option-pricing model. Under U.S. GAAP, using standards which are analogous, the valuation of the shares and warrants would be determined using the relative fair value approach. There is no change in aggregate shareholders' equity. A reconciliation between Canadian and U.S. GAAP has been provided in the footnotes to the 2010 audited financial statements.

Currency and Exchange Rates

Our financial statements are all expressed in United States dollars. All other financial data appearing in this Form 20-F are expressed in United States dollars with the exception of certain limited cases when reference is made to instruments denominated in Canadian dollars ("CDN $").

Transactions that were conducted in Canadian dollars or other foreign currencies have been converted into United States dollars using the 3 month average rate of exchange per quarter which rate approximates the rate of exchange prevailing at the date of such transactions. Assets and liabilities denominated in Canadian dollars or other foreign currencies but expressed in this Form 20-F in United States dollars have been converted into United States dollars at the rate of exchange prevailing on the date of the applicable financial statement.

The following table sets forth, for the periods indicated, the high, low, end of period and average for period noon buying rates as published by the Bank of Canada, as expressed in the amount of U.S. Dollars equal to one Canadian dollar.

	2010	**2009**	**2008**	**2007**	**2006**
High for period	1.0188	1.3000	1.1848	1.1853	0.9134
Low for period	1.0136	1.0292	0.9671	0.9499	0.8349
End of period	1.0202	1.0456	1.2165	0.9499	0.8907
Average for period	1.0162	1.1420	1.0269	1.1003	0.8782

The following table sets forth, for each period indicated, the high and low exchange rates for United States dollars expressed in Canadian dollars on the last day of each month during such period, based on the Noon Buying Rate.

	November 2009	December 2009	January 2010	February 2010	March 2010	April 2010
High	1.0574	1.0466	1.0653	1.0526	1.0156	1.0116
Low	1.0574	1.0466	1.0650	1.0421	1.0156	1.0116

	May 2010	June 2010	July 2010	August 2010	September 2010	October 2010
High	1.0462	1.0606	1.029	1.0639	1.0298	0.0188
Low	1.0462	1.0606	1.029	1.0639	1.0298	1.0136

On February 24, 2011 the noon buying rate for one Canadian dollar, as quoted by the Bank of Canada, was CDN $1.0161 = U.S. $1.00.

B. Capitalization and Indebtedness
Not Applicable.

C. Reasons for the Offer and Use of Proceeds
Not Applicable.

D. Risk Factors

We and our investors face a number of significant risks, which are described below.

Risk Factors Related to Our Business

The financial statements of our company have been prepared on a going concern basis.

We have prepared our financial statements on a "going concern" basis which presumes that we will be able to realize our assets and discharge our liabilities in the normal course of business for the foreseeable future.

We are still in the development stage and have incurred substantial losses to date. We must raise additional funds for the continued development, testing and commercial exploitation of our technologies. The sources of these funds have not yet been identified and there can be no certainty that sources will be available in the future.

At October 31, 2010 we had $26,039 cash on hand and our current monthly cash expenses were approximately $200,000. Our working capital deficiency is $1,459,460 at October 31, 2010. Subsequent to October 31, 2010, through to the date of the filing of this annual report, we have raised an additional $503,140 through private placement financings.

Our ability to continue as a going concern is dependent upon completing the development of our technology for a particular application, achieving profitable operations, obtaining additional financing and successfully bringing our technologies to the market. The outcome of these matters cannot be predicted at this time. Our consolidated financial statements have been prepared on a going concern basis and do not include any adjustments to the amounts and classifications of the assets and liabilities that might be necessary should we be unable to continue in business.

If the going concern assumption was not appropriate for our financial statements then adjustments would be necessary in the carrying value of assets and liabilities, the reported expenses and the balance sheet classifications used.

We currently have no operating revenue.

At October 31, 2010 we have no revenues and there is no certainty that we will generate revenues in the near future. If we fail to enter into license agreements or if we do not obtain purchase orders from potential customers, we will have no revenues. If we enter into such agreements the amount of the revenues we receive will depend on the terms we are able to get from each licensee and the ability of each licensee to compete in their particular market.

Our magnetic sensor technology is under development.

We continue to develop prototypes of our magnetic sensor technology in 2010 working with our industrial foundry partners, our technical advisors, and our strategic development partners. We are pursuing joint development agreements with potential strategic partners with the expectation that we will jointly develop sensor applications for use by these potential strategic partners.

There is no certainty that these current initiatives will result in revenues and cash flow to the Company in the future.

In the event that our magnetic sensor technology is successfully developed we will face competition from larger corporations who also sell sensor technology and who have greater financial resources than the Company.

Our success will be determined by the following factors which have not yet been tested or measured:

- the ability of manufacturers to incorporate the technology into existing manufacturing capabilities without significant retooling and material costs;
- price competitiveness; and
- the differential performance advantages of our memory technology.

After completion of the development of our technology, our ability to compete successfully will depend on elements outside of our control, including the rate at which customers incorporate our technology into their products, the success of such customers in selling those products, our protection of our intellectual property, the number, nature and success of our competitors and their product introductions and general market and economic conditions. In addition, our success will depend on our ability to develop, introduce, and license or sell in a timely manner our technology or products incorporating our technology and to compete effectively on the basis of factors such as speed, density, die size and power consumption.

Our MRAM technology is under development.

Our Magnetic Random Access Memory, also referred to herein as MRAM, which is a non-volatile memory technology that uses magnetic, thin film elements on a gallium arsenide substrate to store information, is currently under development and is therefore not yet proven to be commercially viable. As such, we are unsure if our development efforts will succeed and, accordingly, significant development work remains to be completed.

In the event our technology is developed, we will face competition when we are ready to sell or license our products. We will be required to introduce our technology into a well-developed market and compete with major corporations who manufacture, sell and license existing memory products such as DRAM, SRAM, EPROM, EEPROM and Flash memory. The market for memory technologies is dominated by major corporations who have established market segments for their memory technologies and products. These corporations have significantly greater financial resources which are required to design, develop, manufacture, market, sell and license their products and technologies. Many of these major corporations have worldwide wafer manufacturing and integrated circuit production facilities.

Our success will be determined by the following factors which have not yet been tested or measured:

- the ability of manufacturers to incorporate the technology into existing manufacturing capabilities without significant retooling and material costs;
- price competitiveness; and
- the differential performance advantages of our memory technology.

After completion of the development of our technology, our ability to compete successfully will depend on elements outside of our control, including the rate at which customers incorporate our technology into their products, the success of such customers in selling those products, our protection of our intellectual property, the number, nature and success of our competitors and their product introductions and general market and economic conditions. In addition, our success will depend on our ability to develop, introduce, and license or sell in a timely manner our technology or products incorporating our technology and to compete effectively on the basis of factors such as speed, density, die size and power consumption.

Our competitors are seeking to develop other magnetic based memory technologies.

MRAM as a market segment is both crowded and competitive. We understand that other companies have research and development efforts under way in connection with non-volatile random access memory, also referred to herein as RAM. Much work is being done in the MRAM research and development at companies such as NVE, Cypress, Freescale, Phillips, Motorola and others. Other research and development efforts at IBM, Hewlett Packard and Nantero are focused on non-magnetic based non-volatile RAM. While these companies may be considered our competitors, their focus is on high-density RAM applications. As we anticipate introducing our product in the less competitive, low-density applications market, we believe our more direct competitors are Honeywell, Naval Research Laboratories, Ramtron and NVE. All of these companies have substantial resources at their disposal.

We may be materially affected by aggressive competition as the memory and data storage industry is highly competitive and customers make their decisions based on a number of competitive factors, including functionality, technology, performance, reliability, system scalability, price, quality, product availability, customer service and brand recognition. We must address each of these factors effectively in order to successfully compete.

Failure to secure continued financing will cause our business to suffer.

Since there is no assurance that revenues will be realized in the near future, we will need additional financing to continue our research and development and to successfully market our technology to potential licensees and strategic partners. There is no assurance we will be able to continue to do so and failure to raise sufficient funds in the future will affect our ability to develop and market our technology.

Because much of our success and value depends on our ownership and use of intellectual property, our failure to protect our property could adversely affect our future growth and success.

Our success will depend on our ability to protect our intellectual property. We rely primarily on patent, copyright, trademark and trade secret laws, as well as nondisclosure agreements and other methods to protect our proprietary technology and processes. Despite our efforts to do so, unauthorized parties may attempt to copy or otherwise obtain and use our products or technology, develop similar technology independently or design around our patents. Policing unauthorized use of our products is expensive and difficult, and we cannot be certain that all required steps we have taken will prevent misappropriation or infringement of our intellectual property.

Intellectual property claims against us, no matter how groundless, could cause our business to suffer.

Our future success and competitive position depend in part on our ability to retain exclusive rights to our technology, including any improvements that may be made on that technology from time to time by us or on our behalf. While our technology is patented or is subject to pending patent applications in the United States and we know of no challenge that has been made either against our technology or our rights to it, and we have no reason to believe that any such challenge might be made or that the grounds for any such challenge exist, if any intellectual property litigation were to be commenced against us, no matter how groundless, the result could be a significant expense to us, adversely affecting further development, licensing and sales, diverting the efforts of our technical and management personnel and, in the event of an adverse outcome, damages and possible restrictions on the further development, licensing and use of our technology.

There is no assurance that any of our pending patent applications will be issued as patents or that any issued patent will not be determined to be invalid at a later date.

We have a history of losses, and we may continue to generate losses in the foreseeable future.

To date, we have been solely a development company. We have not been profitable to date. Unless and until we are able to successfully complete the development of our technology and develop markets for the commercialization of such technology, we may not be able to generate revenues in future periods and we may not be able to attain profitability.

The development of non-volatile random access memory products is a capital intensive business. Therefore, we expect to incur expenses without corresponding revenues at least until we are able to license our technology to third parties. This may result in net operating losses, which will increase until we can generate an acceptable level of revenues, which we may never attain.

Further, even if we do achieve operating revenues, there can be no assurance that such revenues will be sufficient to fund continuing operations. Therefore, we cannot predict whether we ever be able to achieve profitability.

The likelihood of the success of our business plan must be considered in light of the problems, expenses, difficulties, complications and delays frequently encountered in connection with developing and expanding early stage businesses and the competitive environment in which we operate.

We lack manufacturing capacity and will continue to be dependent on third party manufacturers.

Our success will partially depend upon our ability to secure manufacturing of our technology in large quantities and at competitive prices. We have no in-house manufacturing capacity and do not anticipate developing such capacity. To the extent we are successful in completing the development of our technology we will likely be required to rely upon contract manufacturers to produce our products. We may not be able to enter into manufacturing arrangements on terms that are favorable to us. Moreover, there is no assurance that any future manufacturers will have the capability to manufacture our products in sufficient quantities to achieve profitability and within the quality, price, and technical standards required by our customers. In addition, because our technologies use semi-conducting materials other than silicon, there may be a limited number of contract manufacturers capable of producing our products since most are focusing on silicon-based manufacturing. If any future manufacturers should cease doing business with us or experience delays, shortages of supply or excessive demands on their capacity, we may not be able to obtain adequate quantities of product in a timely manner, or at all. Manufacturing new products involves integrating complex designs and processes, coordinating with suppliers for parts and components, and managing manufacturing capacities to accommodate forecasted demand. Failure to obtain sufficient quantities of parts and components, as well as other manufacturing delays or constraints, could adversely affect the timing of new product introductions. Any manufacturing problem or the loss of a contract manufacturer could be disruptive to our operations and result in lost sales.

We will be dependent upon the success of a limited range of products.

The range of products we intend to commercialize is currently limited to applications of non-volatile random access memory technologies and sensors. Reliance on a limited range of products could restrict our ability to respond to adverse business conditions. If we are not successful in developing this specific technology, or if there is not adequate demand for such technology or the market for such technology develops less rapidly than we anticipate, we may not have the capability to shift our resources to the development of alternative products. In such case our business would likely be at a significant disadvantage to other competitors in the field. As a result, the limited range of products we intend to develop could limit our revenues and profitability.

We may not realize income from the licensing of our technologies if our licensees fail to commercialize the products that incorporate these technologies.

In order to generate revenues from our MRAM technology, we will need to enter into licensing arrangements with third parties who can integrate our technology into products that will gain acceptance in the market. We have not yet entered into any licensing agreements, and there is no assurance that we will be able to do so on acceptable terms or at all. To the extent we are successful in licensing our technology, in general we will seek upfront payments plus ongoing royalties based on anticipated commercial sales of the products into which our technology is incorporated. Our ability to realize royalties will thus depend upon the successful manufacture and commercialization of such products, which will be primarily within the control of the licensee. There is no assurance that any eventual licensees' products will be technologically viable, nor that such licensees will be successful in marketing and selling such products. In addition, licensees could decide to delay or discontinue the commercialization of products for financial or other business reasons. Even if our licensees succeed in developing products that incorporate our technology, in all likelihood a significant amount of research, development and testing will be required before such products can be introduced to market. Therefore we may not receive royalty income for a substantial period following the commencement of any licensing arrangements. If our licensees are unable to commercialize products on a timely basis, they may lose market share to competing or alternative technologies. Any failure by the companies to which we license our technologies to successfully develop marketable products would have an adverse affect on our future royalty payments and financial condition.

Our supply of future products could be dependent upon relationships with key suppliers.

We will be reliant on third parties to supply the raw materials needed to manufacture our future products. Any reliance on suppliers may involve several risks, including a potential inability to obtain critical materials and reduced control over production costs, delivery schedules, reliability and quality. Any unanticipated disruption to future contract manufacture caused by problems at suppliers could delay shipment of products, increase our cost of goods sold and result in lost sales.

In order to commercialize our future products, we will need to establish a sales and marketing capability.

At present, we have limited sales and marketing capability since our technology is currently in the development stage and our financial resources are limited. However, if we are successful in completing our development efforts, we will need to add marketing and sales expertise in the computer technology business. We must also develop the necessary supporting distribution channels. Although we believe we can build the required infrastructure, we may not be successful in doing so if we cannot attract personnel or generate sufficient capital to fund these efforts. Failure to establish a sales force and distribution network would have a material adverse effect on our ability to grow our business.

The rights to certain of our patented technologies are shared with a third party.

Our earliest technology included a memory design with the magnetic bit aligned vertically to the substrate, also referred to herein as our VEMRAM technology. We have abandoned the development of this earliest technology. We acquired ownership of certain patents and patent applications covering the VEMRAM technology, as well as certain related rights, pursuant to an Asset Purchase Agreement dated as of December 10, 2000 with Estancia Limited, also referred to herein as Estancia. However, under the terms of the Asset Purchase Agreement we have been required to convey back to Estancia a 40% undivided interest in the VEMRAM patents, as well as the right to participate in gross profits and royalties from the license or sale of such patents. This participation right requires us to pay to Estancia 32% of (i) the gross profit, less expenses to be agreed by the parties, for each license of the patents sold or otherwise transferred by us and (ii) all royalties received by us as a result of the license or sale of the patents less reasonable expenses directly related to the obtaining of such royalties.

We will be reliant upon contractual rights to use certain technologies that are material to our business.

Until 2008, certain technologies material to our business have been developed through collaborative arrangements with the University of Toronto. We entered into a number of successive Research Collaboration Agreements with the University of Toronto under which research and development programs were led by a University research team. We have provided funding, equipment and background technology to these projects. Certain Canadian governmental entities are also parties to these agreements and have provided additional funding. The University of Toronto has ownership rights to all intellectual property developed under these programs. We have no ownership rights but have the right to obtain exclusive, world-wide and perpetual sub-licenses from the governmental participants to use such intellectual property; the governmental participants in turn have the right to obtain an exclusive, world-wide license to such technology directly from the University of Toronto.

Our auditors have previously identified material weaknesses in our internal accounting control over financial reporting.

We operate as a development stage company and have historically had only limited accounting personnel and resources with which to address our internal control procedures.

In their Attestation Report dated February 14, 2011, our auditors concluded that there were no material weaknesses in our internal controls over financial reporting. In the 2010 fiscal year we made a concerted effort to address the material weakness that our auditors had identified in their 2009 Attestation Report dated February 17, 2010 (the “2009 Report”). These efforts included a formalized quarterly review signoff procedure with our Audit Committee and quarterly discussions with our external auditors. We also assigned one of our staff with full responsibility for the monitoring and testing of our internal accounting controls over financial reporting.

In their 2009 Report, our auditors identified one material weakness in our internal controls over financial reporting. This material weakness and management’s response is described in Item 15 of our 2009 Annual Report on Form 20-F. In the 2009 fiscal year we devoted more internal resources to the measurement and assessment of our internal accounting controls. We appointed one of our senior accounting staff, supervised by our Chief Financial Officer and our Audit Committee, to organize this initiative and provided certain training to assist that individual with her responsibilities. We designed our testing to assess all perceived higher risk areas and completed our testing of the internal controls and procedures in all of these areas over a five month period through September 2009.

Although we have implemented compensating controls in our systems and our procedures which we believe mitigate these risks, all internal control systems no matter how well designed have inherent limitations. Therefore, even those systems determined to be effective may not prevent or detect misstatements and can provide only reasonable assurance with respect to financial

statement preparation and presentation. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management recognizes 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. In the unforeseen event that lapses in the internal controls and procedures occur and/or mistakes arise, the Company intends to take the necessary steps to minimize the consequences thereof. If, however, we fail to maintain adequate controls and procedures, we may not meet the demands that are placed upon us as a public company, including the requirements of the Sarbanes-Oxley Act of 2002 and our business could accordingly face repercussions.

We depend on key personnel.

Our senior managers and employees are Salvatore Fuda, who serves as the Chairman of the Board of Directors; Joseph Fuda, who serves as our Chief Executive Officer; Steven Van Fleet, who has primary responsibility for business development and who serves as President of our wholly-owned subsidiary, MAST Inc., and Dan Amadori, who serves as our Chief Financial Officer. We have engaged the services of several engineering/technical consulting firms, to assist in converting our development efforts to commercialization. We have also previously engaged Dreifus Associates Ltd., ("DAL") a technical and intellectual property consulting firm whose major shareholder, Henry Dreifus, served as a director of Micromem between March 2008 and June 2009. Our success depends on our ability to retain certain of our senior management and key technical personnel and our ability to attract and retain additional highly skilled personnel in the future.

We may be materially affected by global economic and political conditions.

Our ability to generate revenue may be adversely affected by uncertainty in the global economy and could also be affected by unstable global political conditions. Terrorist attacks or acts of war could significantly disrupt our operations and the operations of our future customers, suppliers, distributors, or resellers. We cannot predict the potential impact on our financial condition or our results of operations should such events occur.

We may be materially affected by rapid technological change and evolving industry standards.

Short product life cycles are inherent in high-technology companies due to rapid technological change and evolving industry standards. Our future financial condition and results of operations depend on our ability to respond effectively to these changes. We cannot provide any assurance that we will be able to successfully develop, manufacture, and market innovative new products or adapt our current products to new technologies or new industry standards. In addition, our customers may be reluctant to adopt new technologies and standards or they may prefer competing technologies and standards. Because the technology market changes so rapidly, it is difficult for us to predict the rate adoption of our MRAM technology.

We may be materially affected by risks associated with new product development.

Our new product research and development is complex and requires us to investigate and evaluate multiple alternatives, as well as plan the design and manufacture of those alternatives selected for further development. Our research and development efforts could be adversely affected by hardware and software design flaws, product development delays, changes in data storage technology, changes in operating systems and changes in industry standards.

The manufacturing of new products involves integrating complex designs and processes, coordinating with suppliers for parts and components and managing manufacturing capacities to accommodate forecasted demand. Our failure to obtain sufficient quantities of parts and components or other manufacturing delays and constraints could adversely affect our ability to timely introduce new products.

Our operations may be materially affected by the risks associated with the continued developments and protection of our intellectual property.

We cannot provide any assurance that we will be able to continue to develop new intellectual property or that we will continue to have it developed for us.

We rely on a combination of U.S. patent, copyright, trademark, and trade secret laws to protect our intellectual property rights. We have decided to file patent and trademark registration applications with certain foreign governments but we may not have appropriate coverage in all jurisdictions where we may sell or license our product in future.

We enter into confidentiality and non-disclosure agreements relating to our intellectual property with our employees and consultants.

Despite all of our efforts to protect our intellectual property rights, unauthorized parties may attempt to copy or otherwise obtain or use our intellectual property. Monitoring the unauthorized use of our intellectual property is difficult and we cannot be certain that we will be able to adequately protect our intellectual property in the future.

We may be materially affected if we are unable to attract, retain and motivate key employees.

Our future success depends, in large part, on our ability to attract, retain and motivate key employees. We face significant competition for individuals who possess the skills required to design, develop, manufacture, and market our technologies. An inability to successfully attract, retain, and motivate these employees in the future could have an adverse effect on our future operating and financial performance.

There are foreign exchange risks associated with our company.

Because we have historically raised funding in U.S. dollars, and a significant portion of our costs are denominated in Canadian dollars, our funding is subject to foreign exchange risks. A decrease in the value of the U.S. dollar relative to the Canadian dollar could affect our costs and potential future profitability. We do not currently hold forward exchange contracts or other hedging instruments to exchange foreign currencies for U.S. dollars to offset potential currency rate fluctuations.

Risk Factors Related to Our Common Shares

Our stock is subject to the penny stock regulations, which may discourage brokers from effecting transactions in the stock and adversely affect the stock's market price and liquidity

Our common shares constitute “penny stock” under applicable regulations of the Securities and Exchange Commission. The penny stock regulations impose significant restrictions on brokers who sell penny stock to persons other than established customers and institutional accredited investors. Broker-dealers participating in sales of our stock will be subject to the so called “penny stock” regulations covered by Rule 15g-9 under the Exchange Act. Under the rule, broker-dealers must furnish to all investors in penny stocks a risk disclosure document required by the rule, make a special suitability determination of the purchaser and have received the purchaser's written agreement to the transaction prior to the sale. In order to approve a person's account for a transaction in penny stock, the broker or dealer must (i) obtain information concerning the person's financial situation, investment experience and investment objectives; (ii) reasonably determine, based on the information required by paragraph (i) that the transactions in penny stocks are suitable for the person and that the person has sufficient knowledge and experience in financial matters that the person reasonably may be expected to be capable of evaluating the risks of transactions in penny stock; and (iii) deliver to the person a written statement setting forth the basis on which the broker or dealer made the determination required by paragraph (ii) in this section, stating in a highlighted format that it is unlawful for the broker or dealer to effect a transaction in a penny stock unless the broker or dealer has received, prior to the transaction, a written agreement to the transaction from the person; and stating in a highlighted format immediately preceding the customer signature line that the broker or dealer is required to provide the person with the written statement and the person should not sign and return the written statement to the broker or dealer if it does not accurately reflect the person's financial situation, investment experience and investment objectives, and obtain from the person a manually signed and dated copy of the written statement. The penny stock regulations may discourage brokers from effecting transactions in the common shares. This would decrease market liquidity, adversely affect market price and make it difficult for you to use the common shares as collateral.

The rights of our shareholders may differ from the rights typically afforded to shareholders of a U.S. corporation.

We are incorporated under the Business Corporations Act (Ontario), also referred to herein as the OBCA. The rights of holders of our common shares are governed by the laws of the Province of Ontario, including the OBCA, by the applicable laws of Canada, and by our Articles of Incorporation and all amendments thereto, also referred to herein as the Articles, and our By-laws. These

rights differ in certain respects from the rights of shareholders in typical U.S. corporations. The principal differences include without limitation the following:

Under the OBCA, we have a lien on any common share registered in the name of a shareholder or the shareholder's legal representative for any debt owed by the shareholder to us. Under U.S. state law, corporations generally are not entitled to any such statutory liens in respect of debts owed by shareholders.

With regard to certain matters, we must obtain approval of our shareholders by way of at least 66⅔% of the votes cast at a meeting of shareholders duly called for such purpose being cast in favor of the proposed matter. Such matters include without limitation: (a) the sale, lease or exchange of all or substantially all of our assets out of the ordinary course of our business; and (b) any amendments to our Articles including, but not limited to, amendments affecting our capital structure such as the creation of new classes of shares, changing any rights, privileges, restrictions or conditions in respect of our shares, or changing the number of issued or authorized shares, as well as amendments changing the minimum or maximum number of directors set forth in the Articles. Under U.S. state law, the sale, lease, exchange or other disposition of all or substantially all of the assets of a corporation generally requires approval by a majority of the outstanding shares, although in some cases approval by a higher percentage of the outstanding shares may be required. In addition, under U.S. state law the vote of a majority of the shares is generally sufficient to amend a company's certificate of incorporation, including amendments affecting capital structure or the number of directors. Under certain circumstances the board of directors may also have the ability to change the number of directors under U.S. state law.

Pursuant to our By-laws, two persons present in person or represented by proxy and each entitled to vote thereat shall constitute a quorum for the transaction of business at any meeting of shareholders. Under U.S. state law, a quorum generally requires the presence in person or by proxy of a specified percentage of the shares entitled to vote at a meeting, and such percentage is generally not less than one-third of the number of shares entitled to vote.

Under rules of the Ontario Securities Commission, a meeting of shareholders must be called for consideration and approval of certain transactions between a corporation and any “related party” (as defined in such rules). A “related party” is defined to include, among other parties, directors and senior officers of a corporation, holders of more than 10% of the voting securities of a corporation, persons owning a block of securities that is otherwise sufficient to affect materially the control of the corporation, and other persons that manage or direct, to a substantial degree, the affairs or operations of the corporation. At such shareholders' meeting, votes cast by any related party who holds common shares and has an interest in the transaction may not be counted for the purposes of determining whether the minimum number of required votes have been cast in favor of the transaction. Under U.S. state law, a transaction between a corporation and one or more of its officers or directors can generally be approved either by the shareholders or a by majority of the directors who do not have an interest in the transaction. Corporations that are listed on a U.S. securities exchange or are quoted on Nasdaq may also be required to have transactions with officers and directors and other related party transactions reviewed by an audit committee comprised of independent directors.

There is no limitation imposed by our Articles or other charter documents on the right of a non-resident to hold or vote our common shares. However, the Investment Canada Act , also referred to herein as the Investment Act, as amended by the World Trade Organization Agreement Implementation Act, also referred to herein as the WTOA Act, generally prohibits implementation of a reviewable investment by an individual, government or agency thereof, corporation, partnership, trust or joint venture that is not a “Canadian,” as defined in the Investment Act, unless, after review, the minister responsible for the Investment Act is satisfied that the investment is likely to be a net benefit to Canada. An investment in our common shares by a non-Canadian would be reviewable under the Investment Act if it were an investment to acquire direct control of Micromem, and the value of our assets were CDN $5.0 million or more. However, an investment in our shares by a national of a country (other than Canada) that is a member of the World Trade Organization or has a right of permanent residence in such a country (or by a corporation or other entity that is a “WTO Investor-controlled entity” pursuant to detailed rules set out in the Investment Act) would be reviewable at a higher threshold of CDN $223 million in assets, except for certain economic sectors with respect to which the lower threshold would apply. A non-Canadian, whether a national of a WTO member or otherwise, would acquire control of Micromem for purposes of the Investment Act if he or she acquired a majority of our common shares. The acquisition of less than a majority, but at least one-third of our common shares, would also be presumed to be an acquisition of control of Micromem, unless it could be established that Micromem was not controlled in fact by the acquirer through the ownership of voting shares. The United States is a WTO Member for purposes of the Investment Act. Certain transactions involving our common shares would be exempt from the Investment Act, including:

- an acquisition of our common shares if the acquisition were made in connection with the person's business as a trader or dealer in securities;

- an acquisition of control of Micromem in connection with the realization of a security interest granted for a loan or other financial assistance and not for any purpose related to the provisions of the Investment Act; and
- an acquisition of control of Micromem by reason of an amalgamation, merger, consolidation or corporate reorganization, following which the ultimate direct or indirect control of Micromem, through the ownership of voting interests, remains unchanged. Under U.S. law, except in limited circumstances, restrictions generally are not imposed on the ability of non-residents to hold a controlling interest in a U.S. corporation.

U.S. shareholders may not be able to enforce civil liabilities against us.

Micromem is incorporated under the laws of the Province of Ontario. Additionally, a number of our directors and executive officers are non-residents of the U.S., and all or a substantial portion of the assets of such persons are located outside the U.S. As a result, should any investor commence an action in the U.S. against Micromem or its directors or executive officers, Micromem or its directors or officers, as the case may be, may be able to insist that any action against them take place in the jurisdiction of the Province of Ontario. In addition, if an investor were to obtain a U.S. judgment against Micromem or its directors or executive officers, there is doubt as to the enforceability of such U.S. judgment in Canada.

We do not anticipate paying dividends.

We have never paid a dividend on our securities and we do not anticipate paying dividends in the foreseeable future.

We may need to issue additional securities which may cause our shareholders to experience dilution.

Our Board of Directors has the authority to issue additional common shares, without par value, also referred to herein as the common shares, or other of our securities without the prior consent or vote of our shareholders. The issuance of additional common shares would dilute the proportionate equity interest and voting power of our shareholders.

The price of our common shares and volume of our common shares may be volatile.

Our shareholders may be unable to sell a significant number of our common shares on the OTC Bulletin Board without a significant reduction in the market price of the shares.

Furthermore, there can be no assurance that we will be able to meet the listing requirements of, or achieve listing on, any other stock exchange. The market price of the common shares may be affected significantly by factors such as fluctuations in our operating results, announcements of technological innovations or new products by us or our competitors, action by governmental agencies against us or the industry in general, developments with respect to patents or proprietary rights, public concern as to the safety of products developed by us or others, the interest of investors, traders and others in public companies such as ours and general market conditions. In recent years, the securities markets in the United States and Canada have experienced a high level of price and volume volatility, and the market price of securities of many companies, particularly small capitalization companies, have experienced fluctuations which have not necessarily been related to the operating performance, underlying asset values or business prospects of such companies.

ITEM 4. INFORMATION ON THE COMPANY

A. History and Development of Our Company

Micromem is a corporation formed under the laws of the Province of Ontario, Canada, with principal executive offices at 777 Bay Street, Suite 1910, Toronto, Ontario M5G 2E4 (416.364.6513). Micromem was incorporated on October 21, 1985 as Mine Lake Minerals Inc. We subsequently changed our name to Avanti Capital Corp. on June 23, 1988, to AvantiCorp International Inc. on April 30, 1992 and to Micromem Technologies Inc. on January 11, 1999 in connection with our acquisition of Pageant Technologies Incorporated, also referred to herein as Pageant International. Our website address is www.micromeminc.com. The information on our website is not part of this annual report on Form 20-F. We have included our website address in this document as an inactive textual reference only.

Research and Development Efforts

The Board of Directors formed a Technical Advisory Committee in mid 2007 consisting of Larry Blue and Steve Van Fleet, two of its Directors and both of whom have substantial industry experience and careers in related technology. To round out the Technical Advisory Committee, the Company recruited Mr. Henry Dreifus of Dreifus Associates Limited ("DAL") of Orlando, Florida.

The Technical Advisory Committee took the leadership role in the Company's technical developments commencing in September, 2007. At the time, with ongoing assistance provided by Strategic Solutions, the Company engaged Global Communications Semiconductor Ltd. ("GCS") of California to develop initial prototypes in its California-based foundry.

Between September 2007 and February 2008, the Company announced a series of development milestones achieved in the GCS foundry. The Company determined that it would pursue the further development of its magnetic sensor market opportunities in the immediate term while pursuing the longer term goal of also developing its memory applications. As discussed below it engaged BAE to complete further development work on its sensor.

In 2009 the Company continued to rely on a number of key advisors including GCS, DAL and BAE.

The following is a commentary on the development of specific projects undertaken since 2008 and the developments through 2010:

BAE: In 2008, BAE expressed initial interest in the Company's sensor technology. The Company and BAE executed the appropriate confidentiality and material transfer agreements and began discussions with respect to specific project work to be conducted in BAE's foundries in the United States. In August 2008, the Company entered into a working agreement with BAE whereby the Company agreed to commit up to $1 million of funding to BAE-led development work on its sensor technology. The end goal of the BAE development work was to identify specific applications where BAE would incorporate the Company's technology into their product offerings to their own large defense and aerospace customers.

During 2009, Micromem and BAE Systems successfully completed the manufacturing of a multi-bit array structure of our memory. The work was completed in BAE's U.S. Department of Defense ("DOD") foundry in Nashua New Hampshire. Micromem submitted the multi-bit array structure in a reticle design format to BAE which manufactured the memory using their proprietary high mobility epi layer and their standard foundry processes. The magnetic processing steps required in the manufacture of our memory was subcontracted to specialty manufacturers. Memory testing was completed by a certified third party company.

Micromem and BAE Systems were successful in creating a fully functioning multi-bit MRAM cell. Our strategy was to license the memory patent portfolio to clients that have specific end user requirements that require low power, high temperature radiation hardened memory.

Between 2008 – 2010, Micromem spent a total of $797,186 with respect to these foundry services provided by BAE.

The Company initially anticipated having a concentrator unit available from a supplier, NanoOpto, in 2010 which would have allowed the Company to build sensor applications with the required tolerance and performance levels required by BAE and the Department of Defense in general. NanoOpto discontinued operations during 2010. The Company anticipates that it will develop an alternative solution for the concentrator during 2011, pending the resolution of its working capital constraints. At that time, it plans to re-approach BAE with the expectation of pursuing current commercial discussions with them.

Given these developments, at October 31, 2010 the Company has recorded an impairment reserve of $797,185 against these costs which were previously capitalized and reports its investment in development costs at nominal value of $1.

Unotron: The Company announced a contractual agreement in March 2009 with Unotron to develop an application for a washable keyboard utilizing the Company's sensor technology. The manufacturing agreement was executed in May 2009.

Micromem advanced $200,000 to Unotron at the beginning of this relationship as its initial investment in the project. This investment was structured as a secured debenture with a first charge on the assets of Unotron. The debenture stipulated quarterly interest at a rate of 10% with a maturity date of September 2010.

From a development standpoint, the Company has incurred $529,455 of costs associated with the development of prototype products and has delivered these prototypes to Unotron. The Company engaged engineers to assist in this effort and incurred the cost associated with several trips to the Unotron manufacturing facilities in China, during 2010. The product has been developed and accepted by our client during two visits to Hong Kong by engineers whom Micromem engaged. A short list of integration issues with the client's keyboard controller remain outstanding and will be completed when we are in receipt of an order forecast in accordance with the manufacturing agreement.

Under the terms of the manufacturing agreement, Unotron is required to provide an estimated unit and order schedule for delivery of product by Micromem, once the prototypes are delivered. Unotron has not yet provided those estimated orders to Micromem. Unotron has issued a second product request to Micromem. We will consider this new request when Unotron delivers the order forecasts in accordance with the manufacturing agreement.

In order to obtain final product certification, Micromem is required to produce additional units for delivery to Unotron for such certification testing. It has communicated to Unotron that it is prepared to incur these costs and deliver these final units to Unotron for certification once it receives estimated order quantities and delivery times that Unotron will require for the sale of these products to its customers.

The Company believes that it has met all of the technical specifications associated with the prototype products and remains committed to fulfilling the terms and conditions of the contractual arrangements executed. Given the delays that the Company has encountered in finalizing these commercial terms with Unotron, it has recorded an impairment reserve of $529,494 and reports its investment in development costs at nominal value of $1.

The secured debenture that Micromem holds with Unotron matured on September 30, 2010. Since that time the Company has been in regular negotiations with Unotron with respect to the repayment of the debenture. To date, Unotron has made interest payments through September 30, 2010 but has not finalized a repayment schedule. Accordingly, at October 31, 2010, the Company has fully reserved the outstanding principal of the debenture. Subsequent to October 31, 2010 the Company has negotiated a repayment schedule with Unotron with respect to the repayment of the outstanding principal and interest in 2011 and has received an initial payment of $10,000 on this repayment schedule.

LMTI: In 2009 Micromem and Life Med Technologies Inc.(LMTI) entered into a manufacturing agreement pursuant to which we received a $30 million purchase order. Under the terms of the agreement, Micromem would design, manufacture prototypes, submit and obtain FDA 510(K) approval and manufacture a medical device that incorporates our magnetic sensor technology. The medical device is designed to provide early detection of abnormalities in womens' breasts. We believe the medical device will be cost effective, easy to use and directed at providing a simple home test for early breast cancer indication.

The prototype product has been designed and fully tested. The FDA 510(K) process began in 2010. Micromem has negotiated with a physician in New York City who had experience in running clinical trials in the breast cancer detection area. Our strategy in 2010, pending FDA approval of the product, was to begin routine manufacturing for LMTI.

During 2010 we met on numerous occasions with the principals of LMTI. LMTI communicated an interpretation of the original contractual agreements with which the Company disagreed. Under the terms of the executed contractual agreements, Micromem has agreed to incur the development costs with respect to the product prototype, to file the FDA submission in its name and, in this process, will retain all of the rights to the intellectual property that is developed. Micromem has agreed that upon LMTI's fulfillment and payment under the terms of the purchase order, Micromem will transfer the related intellectual property to LMTI.

Our prototype has been developed and tested and is ready for FDA protocol trials. In addition, all sections of the FDA documentation that can be completed have been submitted to our FDA attorney. The sections of the FDA applications requiring LMTI's input have not yet been received nor completed.

We have advised LMTI that we will continue with the development of our product and, when available, will present it to LMTI under the original terms of the purchase order. To date, Micromem has incurred a total of approximately $115,000 of direct costs associated with this initiative in addition to legal costs relating to our FDA process. Given the developments as described above, Micromem has recorded a reserve of the costs incurred coincident with the filing of its third quarter financial statements released on September 29, 2010.

The Company intends to present the product to LMTI under the terms of the original purchase order. If this does not materialize, then the Company will explore alternative market opportunities for this product. At October 31, 2010 the Company reports its investment in these development costs at nominal value of $1.

NEMT: In 2009 Micromem and NEMT entered into a manufacturing agreement to develop a magnetic device capable of detecting small changes in the earth's magnetic signature. NEMT planned to use this for aerial exploration in the Bearing Sea for oil and gas reserves. The prototype device was designed and built and tested in the field by NEMT.

Our initial strategy was to deliver the final product during 2010 to NEMT; they would use the device to fulfill an exploration contract they were awarded. The technology was being developed under contract with DAL. The development of this technology has not as yet been finalized by DAL; finalization is expected pending the settlement of outstanding invoices submitted by DAL. We have incurred a total of $797,794 of development costs with respect to this project.

Our dealings with NEMT continue. We anticipate that these trials will be advanced in 2011 pending the resolution of the Company's working capital constraints.

The Company recorded an impairment reserve of $797,793 with respect to the direct costs associated with the NEMT project as of the end of its third quarter as reported on September 29, 2010. At October 31, 2010 the Company reports its investment in development costs at nominal value of $1.

Oil Sensor: The Company continues to evaluate development opportunities for its oil sensor prototype.

Mining Sensor: The mining sensor that the Company has been developing has served as a precursor to the design of a product that the Company has contracted to develop with an international partner as discussed further below.

There are several additional initiatives that the Company is currently pursuing with the expectation of commercial revenue opportunities in 2011. These include:

- The development of a sensor application for a large international organization that is marketing a healthcare product. The Company anticipates a development contract from these negotiations. The Company has incurred $242,464 of development costs with respect to this initiative and has reflected a current impairment reserve of $242,463 pending finalization of a contract with this customer.

- Subsequent to October 31, 2010 the Company has finalized the terms of a contract with a major international energy company to develop an application based on the initial mining sensor technology that it has developed. The Company reports $221,513 as deferred development costs relating to this initiative as of October 31, 2010. In February 2011 Micromem executed the contract and received the initial payment of $75,000 from this customer under the terms of the contract.

Changes to Our Board of Directors and Management

At our Annual Meeting of Shareholders held on Friday, September 24, 2010, Salvatore Fuda, Andrew Brandt, Joseph Fuda, David Sharpless, Steven Van Fleet, Oliver Nepomuceno and Larry Blue were reelected to serve on our Board of Directors. Alex Dey was 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.

B. Business Overview

We have been engaged in the development of memory technology that has the characteristics of non-volatility, which is the ability to retain information after power has been shut off. Our technology is based on our ability to use magnetic materials in combination with a sensor to record the "state of magnetization." Each magnetic element stores one bit of data based on its ability to alternate between states of magnetic polarization, which states are determined by a sensor. Our technology represents "1"s and "0"s by the different polarization of magnets. For example, a magnet oriented north/south is a "1" and a magnet oriented south/north is a "0". The magnetic field strength and direction do not decay when power is switched off, and, therefore, the memory is non-volatile.

Beginning in 2007 we pursued the further development of our memory and our sensor technology with the support of two U.S.-based foundries, GCS in California and BAE in New Hampshire. We executed development/manufacturing agreements with Unotron, NEMT and LMTI – see "Research and Development Efforts" beginning on page 15 of this Annual Report.

Industry Background

The semiconductor memory industry is principally driven by the requirements of the computing industry. The nature of the memory manufacturing industry is that it is capital intensive, cyclical, rapidly changing and it depends significantly on patent protection.

The semiconductor industry is intensely competitive. Both low-density and high-density nonvolatile memory products are manufactured and marketed by major corporations possessing worldwide wafer manufacturing and integrated circuit production facilities and by specialized product companies.

Our Company's Technology

The various characteristics of the our technology can be better understood by describing the three basic types of memory used in present day computers, Random Access Memory (RAM), Read Only Memory (ROM), and secondary storage devices. The three types of memory are described below:

<u>Random Access Memory (RAM)</u> is memory that can be both read and written randomly, which means that its storage locations can be accessed in any order. Thus, a computer using RAM can find and go directly to the selected location rather than performing a sequential search. Semiconductor RAM is usually the primary memory associated with the computer's *central processing unit (CPU)*, the computational unit of the computer responsible for interpreting and executing instructions. However, RAM is *volatile* which means that all stored information vanishes once the power supply is removed and must be restored from a secondary storage device each time the power is resumed.

Two typical examples of RAM are Dynamic Random Access Memory and Static Random Access Memory. *Dynamic Random Access Memory (DRAM)* uses integrated circuits containing capacitors to achieve significant storage capacity and speed. DRAM can be written and read in the speed range of less than 100 nanoseconds. DRAM has a major drawback in that its capacitors lose their charge over time and therefore information contained in DRAM must be continually refreshed. This means that, on average, DRAM must stop operations every 16-30 milliseconds and restore all of the data it contains or the data will disappear. During this refresh time, the processor has no access to the information being refreshed. *Static Random Access Memory (SRAM)* differs from DRAM in that it stores information in a logic circuit referred to as a flip-flop, rather than in a capacitor. SRAM memory does not need to be refreshed while the power is on, but also loses its information once the power is turned off.

<u>Read Only Memory (ROM)</u>, like RAM, can be read randomly, but cannot be written randomly. Unlike RAM, however, it is non-volatile and therefore does not lose its information when a computer's power is cut off. ROM is typically employed to store vital program information required during the first moments after a computer is powered on. It may be used for such purposes as forcing system test routines, directing the processor to input/output devices or for controlling access to certain computer subsystems such as hard drives. *EPROMs (erasable programmable read-only memory)* and *EEPROMs (electrically erasable read-only memory)* are read only memories that can be erased and rewritten, but must be written "en masse," rather than at the individual word level. "Flash" memory is a form of EEPROM that is widely used today in such devices as cell phones, modems and personal digital assistants. The drawbacks to Flash memory are that write times are slower, the number of read/write cycles are limited and there is a requirement for significantly higher power to store data.

<u>Secondary Storage Devices</u> include *CDs, which* are light and portable and are written and read by a motor driven mechanical drive. They normally have a storage capacity in the low megabyte range and are non-volatile and can be both written and read. However, since they are serial (as opposed to parallel) devices, they are considerably slower than RAM.

Our technology combines the use of semi-conducting ferromagnetic metals with a sensor. When the magnetization of the magnetic material changes direction, the sensor senses the change in direction and records a "0" or "1". In this fashion, a bit is created that is non-volatile and based on magnetic properties. We are developing this form of magnetic random access memory for low-density applications, such as RFID, that can benefit from non-volatile data storage.

Competition

We are aware of others conducting research, development and commercialization in the magnetic non-volatile memory area. These include IBM Research (San Jose, California), Ovonyx, Inc. (Troy, Michigan), Hewlett-Packard (Palo Alto, California), Honeywell (Plymouth, Minnesota), Motorola (Phoenix, Arizona) and Freescale Semiconductor.

Two main centers of MRAM research are at IBM and Infineon. IBM and Infineon have alternative MRAM technologies based on the giant magneto resistance principle. This giant magneto resistance principle primarily consists of two ferromagnetic layers separated by a conductive nonmagnetic interlayer. The electrical resistance is high in the absence of an external magnetic field. However, an applied external field forces the initially anti-parallel magnetization in the coupled films into parallel alignment and the resistance drops. The high or low resistance determines the data storage state. Magnetic tunnel junction cells, as they are known, have similar sandwiched structures but the interlayer is insulating instead of conducting. In contrast to giant magneto resistance structures, in which the sense current flows parallel to the layers, the current in magnetic tunnel junction flows perpendicularly to the layers of the stack.

Even thought we cite these companies as our competitors, because they develop MRAM technology, it should be noted that our technology is significantly different with respect to the device architecture and mechanism of functioning.

Equity Financing Transactions

The Company secured a 30 day bridge loan of $200,000 from an arms' length investor in January 2008. The interest rate on the bridge loan was 4% due in 30 days. As additional consideration, the Company issued 100,000 common share purchase warrants at an exercise price of $0.60 per share. The loan was repaid in February 2008.

During the 2008 fiscal year, the Company completed a series of private placement financings with arms length investors pursuant to prospectus and registration exemptions set forth in applicable securities laws. In total, the Company received proceeds from the issuance of 4,152,296 common shares, realizing proceeds totaling $2,980,030.

537,128 Common share purchase warrants with an average price of $1.14 were attached to the private placements completed during 2008. In all cases these warrants had a term of 12 months from issue date and then expire if unexercised 12 months after issue date.

During the fiscal year ending October 31, 2008 investors exercised a total of 3,421,318 common share purchase warrants to acquire common shares at a price of $0.40 per warrant and the Company realized proceeds of $1,368,527.

In 2008, the holders of the 800,000 common share purchase warrants that were issued pursuant to certain financial advisory services agreements exercised these warrants on a cashless basis. The stock price was $2.09 per share on the date of exercise and the exercise price was $0.40 per warrant. These warrants were "in the money" to the extent of $1,352,000 and the Company issued a total of 686,886 common shares to fulfill the obligations under these agreements.

A total of 1,440,000 common stock options were exercised by directors, officers and consultants in 2008 and the Company realized proceeds of $1,010,500.

During the 2009 fiscal year, the Company completed a series of private placement financings with arm's length investors pursuant to prospectus and registration exemptions set forth in applicable securities laws. In total, the Company received proceeds of $2,958,842 from the issuances of 4,393,535 common shares. In certain of these financings common share purchase warrants were attached as follows:

a) 1,153,846 warrants at a price of $0.70 per warrant issued on February 11, 2009;

b) 1,333,333 warrants at a price of $0.75 per warrant issued on April 6, 2009;

c) 390,624 warrants issued at a price of $1.20 per warrant on May 14, 2009;

d) 39,062 warrants issued at a price of $1.20 per warrant on May 14, 2009;

e) 388,980 warrants issued at a price of $1.24 per warrant on May 19, 2009; and

f) 500,000 warrants issued at a price of $0.95 per warrant on August 25, 2009

The warrants issued on May 19, 2009 had a term of four months and expired unexercised. All other warrants issued in 2009 have a twelve month term from issue date. 39,062 warrants issued on May 14, 2009 were broker warrants issued to the financial advisor who secured financing for the Company. A charge to share capital in the amount of $14,297 has been recorded in accordance with the Black Scholes option-pricing model with respect to these broker warrants.

In 2009 warrant holders exercised 200,000 common share purchase warrants and the Company realized proceeds of $234,000.

Cash proceeds realized during the year ended October 31, 2009 by the Company upon the exercise of 1,652,801 options by officers and directors and staff totaled $992,417.

During the 2010 fiscal year the Company completed a series of private placement financings with arms' length investors pursuant to prospectus and registration exemptions set forth in applicable securities laws. The Company received a total of $2,021,051 of subscription proceeds and issued a total of 5,749,201 common shares.

A total of 5,749,201 common share purchase warrants were attached to the private placement shares at an average exercise price of $0.44 per warrant. The warrants in all cases have a 12 month term from issue date.

Patents and Trademarks

We believe that protection of our intellectual property is important to our ability to generate revenues from our technology in the future. We have both issued patents and pending patent applications and also entered into confidentiality and other agreements with third parties and our employees to protect our intellectual property and trade secrets. We intend to continue to actively pursue the protection of our intellectual property. Our management will determine from time to time the jurisdictions where protection will is appropriate. This determination will be based on a number of factors including the state of development of our technology, the importance of a particular market for our technology, the costs of pursuing patent protection in a jurisdiction and our financial position at the time.

Our patent portfolio comprises separate series of patents and patent applications as follows:

(a) our initial patents covering what is referred to as the Vemram and Hemram technologies which the Company has not further pursued since 2002;

(b) those covering technologies developed pursued to research collaboration agreements with the University of Toronto; and

(c) those applications covering the technology developments that the Company has furthered since it began working with the US-based foundries and BAL in September, 2007.

(d) those applications covering the technology development that the Company has furthered in collaboration with DAL, under contract to provide technical design services to the Company.

The Company has engaged Morgan Lewis as our patent attorneys since 2005. It has paid Morgan Lewis approximately $1 million in legal fees since 2005. During 2010, the Company was unable to remain current on the Morgan Lewis invoices as submitted. At October 31, 2010, the balance owing on services provided by Morgan Lewis is approximately $115,000. Morgan Lewis has resigned as a service provider to the Company in October 2010. Subsequent to year-end, Morgan Lewis has initiated collection proceedings to recover the amounts owing and the Company continues to negotiate with Morgan Lewis with respect to the proposed payment terms.

Environmental Matters

We are subject to various environmental protection regulations imposed by the government in the jurisdiction where we conduct our development work. We are not aware of any current or pending environmental protection laws or regulations that would have a material impact on our capital expenditure requirements or competitive position.

C. Organizational Structure

In November, 2007, the Company incorporated MAST INC. ("MAST") as a Delaware-based wholly-owned subsidiary. MAST has an office in New York City and is being managed by Steven Van Fleet, its President and a director of Micromem. MAST is pursuing a number of potential strategic joint development agreements with industry partners. This process is ongoing.

In October, 2008, the Company incorporated 7070179 Canada Inc. as a wholly-owned subsidiary. On October 31, 2008, the Company assigned its rights, title and interest in certain of its intellectual property which it previously held directly to 707179 Canada Inc. in exchange for common shares of this wholly-owned subsidiary.

We have a wholly-owned subsidiary, Pageant International, which was incorporated under the laws of the Turks & Caicos Islands and continued to Barbados on May 25, 2001. Pageant International has a wholly-owned subsidiary, Pageant Technologies (USA) Inc., a corporation incorporated in the State of Utah. Pageant Technologies USA has been inactive since 2002.

We have a wholly-owned subsidiary, Memtech International Inc, incorporated under the laws of the Bahamas, which in turn has a wholly-owned subsidiary, Memtech International (USA) Inc., a corporation incorporated in the State of Delaware. We also have a wholly-owned subsidiary Micromem Holdings (Barbados) Inc. These subsidiaries have been inactive since inception.

D. Property, Plant and Equipment

We maintain our corporate headquarters in Toronto, Ontario, Canada. We occupy 3,987 square feet of commercial office space pursuant to a lease that expired in 2010 and has since been renewed on a month-to-month basis.

The Company made $851 of capital expenditures in 2010, $9,668 of capital expenditures in 2009 and $31,531 of capital expenditures in 2008.

ITEM 4A. UNRESOLVED STAFF COMMENTS

Not applicable.

ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

This section of the Form 20-F has been prepared to provide a more substantive discussion of our business and to assist the reader in analyzing the audited consolidated financial statements for the year ended October 31, 2010. This discussion and analysis of financial condition and results of operations should be read in conjunction with the consolidated financial statements and related notes in this Annual Report, which are prepared in accordance with Canadian GAAP and are stated in United States dollars. These principles are also in conformity in all material respects with U.S. GAAP except as described in Note 18 to our 2010 audited consolidated financial statements.

I. OVERVIEW

We are a development stage company that currently operates in a single segment as a developer of non-volatile magnetic memory and sensor technology. Non-volatile memory implies the ability to retain information after power has been shut off. Our technology is based on our ability to use magnetic materials in combination with a sensor to record a state of magnetization as a mechanism of data storage.

A. Operating Results

The following table sets forth certain selected financial information of our Company:

Selected statement of operations and deficit information

	2010	2009	2008	2007	2006
Interest and other income	$22,886	$ 88,047	$ 11,762	$ 2,586	$ (9,930)
Loss for the year	4,674,861	4,310,939	5,416,725	2,811,378	4,058,180
Loss per share-basic and diluted	0.05	0.05	0.07	0.04	0.06

Selected balance sheet information

	2010	2009	2008	2007	2006
Working capital (deficiency)	$ (1,459,460)	$ (650,044)	$ (338,079)	$ (1,531,855)	$ (448,923)
Property and equipment	16,686	24,422	26,321	-	-
Total Assets	568,336	2,562,479	630,467	329,232	465,440
Shareholders' equity (deficiency)	(1,019,226)	1,522,839	(311,758)	(1,531,855)	(448,923)

Fiscal 2010 Compared to Fiscal 2009

The Company remains in pre-revenue mode at October 31, 2010. It reports interest income of $22,886 in 2010 which primarily relates to interested earned on the secured promissory note outstanding (Fiscal 2009: Revenue of $88,047 comprised of $11,382 of interest income and $76,665 of recoveries of tax credits).

The Company brought its income tax filings for all of its subsidiaries up to date in 2010. It reports a small income tax expense of approximately $9,500 relating to an inactive subsidiary.

In the third and fourth quarters of the 2010 fiscal year, the Company booked impairment reserves against the project development costs it had capitalized commencing in 2009 and continuing in the first and second quarters of 2010. The impairment reserve of $2,711,392 includes amounts relating to LifeMed ($114,642), Unotron ($529,424), NEMT ($797,793), BAE ($797,185) and other projects ($472,348).

In 2010, the Company reports general and administrative costs of $550,657 compared to $937,146 in 2009. The decrease was in part due to expiry of the Investor Relations Group ("IRG") contract in September 2009. In 2009 the activity in MAST increased significantly. The major components of the MAST G&A expenses as reported include market research ($140,000) investor relations ($112,000) and travel expenses ($66,000). Activity in 2010 was significantly curtailed and minimal new business development was undertaken. In 2010 the reserve for doubtful accounts includes the impairment reserve on the Unotron debenture of $200,000 offset by the recovery of approximately $66,000 of amounts billed to related parties and collected in 2010 after originally reserved. These charges to related parties are a rebilling of a portion of its overhead expenses. Given uncertainty of collection the Company will reserve the amounts that are rebilled as these charges are recorded. The reserves reflected in 2009 represent such amounts. Insurance related expense increased in 2010 as the Company increased the extent of its basic coverage. Interest expense in 2010 relates to the interest incurred with respect to the bridge loans it secured in 2010.

Professional, other fees and salaries have been significantly reduced from $3,240,960 in 2009 to $1,345,406 in 2010, in large part because the Company did not issue any stock options to officers or directors of the Company. As in 2009, the Company capitalized legal costs associated with its patent related filings; accordingly no expense is reported in this category in 2009 or 2010. Other legal expenses relate to ongoing compliance related costs. In 2010, the Company incurred legal expenses related to the preparation of its FDA filing material for the LMTI project. In 2009, it incurred legal expenses relating to the CNSX listing it obtained that year. In 2010 we adjusted the salary rates of several individuals on payroll. Commencing in 2008, the Company entered into a 3 year contract through 2011 with the President of MAST at an annual remuneration of $180,000. The bulk of these expenses in 2009 and all of these costs incurred in 2010 have been allocated to Projects under Development and capitalized. Payments to DAL in 2009 and 2010 have largely been capitalized as Projects under Development. The expense in 2010 relates to

the extension of certain options previously granted for an additional year. In 2009 the Company awarded stock options to officers, directors and employees and reported the expense calculated in accordance with the Black Scholes option-pricing model.

In 2010 we report a recovery of $106,007 of research and development costs compared to $13,880 of expense in 2009. Commencing in 2009, the Company began to capitalize its development costs which were previously reported in this cost category and until that time were expensed as incurred. In during the 2009 – 2010 fiscal years, the Company incurred $479,000 of costs associated with the concentrator being developed by NanoOpto. These costs were capitalized and when the Company settled with NanoOpto it recovered $106,000 of these costs and as a result, it reports this as other credits in 2010.

Travel and entertainment is reported at $146,104 in 2010 compared to $223,586 in 2009 primarily because business development activity was curtailed in 2010 due to the Company's working capital situation, travel-related costs decreased from the expenses reported in 2009.

Fiscal 2009 Compared to Fiscal 2008

The Company remained in pre-revenue mode as at October 31, 2009. We reported interest income totaling $88,047 in 2009, of which 11,382 was relating to interest income compared to $11,762 in 2008. The remaining $76,665 (2008: nil) relates to recoveries under the Scientific Research and Experimental Development tax program. We earned interest income on temporarily available surplus funds in 2009 including $5,000 of interest on the Unotron debenture which we executed in 2009.

In 2009, the Company made important advances with a number of strategic development partners. The notable developments include the Company's agreements with BAE Limited, Unotron Inc., NEMT Inc. and LifeMed Technologies Inc. Additionally, the Company developed other initiatives for the development of its sensor technology for several industrial vertical applications, including sensors for the oil and the mining sectors.

Significantly, in 2009, and as a result of these advances, the Company has determined that its continuing activities related to the development of its memory and sensor technology meet the criteria for deferral of development costs. Accordingly, the associated costs of these activities have been capitalized and are reflected in our balance sheet at October 31, 2009. The total deferred development costs which have been capitalized are $2,000,611(2008: nil) and include directly related consulting fees, materials and third party costs. No amortization has been taken to date.

Administration costs increased to $937,148 in 2009 from $604,203 in 2008. The Company engaged the Investor Relations Group (IRG) of New York in September 2008. We initially agreed to monthly payments of $13,500 plus 25,000 common shares per month. In May 2009, the agreement was renegotiated to payments of $7,500 and 12,500 common shares per month. The agreement expired in September 2009. The Company re-billed certain related companies who share office space with it and which have certain common officers and directors. At October 31, 2009 the Company has reserved the outstanding accounts receivable less any amounts collected subsequent to year-end with certain of these parties given the uncertainty of collection. In 2009 the activity in MAST increased significantly. The major components of the MAST expense as reported include market research ($140,000) investor relations ($112,000) and travel expenses ($66,000).

We incurred $3,240,960 of professional fees, other fees and salaries in 2009 compared to $3,304.771 in 2008. The cash component of this amount, excluding the Black Scholes value of stock options granted, was $1,289,391 in 2009 compared to 2,263,357 in 2008. In 2008 we incurred approximately $125,000 of legal fees pertaining to the termination of Ms. Cynthia Kuper. The cash compensation paid to our Chairman, Mr. Salvatore Fuda, was $129,149 in 2009 versus $416,171 in 2008; no incentive-based compensation was earned under the terms of the employment agreement with Mr. Fuda in 2009. In 2008 we incurred approximately $80,000 of outside consultant costs relating to the Sarbanes-Oxley Act of 2002 ("SOX") review of internal accounting controls. In 2009, this review was performed internally. Management bonuses were $50,000 in 2008 and nil in 2009. We incurred $300,000 in fees with respect to services provided by DAL in 2008 versus $77,000 in 2009. Legal expenses with respect to our patent filings and IP portfolio were $151,000 in 2009 versus $253,000 in 2008.

In 2009, the Company capitalized all but $13,880 of the development expenses which it incurred; prior to 2009, all of these expenditures were expensed. The significant research and development expenditures incurred in 2009 included Strategic Solutions, $184,000; BAE, $428,000; GCS, $305,000; NanoOpto, $405,000; DAL, $351,000; all other $131,000; for a total expenditure of $1,804,000.

In 2008 the Company paid $38,952 in fees to Professor Harry Ruda, our Chief Research Scientist at the University of Toronto, who was on a $5,000 ($CDN) monthly retainer until it was terminated in June 2008. The Company reported accounts payable and

accrued liabilities of $286,430 (CDN) at October 31, 2007 as payable to the University of Toronto; this obligation was settled by total payments in 2008 of $145,000 (CDN) and the issuance of 30,000 common shares valued at issue date at approximately $60,000. The Company recorded a recovery on final settlement with the University of Toronto of $76,037.

Strategic Solutions received a base monthly amount of $45,600 until December 2008 and was paid for additional work completed greater than the agreed upon base level of contract work. The Company continued to use Strategic Solutions on a month to month basis in 2009 but has ceased these arrangements in mid-year.

The payments to BAE are with respect to foundry services provided in the BAE facilities.

The work performed by GCS relates to the prototype development work completed in the GCS foundry in 2008 - 2009.

Travel expenses were $223,585 in 2009 versus $398,474 in 2008. We did not incur any travel expenses relating to our ex-CTO, Strategic Solutions or DAL in 2009 and made a concerted effort to reduce these costs during the 2009.

The net foreign exchange gain in 2009 was $28,154, compared to an expense of $52,231 in 2008, attributable to fluctuations in the exchange rate between the U.S. dollar and the Canadian dollar. In 2009, the U.S. dollar appreciated against the Canadian dollar whereas in 2008 it depreciated.

We reported a net loss of $4,310,939 in 2009 or $0.05 per share compared to a net loss of $5,416,725 or $0.07 per share in 2008.

The Company issued a total of 1,345,000 common stock options in 2009 compared to 2,145,000 stock options in 2008.

Unaudited quarterly financial information
(all amounts in United States dollars)

Quarter ended	Total Revenues	Net Income (Loss)	Loss Per share Basic and diluted
October 31, 2010	$7,778	($1,803,883)	0.02
July 31, 2010	5,000	(1,937,819)	0.02
April 30, 2010	5,009	(526,760)	0.01
January 31, 2010	5,099	(406,399)	-
October 31, 2009	$ 81,762	$ 52,936	-
July 31, 2009	113	(1,521,958)	0.02
April 30, 2009	536	(1,273,450)	0.02
January 31, 2009	5,637	(1,583,629)	0.02

B. Liquidity and Capital Resources

Liquidity

We are a development stage company. We currently have no cash flow from operations and will have none until we are in a position to either license or directly produce and sell products utilizing our technology.

We currently have no lines of credit in place and must obtain equity financing from investors and from persons who hold outstanding options and warrants in order to meet our cash flow needs until we can generate revenues. At October 31, 2010, we had approximately $26,000 cash on hand and our monthly cash expenses approximate $200,000. Our working capital deficiency at October 31, 2010 is $1,459,460. At October 31, 2010, the Company is not current with respect to approximately $516,000 of trade accounts payable. It continues to work with these trade suppliers to bring these accounts current. Since October 31, 2010, we have raised an additional $503,140 through Unit private placements.

We have granted to our directors, officers and other employees a number of options to purchase shares at prices that are at or above market price on the date of grant. None of the optionees has any obligation to exercise their options and there can be no guarantee that we will realize any funds from these options.

We have issued common share purchase warrants as part of the Unit private placement financings that we have completed. None of the warrant holders have any obligation to exercise their warrants which in general, expire 12 months after issuance if unexercised. There can be no guarantee that we will realize any funds from these outstanding warrants.

Capital Resources

We had no commitments for capital expenditures as of October 31, 2010. In 2010 we spent $851 on capital equipment.

C. Research and Development

We are a development stage company. Under Canadian GAAP, research costs are expensed in the period incurred. Development expenses are expensed as incurred unless they meet the criteria for deferral and amortization under Canadian GAAP which is the translation of research findings or other knowledge into a plan for the technology prior to commercial production or use.

Investment tax credits (ITC) arising from research and development are recognized when their realization is reasonably assured. The ITCs are applied against the related costs and expenditures in the year that they are recognized.

Our research and development activities have been related primarily to research and development of a magnetic random access memory device and the development of our magnetic sensor through research collaboration agreements. Our research and development expense recovery for the year ended October 31, 2010 was $(106,007); our expenses in 2009 were $13,880. We capitalized $932,301 of development expenditures in 2010 (2009: $2,000,611). We booked an impairment reserve of $2,711,392 during the 3rd and 4th quarter of 2010 (2009: nil) and report $221,521 as deferred development costs on our balance sheet at October 31, 2010.

D. Trend Information

The digital memory industry and, more broadly, the semiconductor industry, have historically been characterized by wide fluctuations in demand for and supply of semiconductors and memory technologies. Prior experience has shown that restructuring of operations, resulting in significant restructuring charges, may become necessary if an industry downturn were to occur.

Our prospects for revenues are dependent upon the successful completion of our technology development and the incorporation of any technology that may be developed under or pursuant to our research collaboration agreements.

E. Off-Balance Sheet Arrangements

We are not party to any material off-balance sheet arrangements. In addition, we have no unconsolidated special purpose financing or partnership entities.

F. Tabular Disclosure of Contractual Obligations

A summary of our financial commitments as of October 31, 2010 is as below:

	Payments due by period				
	Total	Less than 1 year	1-3 years	3-5 years	More than 5 years
Convertible debt obligations	606,102	606,102	-	-	-
Capital Lease obligations	-	-	-	-	-
Operating lease obligations	-	-	-	-	-
Purchase obligations	-	-	-	-	-
Management agreements					
• Chairman	-	-	-	-	-
• CFO	-	-	-	-	-
• President	-	-	-		
• President MAST INC.	119,000	119,000	-		
All other			-	-	-
Total:	725,102	725,102	-	-	-

Critical Accounting Policies

Our significant accounting policies are set forth in Note 3 to our consolidated financial statements, which should be read in conjunction with management's discussion of our critical accounting policies and estimates set forth below.

Our consolidated financial statements for the period have been prepared in accordance with Canadian GAAP which, in our case conforms in all material respects with U.S. GAAP except for the accounting for development expenditures reported in the fiscal year ended October 31, 2009 and for the allocation of proceeds received using the relative fair value method of accounting for Unit private placements for the fiscal years through October 31, 2008.

We are a development stage company. Under Canadian GAAP, research costs are expensed in the period incurred. Development expenses are expensed as incurred unless they meet the criteria for deferral and amortization under Canadian GAAP which is the translation of research findings or other knowledge into a plan for the technology prior to commercial production or use. Under U.S. GAAP all development expenditures are expensed as incurred. In 2010, the Company has capitalized $221,521 of development costs under Canadian GAAP (2009: $2,000,611).

Until October 31, 2008, for all Unit private placement financings completed, the Company assigned 100% of the proceeds from these financings to the common shares and a nil value to the attached warrants. In the year ended October 31, 2009, the Company changed the estimates that it used to value the common shares and warrants included in the Unit private placement financings which it completed in the fiscal year then ended. It assigned the value to the warrants which formed part of these Unit private placements calculated in accordance with the Black Scholes option-pricing model. Under U.S. GAAP, using standards which are analogist, the valuation of the shares and warrants would be determined using the relative fair value approach. There is no change in aggregate shareholders' equity. A reconciliation between Canadian and U.S. GAAP has been provided in the footnotes to the 2009 and 2010 audited financial statements.

Management is required to make estimates and assumptions which can affect the reported balances. In determining estimates of net recoverable amounts and net realizable values, or whether there has been a permanent impairment in value, we rely on assumptions regarding applicable industry performance and prospects, as well as general business and economic conditions that prevail and are expected to prevail. Assumptions underlying asset valuations are limited by the availability of reliable comparable data and the uncertainty of predictions concerning future events.

Accounts recorded in foreign currency have been converted to United States dollars as follows: current assets and current liabilities at the prevailing exchange rates at the end of the year; other assets at historical rates; revenues and expenses are translated at the 3 month average monthly exchange rate per quarter which rate approximates the rate of exchange prevailing at the transaction dates; and gains and losses resulting from the fluctuation of foreign exchange rates are included in the determination of income.

Effective November 1, 2004, we have adopted the fair value method of accounting for employee stock-based compensation costs. The stock-based compensation expense for options granted during the fiscal years ending October 31, 2005 - 2009 has been reflected as an expense in the consolidated statement of operations.

Investment tax credits (ITC) arising from research and development are recognized when their realization is reasonably assured. The ITCs are applied against the related costs and expenditures in the year that they are incurred.

Commitments

Summary of commitments:	**Date executed:**
A. Research collaboration agreements (1) Revised Licensed Agreement – University of Toronto	 June 2005
B. Operating Leases	2007 – 2010
C. Consulting and Employment Contracts (1) Chairman of the Board of Directors (2) President (3) President, MAST INC. (4) CFO	 May 29, 2005 May 18, 2007 May 18, 2007 May 18, 2007
D. Other Commitments (1) Foundry services (2) Technical design services	 September 2008 July 2009

A. Research Collaboration Agreements:

1. Revised License Agreement, June 2005. In June 2005, we signed a new license agreement with the University of Toronto and the Ontario Centres of Excellence whereby: Ontario Centres of Excellence released us and the University of Toronto from the commercialization obligations set forth in all prior research collaboration agreements, and we acquired exclusive worldwide rights to the technology and any technology or patent rights under the agreement related to the MRAM technology developed at the University of Toronto.

We have agreed to royalties and payments as follows:

In consideration for the rights and licenses granted, we agreed to pay to the University of Toronto: 4% of Net Sales until such time as the University of Toronto has received from us an aggregate amount of CDN $500,000; 1% of Net Sales thereafter. If we sublicense any rights granted herein to any non-affiliate: in combination or association, the University of Toronto shall receive 10% of any Net Fees and/or Net Royalties that shall be received by us in respect of any licenses involving both the rights granted herein and such our intellectual property; for all other sublicenses of the rights granted herein to a non-affiliate, the University of Toronto shall receive 20% of any Net Fees and/or Net Royalties that shall be received by us in respect of such sublicenses; and Net Fees and/or Net Royalties shall be paid to the University of Toronto until such time as it has received an aggregate amount of CDN $500,000; thereafter we shall pay half of the amounts set forth above as is applicable.

At any point after which we have paid the University of Toronto CDN $500,000, we may at our option buy out the obligation to pay royalties hereunder by paying to the University of Toronto a single lump sum payment equaling the greater of CDN $500,000 and an amount equal to the total amount of royalties paid by us to the University of Toronto in the preceding twenty-four months. We are entitled to exercise such option by providing written notice to the University of Toronto along with the required payment, after which time our obligation to pay royalties shall be waived by the University of Toronto.

As a condition to entering the license agreement, we have agreed that we will enter into a further research agreement with a funding commitment of no less than CDN $500,000 to continue the further research and development of inventions and our intellectual property. In August 2005, we made an initial payment of $250,000 and, subsequent to October 31, 2005, we made the second payment of $250,000 under the terms of this further research agreement.

Operating leases:

We had operating lease commitments which expired in 2010 for the lease of our corporate headquarters. We have extended our lease on a month-to-month basis since October 2010.

Consulting and employment contracts:

1. On May 29, 2005, we entered into a new employment agreement with the Chairman of the Board of Directors. The agreement commenced on January 1, 2005 and expires on September 30, 2009. During the year, the Company extended the agreement to December 31, 2010. Under the terms of the agreement, the Chairman of the Board of Directors has been retained to provide certain management services to us. We have agreed to provide compensation based on a percentage of the increase of the market capitalization on a year-over-year basis commencing as of December 31, 2005. This compensation is subject to a minimum annual amount of $150,000 Canadian funds or (approximately $143,877 U.S. funds at current exchange rates). At our option, we can pay either cash or issue common shares as compensation providing that the cumulative maximum number of shares that we can issue under the agreement is 2,000,000 common shares. At October 31, 2010, $143,877 of cash compensation for the 2010 fiscal year has been provided for (2009: $129,149).

2. In May, 2008, we entered into employment agreements with:

   (a) Our President, Joseph Fuda. The employment agreement is for a two-year term at an annual base amount of $160,000 (CDN). Additionally, 100,000 common stock options at an exercise price of $1.60 per share, vesting on a quarterly basis were issued under the terms of the agreement. The contract was extended on a month-to-month basis in May 2010 at the same annual base amount.

   (b) Our Chief Financial Officer, Dan Amadori for a two-year term. The base compensation was $150,000 (CDN). Additionally 100,000 common stock options at an exercise price of $1.50 per share, vesting quarterly, were issued. The contract was extended on a month-to-month basis in May 2010 at the same annual base amount.

   (c) Steven Van Fleet, the President of our U.S. subsidiary, MAST INC. The term of the agreement is for three years and the base amount of remuneration is $180,000 per year. In addition 500,000 stock options at an exercise price of $1.50 per share were issued with a five-year term, vesting in equal quarterly installments from the date of issue.

Other commitments:

1. In 2008, the Company entered into an agreement with a supplier which provides industrial foundry services whereby the Company has committed to pay up to $1 million for production services to be provided through 2009. The Company paid $370,000 to this supplier in 2008, and an additional $400,000 in 2009. No additional expenditures are currently contemplated. In January 2009, the Company received $250,000 of insurance proceeds with respect to a shipment of sample prototype boards that were damaged in transit from the supplier to a sub-contractor. These proceeds have been recorded in the accounts as a reduction of research and development costs incurred in 2009.
2. In July 2009, the Company executed a purchase order for approximately $1 million of services to be provided by a supplier between July 2009 – April 2010. At October 31, 2010, the Company has paid a net total of $373,000 to the supplier. This purchase order was cancelled in October 2010.

Contingencies:

A. 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.

B. Certain interests under the Asset Purchase Agreement with Estancia Limited reverted to Estancia Limited on March 9, 2004. On this basis, to the extent that revenues are generated by us relating directly and specifically to the VEMRAM patents, we

are obligated to pay Estancia Limited 32% of the gross profit realized less expenses agreed to by the parties and 32% of any unit royalties realized less direct expenses.

Translation of Foreign Currencies

Our functional and reporting currency is the United States dollar. Accounts recorded in foreign currency have been converted to United States dollars as follows: Monetary assets and liabilities are translated at exchange rates at the consolidated balance sheet dates; non-monetary assets are translated using the historical rate of exchange in effect at the translation dates;
Revenues and expenses are translated using the 3 month average rate of exchange per quarter, which rate approximates the rate of exchange prevailing at the transaction dates; and gains and losses resulting from the translation are included in the determination of net loss for the period.

ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

A. Directors and Executive Officers

The Directors and Executive Officers of Micromem as at October 31, 2010 are set forth below:

Name	Age	Position
Salvatore Fuda	74	Chairman of the Board of Directors
Joseph Fuda	49	President, Chief Executive Officer and Director
Dan Amadori	59	Chief Financial Officer
Steven Van Fleet	56	Director and President of MAST, Inc.
Andrew Brandt	72	Director
David Sharpless	59	Director
Larry Blue	54	Director
Oliver Nepomuceno	41	Director
Alex Dey	60	Director

Salvatore Fuda has served as Chairman of the Board of Directors of Micromem since January 11, 1999 and a Director of Micromem since 1992. He served as President and Chief Executive Officer from June 2000 through to February 13, 2002. From 1992 to January 11, 1999 he also served as Secretary of Micromem. He served as President and Chief Executive Officer of Ontex Resources Limited (TSE) from 1986 to December 1998 and as Chairman of the Board of Ontex Resources Limited until 2008. He has served as Chairman of the Board of Directors and as a director of Echo Energy Canada Inc. from 2002 - 2009. He also serves as Chairman of the Board of Leader Capital Corp. He is the father of Joseph Fuda.

Joseph Fuda has been President, Chief Executive Officer and Director since February 13, 2002. Previously he served as Manager of Strategic Alliances for Micromem since February 2001. Prior thereto, he served as a consultant to Micromem since November 2000. Prior thereto he served as a Vice-President and a Director of IPO Capital Corp since April 1999. He was a director of Leader Capital Corp. until June 2007 and currently also serves as a director of Echo Energy Canada Inc. and of Echo Power Generational Inc.

Dan Amadori has served as Chief Financial Officer of Micromem since June 2004. He has also served as Chief Financial Officer of Leader Capital from June 2004 – March 2009. He served as a Director and Chair of the Audit Committee of Ontex Resources between September 2003 and March 2005. He served as CFO of Echo Power Generation Inc. from June 2004-March 2008. He served as a director of Hydrive Technologies Inc. from 2004-2008 and a Chair of the Audit Committee of Hydrive from 2006-2008. He is President of Lamerac Financial Corp., a financial advisory firm and has held that position since October 1988. Mr. Amadori is a Chartered Accountant and holds an MBA from the Ivey School of Business.

Steven Van Fleet currently serves as a technology consultant to a number of companies. He was the principal of the R&V Group LLC, an RFID business consulting and technology development company until 1996. Between 1999-2003 he served as Program Director for the Silent Commerce/Smart Packaging Initiative at International Paper Company. From January 1999 to November 1999, he was Program Director for Process and Product Uniformity and from March 1996 to December 1998 he was the Director for Control Systems Development at International Paper in Cincinnati, Ohio. He is also presently on the Board of Overseers for the Massachusetts Institute of Technology Auto ID Center. Mr. Van Fleet has been a director of Micromem since 2002.

Andrew Brandt was Chairman of the Board of Directors and Chief Executive Officer of the Liquor Control Board of Ontario from February 1991 to January 2006. Prior to his appointment to the Liquor Control Board of Ontario, Mr. Brandt served as Leader of the Ontario Progressive Conservative Party from 1987 to 1990. He has previously served as the Minister of Industry and Trade, Minister of Environment and Mayor of Sarnia, Ontario. Mr. Brandt has served as a director of Micromem since June 2000.

David Sharpless is Vice-Chairman of the Board of Directors of HKMB Hub International Limited (formerly Hunter, Keilty, Muntz & Beatty Limited), a Toronto-based property and casualty insurance broker. He was Chairman of the Board of Directors of Hunter, Keilty, Muntz & Beatty Limited prior to its purchase in January 2008 by Hub International Limited a Chicago-based property and casualty insurance broker. He also serves as Chairman of the Board of Directors of Maverick Inc., a family investment and consulting corporation. From 2000 to September 2001, he was President of CIT's Vendor Technology Finance unit. In this capacity, he was responsible for CIT's international vendor finance business, covering CIT's operations in Canada, Europe, Latin America, Asia Pacific and Australia. Prior thereto, Mr. Sharpless was Newcourt Credit Group Inc.'s Deputy Chairman of the Board of Directors and was responsible for international operations for Newcourt Financial. Mr. Sharpless is a graduate of Osgoode Hall Law School and is a member of the bar of Ontario. Mr. Sharpless has served as a director of Micromem since March 2001.

Larry Blue is Vice President and General Manager of Multek Inc., a subsidiary of Flextronics. Previously he was President of Hi-G-Tek Inc. a privately-held technology company based in Maryland. Previously he was the Vice President and General Manager of Symbol Technologies Inc. and was appointed to the Micromem Board of Directors on November 7, 2005. Previously Mr. Blue had senior management roles with Hughes Network Systems and with IBM in Research Triangle Park.

Oliver Nepomuceno has served as a director of Micromem since June 26, 2006. He is a resident of Switzerland and continues to serve as a Financial Advisor and as a member of the Board of Directors of Intel Trust, a private wealth management company located in Switzerland.

Alex Dey is a retired business man and was elected as a director on September 24, 2010. He was the sole proprietor of Alex Dey, Chartered Accountants until July 31, 2004.

There are no arrangements or understandings between any director and any other person pursuant to which the director was selected as a director or executive officer. Each director holds office until the next annual meeting of shareholders or until his or her successor is elected or appointed, unless his or her office is earlier vacated according to the provisions of our By-laws or the *Business Corporations Act* (Ontario).

Other than a father/son relationship between Salvatore Fuda (father) and Joseph Fuda (son), there is no family relationship between any director or executive officer and any other director or executive officer.

B. Compensation

	Annual Compensation			Long-Term Compensation				
				Awards		Payouts		
Name and Principal Position	Fiscal Year	Salary (US$)	Bonus (US$)	Other Annual Compen sation (US$)	Securities Under Options Granted (#)	Restricted Shares or Restricted Share Units ($)	Long Term Incentive Plan Payouts ($)	All other Compensation ($)
Joseph Fuda Chief Executive Officer	2009 2010	160,266 160,000	-	-	150,000 [1] 1,450,000 [3]	-	-	-

Salvatore Fuda, Chairman of the Board of Directors Former Chief Executive Officer and President	2009 2010	129,149 150,000	- -	- -	150,000 [1] -	- -	- -	- -	
Andrew Brandt Director	2009 2010	- -	- -	- -	110,000 [1] -	- -	- -	- -	
David Sharpless Director	2009 2010	- -	- -	- -	110,000 [1] -	- -	- -	- -	
Steven Van Fleet Director	2009 2010	181,375 180,000	- -	- -	150,000 [1] 300,000 [3]	- -	- -	- -	
Dan Amadori Chief Financial Officer [6]	2009 2010	154,785 150,000	- -	- -	150,000 [1] 177,199 [3]	- -	- -	- -	
Larry Blue Director	2009 2010	- -	- -	- -	110,000 [1] 100,000 [3]	- -	- -	- -	
Henry Dreifus Director	2009	351,096 [2] -	- -	- -	- -	- -	- -	- -	
Oliver Nepomuceno Director	2009 2010	- -	- -	- -	100,000 [1] -	- -	- -	- -	
Alex Dey Director	2010	-	-	-	-	-	-	-	

Notes:

1. Each option entitled the holder to purchase one of our common shares at a price of $1.00 per share prior to expiry on August 10, 2014.
2. These payments were made to Dreifus Associates Limited (DAL) for consulting services provided. Mr. Dreifus did not stand for reelection to the Board of Directors in June 2009.
3. During the year ended October 31, 2010 these options were extended for a period of 12 months. The exercise price remains unchanged.

Directors do not receive cash compensation for serving as directors. Instead they have been awarded stock options over the years. These options are set at each annual meeting and approved by the shareholders. None of the non-employee directors have agreements that provide for benefits upon termination of service.

We have adopted a stock option plan. Options are offered to directors, executive officers and employees to purchase our common shares at an exercise price equal to or above the market price for the common shares at the date that the options are granted.

In 2009, we issued 1,345,000 options to officers, directors and employees at an exercise price of $1.00 per share expiring in August 2014 if unexercised. None of these options have as yet been exercised.

In 2010 we did not issue any options to officers, directors or employees. We extended the term by one year of a total of 2,027,199 options which were due to expire in 2010.

C. Board Practices

Our Board of Directors meets on an as required basis during the fiscal year. In 2010 our Board of Directors met formally on September 24, 2010.

Our Audit Committee met on a quarterly basis during fiscal 2010 for the purpose of approving the quarterly financial statements. In addition, our Audit Committee receives regular periodic reports from management.

All matters pertaining to our financing, contractual arrangements and Board of Directors and management compensation are approved by the Board of Directors. All Board of Directors meeting minutes and directors resolutions are maintained on an up-to-date basis.

Our Compensation Committee met as required in 2010. Our Compensation Committee approves management compensation and all stock option grants for recommendation to the Board of Directors.

Our Disclosure Committee met as required in 2010 to review our various press release disclosures and to monitor our general practices relating to our disclosure requirements.

The members of the Board of Directors are appointed to a one-year term at our annual meeting.

Audit Committee

The Board of Directors has appointed an Audit Committee consisting of three independent directors. The members of the Audit Committee are Andrew Brandt, Oliver Nepomuceno and David Sharpless (Chairman) each of whom shall serve in such capacity until the Board of Directors' next annual meeting. The Audit Committee is responsible for the integrity of our internal accounting and control systems. The committee receives and reviews our financial statements and makes recommendations thereon to the Board of Directors prior to its approval by the full Board of Directors. The Audit Committee communicates directly with our external auditors in order to discuss audit and related matters whenever appropriate. In 2010 the Audit Committee met on February 4, 2010, March 26, 2010, June 22, 2010 and September 28, 2010.

Compensation Committee

The Board of Directors has appointed a Compensation Committee. Our executive compensation is administered by the Compensation Committee which meets on executive compensation matters as and when required. Our Compensation Committee includes Andrew Brandt, an outside director as Chairman, Oliver Nepomuceno and Alex Dey, as outside directors.

Disclosure Committee

The Board of Directors has appointed a Disclosure Committee whose primary responsibility is to ensure timely and accurate disclosure of all relevant information in accordance with the various securities regulations. Our Disclosure Committee includes Larry Blue, an outside director, who serves as Chairman, David Sharpless, an outside director (and Chair of our Audit Committee), Steven Van Fleet, Director (and President of our wholly owned subsidiary, MAST Inc.) and Jason Baun, the Company's Chief Information Officer.

D. Employees

We have nine employees, four of which serve in a management capacity and five serve in an administrative capacity. This includes the Chief Executive Officer and President, the Chief Financial Officer and President of our wholly-owned subsidiary MAST INC., our Chief Information Officer and five support staff, all (except for the President of MAST INC.) of whom work from our executive offices in Toronto, Canada. All research and development is outsourced to third parties.

We consider our relations with our employees to be satisfactory. We had seven employees as of October 31, 2010, 2009 and 2008.

E. Share Ownership

NAME	SHARES OWED	OPTIONS HELD	OPTION EXERCISE PRICE	EXPIRY DATE	% OF TOTAL [1]
Joseph Fuda Chief Executive Officer and Director	191,500	1,450,000 900,000 100,000 150,000	$0.72 $0.80 $1.50 $1.00	05/27/2011 07/6/2011 08/28/2013 08/25/2014	2.65% (2,791,500)
Salvatore Fuda Chairman of the Board of Directors and Director	1,215,000[2]	1,000,000 150,000	$0.80 $1.00	07/6/2011 08/25/2014	2.24% (2,365,000)
Henry Dreifus Former Director	—	200,000	$1.50	08/28/2013	0.19% (200,000)
Andrew Brandt Director	110,000	290,000 85,000 110,000	$0.80 $1.50 $1.00	7/6/2011 08/28/2013 08/25/2014	0.56% (595,000)
David Sharpless Director	100,000	300,000 75,000 85,000 110,000	$0.80 $1.01 $1.50 $1.00	7/6/2011 03/03/2013 08/28/2013 08/25/2014	0.64 % (670,000)
Steven Van Fleet Director	-	350,000 300,000 300,000 100,000 500,000 150,000	$0.36 $0.72 $0.80 $1.01 $1.50 $1.00	4/15/2012 5/27/2011 7/6/2011 03/03/2013 28/28/2013 08/25/2014	1.61 % (1,700,000)
Dan Amadori Chief Financial Officer	326,801	177,199 400,000 100,000 150,000	$0.72 $0.80 $1.50 $1.00	5/27/2011 7/6/2011 08/28/2013 8/25/2014	1.10 % (1,154,000)
Jason Baun Investor Relations	-	200,000 100,000 15,000 80,000	$0.80 $0.60 $1.50 $1.00	7/6/2011 10/25/2012 08/28/2013 08/25/2014	0.50% (395,000)
Larry Blue Director	200,000	100,000 300,000 75,000 85,000 110,000	$0.60 $0.80 $1.01 $1.50 $1.00	11/3/2011 7/6/2011 03/03/2013 08/28/2013 08/25/2014	0.83% (870,000)
Oliver Nepomuceno Director	953,572	300,000 75,000 75,000 100,000	$0.80 $1.01 $1.50 $1.00	7/6/2011 03/03/2013 08/28/2013 08/25/2014	1.43% (1,503,572)
Alex Dey Director	-	-	-	-	-

[1] Calculated based on shares owned plus options held as a percentage total of shares outstanding as of October 31, 2010, plus options held.
[2] These shares are held by a corporation wholly owned by a trust established for the benefit of members of Salvatore Fuda's family.

ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

A. Major Shareholders

No shareholder holds greater than 5% of the common shares outstanding. As of the date of this Annual Report approximately 60% (55,835,440) of the issued, outstanding common shares are held by Canadian investors and approximately 30% (29,651,423) of the issued and outstanding shares are held by U.S. investors and approximately 10% (9,837,648) held outside of Canada and the U.S..

B. Other Related Party Transactions

In June 2008, we entered into a six-month agreement with Dreifus Associates Limited (DAL) whose major shareholder is Henry Dreifus, was a Director of the Company until June 2009. DAL provided a wide range of technical and business development support to the Company. Our monthly cost under the agreement was approximately $40,000. In addition, we granted Henry Dreifus 350,000 stock options at an exercise price of $1.20 per share in March 2008 coincident with his appointment as a Director. 275,000 of these options vested at issue date, the balance vests in three equal quarterly installments of 25,000 options commencing in June 2008. These options expired unexercised in August 29, 2009, 45 days after Mr. Dreifus stepped down as a director. In August 2008, we issued 200,000 stock options to Mr. Dreifus at our exercise price of $1.50 per share expiring in August 2013 if unexercised. These options vest only when the Company has achieved certain revenue milestones. DAL continues to provide services to the Company in 2010 after Mr. Dreifus resigned as a director. In September 2010 the Company issued 192,307 common shares to settle $50,000 of balances due to DAL for services rendered. At October 31, 2010 the remaining balance payable to DAL is approximately $142,000.

Transactions With Related Parties, Directors & Officers

The Company has paid cash and non-cash compensation to its officers and directors during the 2010 and 2009 fiscal years as follows:

		Cash Compensation	Non-Cash Compensation
Chairman	2009	$ 129,149	$101,760
	2010	143,877	-
Officers and Directors	2009	$ 625,576	407,040
	2010	621,223	95,038

ITEM 8. FINANCIAL INFORMATION

A. Consolidated Statements and Other Financial Information

See “Item 17 — Financial Statements.”

We have never paid a dividend on our securities. We do not anticipate paying dividends in the foreseeable future.

As of October 31, 2010 and as of February 28, 2010 there are no legal proceedings outstanding.

B. Significant Changes

Since October 31, 2010 the Company has raised an additional $503,145 through Unit private placement financings. There has been no other significant change in our financial position since October 31, 2010.

ITEM 9. THE OFFER AND LISTING

The table below sets forth the high and low sales prices for common shares in U.S. Dollars as reported for the periods specified. Our fiscal year ends October 31. Our common shares are traded in Canada on the CNSX under the symbol MRM.

Our common shares are traded in the United States and are quoted on the OTC Bulletin Board. The common shares are quoted under the symbol MMTIF.OTCBB.

Period	High	Low
Last six months:		
February 2011	0.22	0.18
January 2011	0.25	0.18
December 2010	0.25	0.15
November 2010	0.34	0.1901
October 2010	0.35	0.1750
September 2010	0.28	0.19
Last eight quarters:		
Q1 2011	0.32	0.15
Q4 2010	0.35	0.175
Q3 2010	0.40	0.135
Q2 2010	0.55	0.4008
Q1 2010	0.65	0.50
Q4 2009	1.25	0.67
Q3 2009	1.60	0.81
Q2 2009	1.75	0.70
Last five years:		
2010	-	-
2009	1.75	0.51
2008	2.60	0.31
2007	0.85	0.35
2006	1.33	0.43

On February 24, 2010, the last reported sale price for our common shares on the OTC Bulletin Board was $0.21.

ITEM 10. ADDITIONAL INFORMATION

A. Share Capital

Our authorized capital consists of an unlimited number of common shares, of which 95,324,511 shares were issued and outstanding as of October 31, 2010, and 2,000,000 special, redeemable, voting preference shares, referred to herein as special shares, none of which were outstanding, as of October 31, 2010.

Additionally the Company has 10,022,199 stock options outstanding with a weighted average exercise price of $.89 (2009: 10,022,199 options outstanding with a weighted average exercise price of $.89) and a total of 6,198,887 outstanding warrants to acquire common shares with a weighted average exercise price of $.51 (2009: 3,416,865 outstanding warrants with a weighted average exercise price of $.82).

B. Memorandum and Articles of Incorporation

Articles of Incorporation
Incorporation Details and Objects of Micromem Technologies Inc.

Micromem Technologies Inc. was incorporated under the laws of the Province of Ontario, Canada, on October 21, 1985 as Mine Lake Minerals Inc. We subsequently changed our name to Avanti Capital Corp. by filing Articles of Incorporation of Amendment on June 23, 1988 and to AvantiCorp International Inc. on April 30, 1992 before becoming Micromem Technologies Inc. on

January 14, 1999. The Articles of Incorporation of Incorporation place no restrictions on the nature of the business to be carried on by Micromem.

Summary of Directors Powers and Authorities

The rights, duties, powers and authorities of our Board of Directors are set out in the Articles of Incorporation and By-laws and the statutory provisions of the *Business Corporations Act* (Ontario). The following is a selected summary of the Articles of Incorporation, By-laws and applicable provisions of the Business Corporations Act (Ontario) as they relate to selected rights, duties, powers and authorities of our Board of Directors.

The Articles of Incorporation provide for a minimum of three and a maximum of 12 directors. The Business Corporations Act (Ontario) prescribes that an offering corporation must have a minimum of three directors, a majority of whom are Canadian residents and at least one third of whom are not officers or employees of us or our affiliates. The Board of Directors may, between annual shareholders meetings, appoint one or more additional directors to serve until the next annual shareholders meeting provided that the number of directors so added may not exceed by one-third (1/3) the number of directors required to have been elected at the last annual meeting of shareholders.

The Chairman of the Board of Directors or any one director may call a meeting upon the provision of forty-eight hours notice to each director in the manner prescribed in our By-laws. Any such notice shall include the items of business to be considered at the meeting. A majority of the directors constitute a quorum provided that half of those directors present are Canadian residents. Business cannot be transacted without a quorum. A quorum of directors may vote on any matter of business properly brought before the meeting provided that where a director is a party to a material contract or proposed material contract or has a material interest in the matter to be considered, such director must disclose his or her interest at the earliest possible date, request the conflict be noted in the minutes of the meeting, and with a few limited exceptions enumerated in the By-laws, refrain from voting on the matter in which the director has a material interest. There is no limitation on the Board of Directors to vote on matters of their remuneration provided such remuneration is disclosed in the financial statements and annual shareholder proxy materials.

The Board of Directors has broad borrowing powers and may, without authorization from the shareholders:

- borrow money on the credit of Micromem;
- issue, re-issue, sell or pledge debt obligations of Micromem;
- subject to restrictions respecting financial assistance prescribed in the Business Corporations Act (Ontario), give a guarantee on behalf of Micromem to secure the performance of an obligation of any person; and
- mortgage, hypothecate, pledge or otherwise create a security interest in all or any property of Micromem, owned or subsequently acquired, to secure any obligation of Micromem.

A person is qualified to be or stand for election as a director provided such person is at least 18 years of age, is not a bankrupt and is not found to be of unsound mind by a court in Canada or elsewhere. There is no requirement for a director to hold common shares.

Securities of Micromem

Holders of our common shares will be entitled to receive notice of, attend and vote at all meetings of the shareholders of Micromem. Each common share carries one vote at such meetings. In the event of the voluntary or involuntary liquidation, dissolution or winding-up of Micromem, after payment of all outstanding debts, the remaining assets of Micromem available for distribution will be distributed to the holders of our common shares. Dividends may be declared and paid on our common shares in such amounts and at such times as the directors shall determine in their discretion in accordance with the Business Corporations Act (Ontario). There are no pre-emptive rights, conversion rights, redemption provisions or sinking fund provisions attaching to the common shares. Common shares are not liable to further calls or to assessment by Micromem; provided, however, that pursuant to the provisions of the Business Corporations Act (Ontario), Micromem has a lien on any common share registered in the name of a shareholder or the shareholder's legal representative for a debt owed by the shareholder to Micromem.

Holders of special shares are entitled to receive notice of, attend and vote at all meetings of the shareholders of Micromem. Each special share carries one vote at such meetings. In the event of the voluntary or involuntary liquidation, dissolution or winding-up of Micromem, after payment of all outstanding debts, the holders of the special shares shall be entitled to receive, before any distribution of any part of the assets of Micromem among the holders of any other shares, the amount paid up on the special shares. The special shares are redeemable at the option of Micromem for the amount paid up on the shares. Dividends may not be declared or paid on the special shares and transfer of the Special Shares is restricted without the approval of the Directors of Micromem and the prior written consent of the Ontario Securities Commission. The number of special shares that may be issued and outstanding at any time is limited to 500,000. There are no pre-emptive rights, conversion rights or sinking fund provisions attaching to the special shares. Special shares are not liable to further calls or to assessment by Micromem; provided, however, that pursuant to the provisions of the Business Corporations Act (Ontario), Micromem has a lien on any special shares registered in the name of a shareholder or the shareholder's legal representative for a debt owed by the shareholder.

Rights and Privileges of Shareholders

Only the registered holders of our common shares and special preference shares on the record date are entitled to receive notice of and vote at annual and special meetings of shareholders. Where the items of business affect the rights of shareholders other than the holders of common shares, a special majority of two-thirds of the votes cast by the affected shareholders at the meeting called for such purpose is required to approve the item of business. Beneficial holders of common shares and special shares are also entitled to receive proxy materials in respect of meetings of shareholders in accordance with Canadian Securities Administrators National Instrument 54-101, provided that such proxies are limited in scope to instructing the registered shareholder (usually a brokerage house) on how to vote on behalf of the beneficial shareholder. There are no restrictions on the number of shares that may be held by non-residents other than restrictions set out in the *Investment Canada Act* (Canada). See "Additional Information - D. Exchange Controls".

There are no provisions in the By-laws regarding public disclosure of individual shareholdings. Notwithstanding this, applicable Canadian securities legislation requires certain public disclosure of persons owning or acquiring common shares in excess of 10% of a corporation's issued and outstanding share capital.

C. Material Contracts

1. On May 29, 2005, we entered into an employment agreement with Mr. Salvatore Fuda, the Chairman of the Board of Directors. The agreement commenced on January 1, 2005 and ending on September 30, 2009. In 2009 the contract was extended for an additional one year through December 2010. Under the terms of the agreement, the Chairman of the Board of Directors has been retained to provide certain management services. We have agreed to provide compensation based on a percentage of the increase of the market capitalization on a year-over-year basis commencing as of December 31, 2005 subject to a minimum annual compensation amount of $150,000 (CDN) – approximately $143,877 in U.S. dollars at average exchange rates. At our option, we can pay either cash or issue common shares as compensation providing that the cumulative maximum number of shares that we can issue under the agreement is 2 million common shares. In January 2011, the Company extended the contract on a month to month basis at a rate of $12,500 Canadian funds per month (approximately $12,500 in US dollars at current exchange rates) and has eliminated the incentive based compensation component which was reflected in the original contract.

2. In June 2008, we entered into a six-month agreement with Dreifus Associates Limited (DAL) whose major shareholder Henry Dreifus, was a Company director. DAL has provided a range of technical and business development support to the Company. Our monthly cost under the contract was approximately $40,000. In addition, we granted Henry Dreifus 350,000 stock options at an exercise price of $1.20 per share in March 2008 coincident with his appointment as a Director of the Company. 275,000 of these options vested at issue date, the balance vests in 3 equal quarterly installments of 25,000 options commencing in June 2008. These options expired in August 2009, 45 days after Mr. Dreifus did not stand for reelection as a director. In August 2008, we issued 200,000 stock options to Henry Dreifus at an exercise price of $1.50 per share expiring in August 2013 if unexercised. These options vest only when the Company has achieved certain revenue milestones. DAL continues to provide services to the Company in 2010 after Mr. Dreifus resigned as a director. In September 2010 the Company issued 192,307 common shares to settle $50,000 of balances due to DAL for services rendered. At October 31, 2010 the remaining balance payable to DAL is approximately $115,000.

3. In May 2008 the Company executed the following employment contracts with key officers:

1. A two-year agreement through May 2010 with its President, Mr. Joseph Fuda, stipulating annual base remuneration of $160,000 ($CDN) per year. In addition, 100,000 common stock options were awarded at a exercise price of $1.50 per share vesting in 25,000 share installments over four quarters commencing in August 2008 and expiring in August 2013 if unexercised. The contract was extended on a month-to-month basis in May 2010 stipulating the same annual base remuneration amount.

2. A two-year agreement through May 2010 with its CFO, Mr. Dan Amadori stipulated annual base remuneration at $150,000 (CDN) per year. In addition100,000 common stock options were awarded at a exercise price of $1.50 per share vesting in 25,000 share installments over four quarters commencing in August 2008 and expiring in August 2013 if unexercised. The contract was extended on a month-to-month basis in May 2010 stipulating the same annual base remuneration amount.

3. A three-year agreement through May 2011 with the President of its wholly-owned subsidiary, MAST INC., Mr. Steven Van Fleet, who is also a director of the Company. The agreement stipulates annual base remuneration of $204,000 per year. In addition, 500,000 common stock options at a price of $1.50 per share were awarded vesting in 125,000 share installments over four quarters commencing in August 2008 and expiring in August 2013 if unexercised.

4. In September 2008, the Company entered into a 12 month agreement with the Investor Relations Group (IRG) of New York City. Under the terms of the contract, the Company pays a monthly amount of $13,500 in cash and issues 25,000 common shares to IRG monthly. In May 2009, the Company renegotiated the monthly compensation to $7,500 in cash and 2,500 common shares for the balance of the agreement. The agreement was not renewed in September 2009.

5. In August 2009, the Company executed a promissory note with Unotron Inc. The promissory note is in the principal amount of $200,000, bears interest at a rate of 10% payable quarterly and is secured by a first lien on the assets of Unotron. The promissory note matured on September 30, 2010 and remains unpaid at February 14, 2011. The Company is currently negotiating revised payment terms.

6. Unotron Inc. and Micromem entered into a manufacturing agreement in 2009 that requires Micromem to develop a magnetic sensor based keyboard substrate that is to be integrated into Unotron's waterproof and washable keyboards. These keyboards can be placed within a commercial dishwasher to prevent diseases from being transmitted on the keyboard. In 2009, Micromem designed, manufactured, tested and delivered the initial volume of keyboards to Unotron in Hong Kong. See Research and Development Efforts, page 16-17 for a discussion of developments during 2010.

7. In 2009 Micromem and LifeMed Technologies Inc. entered a manufacturing agreement pursuant to which we received a $30 million purchase order. Under the terms of the agreement, Micromem would design and manufacture prototypes, submit and obtain FDA 510(K) approval and manufacture a medical device that incorporates our magnetic sensor technology. The medical device is designed to provide early detection of abnormalities in women's breasts. See Research and Development Efforts, page 16-17 for a discussion of developments during 2010.

D. Exchange Controls

As of the date hereof, we are not aware of any governmental laws, decrees or regulations in Canada that restrict the export or import of capital, including, but not limited to, foreign exchange controls, or that affect the remittance of dividends or other payments to nonresident holders of our common shares.

We are not aware of any limitations under the laws of Canada or the Province of Ontario, or in the Articles of Incorporation or any other of our constituent documents on the right of nonresidents of Canada or persons who are not Canadian citizens to hold and/or vote common shares.

E. Taxation

Certain Canadian Income Tax Consequences

This discussion under this heading summarizes the principal Canadian federal income tax consequences of acquiring, holding and disposing of common shares for a shareholder who is not a resident of Canada but is a resident of the United States and who will acquire and hold a common share as capital property for the purposes of the Income Tax Canada, also referred to as the Canadian Tax Act. This summary does not apply to a shareholder who carries on business in Canada through a permanent establishment situated in Canada or performs independent personal services in Canada through a fixed base in Canada if the shareholder is effectively connected with such permanent establishment or fixed base. This summary is based on the provisions of the Canadian Tax Act and the regulations there under and on an understanding of the administrative practices of Canada Customs & Revenue Agency, and takes into account all specific proposals to amend the Canadian Tax Act or regulations made by the Minister of Finance of Canada as of the date hereof. It has been assumed that there will be no other relevant amendments of any governing law although no assurance can be given in this respect. This discussion is general only and is not a substitute for independent advice from a shareholder's own Canadian and US tax advisors.

The provisions of the Canadian Tax Act are subject to income tax treaties to which Canada is a party, including the Canada-United States Income Tax Convention (1980), as amended.

Dividends on common shares and Other Income

Under the Canadian Tax Act, a non-resident of Canada is generally subject to Canadian withholding tax at the rate of 25 percent on dividends paid or deemed to have been paid to him or her by a corporation resident in Canada. We are responsible for the withholding of tax at the source. The Canada-United States Income Tax Convention (1980) limits the rate to 15 percent if the shareholder is a resident of the United States and the dividends are beneficially owned by and paid to such shareholder, and to 5 percent if the shareholder is also a corporation that beneficially owns at least 10 percent of the voting stock of the payor corporation.

The amount of a stock dividend (for tax purposes) would generally be equal to the amount of our paid up or stated capital and increased by reason of the payment of such dividend. We will furnish additional tax information to shareholders in the event of such a dividend. Interest paid or deemed to be paid on our debt securities held by non-Canadian residents may also be subject to Canadian withholding tax, depending upon the terms and provisions of such securities and any applicable tax treaty.

The Canada-United States Income Tax Convention (1980) generally exempts from Canadian income tax dividends paid to a religious, scientific, literary, educational or charitable organization or to an organization constituted and operated exclusively to administer a pension, retirement or employee benefit fund or plan, if the organization is a resident of the United States and is exempt from income tax under the laws of the United States.

Dispositions of Common Shares

Under the Canadian Tax Act, a non-resident of Canada is subject to Canadian tax on taxable capital gains, and may deduct allowable capital losses, realized on a disposition of "taxable Canadian property". common shares will constitute taxable Canadian property of a shareholder at a particular time if the shareholder used the shares in carrying on business in Canada, or if at any time in the five years immediately preceding the disposition 25 percent or more of the issued shares of any class or series in the capital stock of Micromem belonged to one or more persons in a group comprising the shareholder and persons with whom the shareholder did not deal at "arm's length" and in certain other circumstances.

The Canada-United States Income Tax Convention (1980) relieves United States residents from liability for Canadian tax on capital gains derived on a disposition of shares unless:

the value of the shares is derived principally from "real property" in Canada, including the right to explore for or exploit natural resources and rights to amounts computed by reference to production, the shareholder was resident in Canada for 120 months during any period of 20 consecutive years preceding, a and at anytime during the 10 years immediately preceding, the disposition and the shares were owned by them when they ceased to be resident in Canada, or the shares formed part of the business property of a "permanent establishment" that the holder has or had in Canada within the 12 months preceding the disposition.

Certain United States Federal Income Tax Consequences

The following is a general summary of certain United States federal income tax consequences, under current law, generally applicable to a US Holder (as defined below). This summary does not address all potentially relevant United States federal income tax matters and it does not address consequences peculiar to persons subject to special provisions of United States federal income tax law, such as those described below as excluded from the definition of a US Holder. United States alternative minimum tax considerations are not addressed in this summary. In addition, this summary does not cover any state, local or foreign tax consequences, nor any U.S. federal gift, estate or generation-skipping transfer tax consequences. (Certain, but not all, foreign tax consequences are described above under "Taxation - Certain Canadian Income Tax Consequences.")

The following summary is based upon the Internal Revenue Code of 1986, as amended (the "Code"), Treasury Regulations, published Internal Revenue Service ("IRS") rulings, published administrative positions of the IRS, and court decisions that are currently applicable, any of which could be materially and adversely changed, possibly on a retroactive basis, at any time. This summary does not consider the potential effects, both adverse and beneficial, of any recently proposed legislation which, if enacted, could be applied (possibly on a retroactive basis) at any time (including, without limitation, changes in applicable tax rates).

This summary is for general information only and it is not intended to be, nor should it be construed to be, legal or tax advice to any holder or prospective holder of common shares, and no opinion or representation with respect to the United States federal income tax consequences to any such holder or prospective holder is made. Accordingly, holders and prospective holders of common shares should consult their own tax advisors about the federal, state, local, and foreign tax consequences of purchasing, owning and disposing of common shares of the Company.

CIRCULAR 230 DISCLOSURE

ANY TAX STATEMENT MADE HEREIN REGARDING ANY U.S. FEDERAL TAX IS NOT INTENDED OR WRITTEN TO BE USED, AND CANNOT BE USED, BY ANY TAXPAYER FOR PURPOSES OF AVOIDING ANY PENALTIES. ANY SUCH STATEMENT HEREIN IS WRITTEN IN CONNECTION WITH THE MARKETING OR PROMOTION OF THE TRANSACTION TO WHICH THE STATEMENT RELATES. EACH TAXPAYER SHOULD SEEK ADVICE BASED ON THE TAXPAYER'S PARTICULAR CIRCUMSTANCES FROM AN INDEPENDENT TAX ADVISOR.

US Holders

As used herein, a "US Holder" means an owner of common shares who is a citizen or individual resident (as defined under United States tax laws) of the United States; a corporation or other entity taxable as a corporation created or organized in or under the laws of the United States or of any political subdivision thereof; an estate the income of which is taxable in the United States irrespective of source; or a trust if (a) a court within the United States is able to exercise primary supervision over the trust's administration and one or more United States persons have the authority to control all of the substantial decisions of the trust or (b) the trust was in existence on August 20, 1996 and has properly elected to continue to be treated as a United States person. This summary does not address the tax consequences to, and "US Holder" does not include, tax-exempt persons or organizations; qualified retirement plans, individual retirement accounts and other tax-deferred accounts; financial institutions; insurance companies; real estate investment trusts; regulated investment companies; entities subject to the U.S. corporate conversion rules; broker-dealers; U.S. tax expatriates; non-resident alien individuals or entities; persons or entities that have a "functional currency" other than the US dollar; persons who hold common shares as part of a straddle, hedging or conversion transaction; and persons who acquire their common shares as compensation for services. This summary is limited to US Holders who own common shares as capital assets and who hold the common shares directly (e.g., not through an intermediary entity such as a corporation, partnership, LLC or trust). This summary does not address the consequences to a person or entity of the ownership, exercise or disposition of any options, warrants or other rights to acquire common shares.

Distributions to US Holders Who Own Common Shares

Subject to the discussion below concerning the potential status of the Company (or any of its subsidiaries that are classified as corporations for United States federal income tax purposes ("Related Entities")) as a "passive foreign investment company" ("PFIC"), the gross amount of any distribution by the Company (including any Canadian taxes withheld therefrom) with respect to common shares generally should be included in the gross income of a US Holder as foreign source dividend income to the extent

such distribution is paid out of current or accumulated earnings and profits of the Company, as determined under United States federal income tax principles. To the extent that the amount of any distribution exceeds the Company's current and accumulated earnings and profits in that taxable year, the distribution is treated as a tax-free return of capital to the extent of the US Holder's adjusted tax basis in the common shares. Thereafter, to the extent that such distribution exceeds the US Holder's adjusted tax basis in the common shares, it is taxed as a capital gain.

Dividends received by non-corporate US Holders may be subject to United States federal income tax at lower rates (generally 15%) than other types of ordinary income in taxable years beginning on or before December 31, 2012, if certain conditions are met. These conditions include neither the Company nor a Related Entity being classified as a PFIC (discussed below), the Company being a "qualified foreign corporation", the US Holder's satisfaction of a holding period requirement, and the US Holder not treating the distribution as "investment income" for purposes of the investment interest deduction rules.

In the case of US Holders that are corporations, distributions from the Company generally are not eligible for the dividends received deduction.

Dispositions of Common Shares of the Company

Subject to the discussion below regarding PFICs, gain or loss, if any, realized by a US Holder on the sale or other disposition of common shares generally is subject to United States federal income taxation as capital gain or loss in an amount equal to the difference between the US Holder's adjusted tax basis in the common shares and the amount realized on the disposition. Net capital gain (i.e., capital gain in excess of capital loss) recognized by a non-corporate US Holder upon a sale or other disposition of common shares that have been held for more than one year is generally subject to a maximum United States federal income tax rate of 15%, under present law. Deductions for capital losses are subject to limitations.

US Anti-Deferral Regimes

There are two regimes applicable to foreign corporations under United States federal income tax law that potentially may apply to the Company - the "controlled foreign corporation" ("CFC") regime and the PFIC regime.

Generally, a foreign corporation is not a CFC unless more than fifty percent (by vote or value) of its stock is owned by "U.S. Shareholders" (generally, United States persons who have ten percent or more of the votes of the foreign corporation). This classification generally results in the inclusion of certain income of the CFC in the U.S. Shareholders' income as a deemed dividend. If the Company were a CFC, the United States federal tax consequences summarized herein could be materially and adversely different.

PFIC status is not conditioned on a certain level of ownership of the foreign corporation by United States persons, however. The Company or any Related Entity would be considered a PFIC if during any taxable year, 75% or more of its gross income consists of certain types of "passive" income, or if the average value during a taxable year of its "passive assets" (generally, assets that generate passive income) is 50% or more of the average value of all assets held by it. Passive income generally includes items such as dividends, interest, rents and royalties, although there are various "look through" rules that treat dividends from related persons, for example, as non-passive under certain conditions.

If the Company is classified as a PFIC, a US Holder is subject to increased United States federal income tax liability in respect of gain recognized on the disposition of his, her or its common shares or upon the receipt of certain distributions, unless such person makes a "qualified electing fund" election to be taxed currently on his, or her or its *pro rata* portion of the Company's income and gain (whether or not such income or gain is distributed in the form of dividends or otherwise), and the Company provides certain annual statements which include the information necessary to determine inclusions and assure compliance with the PFIC rules. As an alternative to the foregoing rules, a US Holder may make a "mark-to-market" election to include in income each year as ordinary income an amount equal to the increase in value of his, her or its common shares for that year or to claim a deduction for any decrease in value (but only to the extent of previous mark-to-market gains).

The CFC and PFIC rules are very complex. The Company offers no opinion or representations as to its status as a CFC or PFIC for the current or any prior or future tax years. US Holders should consult their own U.S. tax advisors with respect to the CFC and PFIC issues and their applicability to such Holder's particular situation.

Foreign Tax Credit

A US Holder who pays (or has withheld from distributions) Canadian income tax with respect to the ownership or disposition of the common shares may be entitled, at the option of the US Holder, to either a deduction or a tax credit for such foreign tax paid or withheld. Generally, it will be more advantageous to claim a credit because a credit reduces United States Federal income taxes on a dollar-for-dollar basis, while a deduction merely reduces the taxpayer's income subject to tax. This election is made on a year-by-year basis and applies to all foreign taxes paid by (or withheld from) the US Holder during that year.

There are significant and complex limitations that apply to the credit, among which is the general limitation that the credit cannot exceed the proportionate share of the US Holder's United States Federal income tax liability that the US Holder's foreign source income bears to his or its worldwide taxable income. In the determination of the application of this limitation, the various items of income and deduction must be classified into foreign and domestic sources. Complex rules govern this classification process. In addition, this limitation is calculated separately with respect to specific "baskets" of income. Foreign taxes assigned to a particular basket generally cannot offset United States tax on income assigned to another basket. Unused foreign tax credits can generally be carried back one year and carried forward ten years. **The availability of the foreign tax credit and the application of the limitations on the credit are fact specific and US Holders should consult their own U.S. tax advisors regarding their ability to utilize foreign tax credits in light of their individual circumstances.**

Currency Fluctuations

For United States federal income tax purposes, the amount received by a US Holder as payment with respect to a distribution on, or disposition of common shares, if paid in Canadian dollars, is the US dollar value at the date of the payment, regardless of whether the payment is later converted into US dollars. In such case, the US Holder may recognize additional ordinary income or loss as a result of currency fluctuations between the date on which the payment is made and the date the payment is converted into US dollars.

F. Dividends and Paying Agents

Not applicable.

G. Statement by Experts

Not Applicable.

H. Documents on Display

We have filed the documents referred to herein and other information with the SEC, the Ontario Securities Commission and the Alberta Securities Commission. You may inspect and copy such material at the public reference facilities maintained by the SEC 100 F Street, N.E., Washington, D.C. 20549. You may also obtain copies of such material from the SEC at prescribed rates by writing to the Public Reference Section of the SEC, 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the public reference rooms.
The SEC maintains an Internet website at www.sec.gov that contains reports, proxy statements, information statements and other material that are filed through the SEC's Electronic Data Gathering, Analysis and Retrieval ("EDGAR") system. Documents filed with the Ontario Securities Commission and the Alberta Securities Commission can be accessed through an Internet website at www.sedar.com that contains reports, proxy statements, information statements and other material that are filed through the System for Electronic Document Analysis and Retrieval ("SEDAR").
Additional information is also available on our website at www.micromeminc.com. Such information on our website is not part of this Form 20-F.

I. Subsidiary Information

Not Applicable.

ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not Applicable.

ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES

Not Applicable.

PART II

ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES

Not Applicable.

ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS

None.

ITEM 15. CONTROLS AND PROCEDURES

Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer, evaluated the effectiveness of our disclosure controls and procedures (as defined in Rules 13a-15(e) and 15d-15(e) under the Securities Exchange Act of 1934, as amended, referred to herein as the "Exchange Act") as of October 31, 2010. Based on management's evaluation in 2010, our Chief Executive Officer and Chief Financial Officer concluded that, as of October 31, 2010, our disclosure controls and procedures, were effective in that they were designed to ensure that information required to be disclosed by us in our reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures are designed to ensure that information required to be disclosed by the Company in our reports that we file or submit under the Exchange Act are recorded, processed, summarized and reported within the time periods specified in the SEC rules and forms. Exchange Act Rule 13a-15(e) also states that disclosure controls and procedures are designed to ensure that information required to be disclosed by an issuer in the reports that it files or submits under the Act is accumulate and communicated to the issuer's management, including its principal executive and principal financial officers, or person performing similar functions, as appropriate to allow timely decisions regarding required disclosure.

Management's Annual Report on Internal Control Over Financial Reporting

Micromem's Board of Directors and executive management are responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control system was designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation and fair presentation of its published consolidated financial statements.

All internal control systems no matter how well designed have inherent limitations. Therefore, even those systems determined to be effective may not prevent or detect misstatements and can provide only reasonable assurance with respect to financial statement preparation and presentation. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Our Chief Executive Officer and Chief Financial Officer assessed the effectiveness of Micromem's internal control over financial reporting as of October 31, 2010. In making this assessment, they used the criteria established in Internal Control – Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). Based on this assessment the Chief Executive Officer and Chief Financial Officer have concluded that, as of October 31, 2010, our internal control over financial reporting were effective.

2010 Attestation Report

The Attestation Report dated February 14, 2011 submitted by the independent accountants cited no material weaknesses in the 2010 fiscal year.

Changes in Internal Control Over Financial Reporting

No changes in our internal controls over financial reporting, as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act, occurred during the fiscal year ended October 31, 2010 that has materially affected or is reasonable likely to materially affect, our internal controls over financial reporting.

Item 15T. Controls and Procedures

Not applicable

Item 16. (Reserved)

Not Applicable.

Item 16A. Audit Committee Financial Expert

Our Board of Directors has determined that a member of the Board of Directors, David Sharpless, is an audit committee financial expert and that he is independent, as defined in the Marketplace Rules of the Nasdaq Stock Market.

Item 16B. Code of Ethics

We have adopted a Code of Ethics to impose certain policies relating to ethical conduct on all of our Directors and employees, including our Chief Executive Officer, Chief Financial Officer, principal accounting officer and persons performing similar functions. We undertake to provide a copy of our Code of Ethics to any holder of our securities upon request, without charge.

Item 16C. Principal Accountant Fees and Services

The following table presents fees for professional audit services rendered by our auditors for the audit of our consolidated financial statements for the years ended October 31, 2010 and 2009, and fees billed for other services rendered by our auditors including our offerings of securities and tax services.

	2009	2010
Audit Fees	$80,000	$75,000
Audit Related Fees (SOX)	35,000	25,000
Tax Fees	10,000	21,000
All Other Fees	5,000	5,001

Audit Fees

In 2009 we paid a total of $80,000 to Collins Barrow Toronto LLP for audit services; in 2010 we paid a total of $75,000 to Collins Barrow Toronto LLP for audit services.

Audit Related Fees

We paid $35,000 of audit related fees to Collins Barrow Toronto LLP in 2009 relating to our SOX compliance audit. We paid $25,000 of audit related fees to Collins Barrow Toronto LLP in 2010 relating to our SOX compliance audit.

Tax Fees

We paid $10,000 of tax-related fees to Collins Barrow Toronto LLP for services in 2009 and $25,000 of tax-related fees to Chiampou Travis Besaw & Kershner LLP in 2010.

Pre-approval policies

The Audit Committee assesses and pre-approves all audit and non-audit services.

Item 16D. Exemptions from the Listing Standards for Audit Committees

Not applicable.

Item 16E. Purchases of Equity by the Issuer and Affiliated Purchasers.

Not applicable.

Item 16F. Change in Registrants Certifying Accountant.

Not applicable.

Item 16G. Corporate Governance

Not applicable

Item 17. Financial Statements

The consolidated financial statements as of October 31, 2010 together with the Auditor's Report have been filed concurrently on SEDAR.

Item 18. Financial Statements

Not applicable.

Item 19. Exhibits

The following exhibits are filed as part of this registration statement and attached hereto:

Exhibit No. 1.1	Articles of Incorporation of Micromem Technologies Inc. and amendments thereto in effect as of January 11, 2000, (Incorporated herein by reference to the Company's Form 20-F filed with the Commission on January 11, 2000).
Exhibit No. 1.2	Articles of Incorporation of Amendment of Micromem Technologies Inc. dated as of October 17, 2001 amending the Articles of Incorporation of Micromem Technologies Inc. to increase the number of directors to a minimum of three and a maximum of ten (Incorporated herein by reference to the Company's Form 20-F filed with the Commission on March 26, 2003).
Exhibit No. 1.3	Articles of Incorporation of Amendment of Micromem Technologies Inc. dated as of June 24, 2002 amending the Articles of Incorporation of Micromem Technologies Inc. to increase the number of directors to a minimum of 3 and a maximum of 12 (Incorporated herein by reference to the Company's Form 20-F filed with the Commission on March 26, 2003).
Exhibit No. 1.5	By-Laws of Micromem Technologies Inc. in effect as of January 11, 2002, (Incorporated herein by reference to the Company's Form 20-F filed with the Commission on January 11, 2000).

Exhibit No. 1.6	Amendment to the By-Laws of Micromem Technologies Inc. approved by shareholders on June 29, 2000, deleting the requirement from the By-Laws that the President shall be appointed from amongst the directors (Incorporated herein by reference to the Company's Form 20-F filed with the Commission on March 26, 2003).
Exhibit No. 4.1	Employment Agreement by and between Micromem Technologies, Inc. and Salvatore Fuda dated May 29, 2005. (Incorporated herein by reference to the Company's Form 20-F filed with the Commission on February 28, 2006).
Exhibit No. 4.2	Employment Agreement by and between Micromem Technologies and Joseph Fuda dated May 28, 2008 (Incorporated by reference to the Company's Form 20-F filed with the Commission on February 24, 2009).
Exhibit No. 4.3	Employment Agreement by and between Micromem Technologies and Dan Amadori dated May 28, 2008 (Incorporated by reference to the Company's Form 20-F filed with the Commission on February 24, 2009).
Exhibit No. 4.4	Employment Agreement by and between Micromem Technologies and Steven Van Fleet dated May 28, 2008 (Incorporated by reference to the Company's Form 20-F filed with the Commission on February 24, 2009).
Exhibit No. 4.5	Agreement with Investor Relations Group dated September 1, 2008 (Incorporated by reference to the Company's Form 20-F filed with the Commission on February 24, 2009).
Exhibit No. 4.6	Agreement with Dreifus Associates Limited (DAL) dated June 1, 2008 (Incorporated by reference to the Company's Form 20-F filed with the Commission on February 24, 2009).
Exhibit No. 4.7	Unotron Promissory Note dated August 1, 2009 (Incorporated by reference to the Company's Annual Report on Form 20-F filed with the Commission on March 1, 2010)
.	
Exhibit No. 4.8	Agreement with Life Med Technologies Inc. (Incorporated by reference to the Company's Annual Report on Form 20-F filed with the Commission on March 1, 2010)
Exhibit No. 4.9	Manufacturing Supply Agreement with Unotron. (Incorporated by reference to the Company's Annual Report on Form 20-F/A filed with the Commission on February 25, 2011)
Exhibit No. 8.1	List of Subsidiaries (Incorporated by reference to the Company's Annual Report on Form 20-F filed with the Commission on March 1, 2010)
Exhibit No. 12.1	Officer's Certification pursuant to Section 302 of the Sarbanes Oxley Act, 2002 (filed herewith).
Exhibit No. 12.2	Officer's Certification pursuant to Section 302 of the Sarbanes Oxley Act, 2002 (filed herewith).
Exhibit No. 13.1	Officer's Certification pursuant to Section 906 of the Sarbanes Oxley Act, 2002 (filed herewith).
Exhibit No. 13.2	Officer's Certification pursuant to Section 906 of the Sarbanes Oxley Act, 2002 (filed herewith).

SIGNATURES

The Registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on Form 20-F on its behalf.

MICROMEM TECHNOLOGIES INC.

By: /s/ Joseph Fuda
Name: Joseph Fuda
Title: Chief Executive Officer

By: /s/ Dan Amadori
Name: Dan Amadori
Title: Chief Financial Officer

Dated: February 28, 2011