

**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

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

For The Fiscal Year Ended **October 31, 2019**

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)

121 Richmond Street West, Suite 304

Toronto, Ontario M5H 2K1, Canada

Tel: (416) 364-6513

Fax: (416) 360-4034

(Address of principal executive offices)

Joseph Fuda; 416-364-6513, jfuda@micromeminc.com, 121 Richmond Street West, Suite 304 Toronto, ON M5H 2K1

(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:

346,952,721 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

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

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 No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or an emerging growth company. See definition of "large accelerated filer," "accelerator filer," and "emerging growth company" in Rule 12b-2 of the Exchange Act:

Large Accelerated Filer

Accelerated Filer

Non-Accelerated Filer

Emerging growth company

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

1. 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 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

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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

Fiscal Years 2019, 2018, 2017, 2016 and 2015

The following table sets forth our selected consolidated financial data in United States dollars as of and for each of the fiscal years ended October 31, 2019, October 31, 2018, October 31, 2017, October 31, 2016 and October 31, 2015. 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 18-Financial Statements” and “Item 5 - Operating and Financial Review and Prospects” included elsewhere in this Annual Report on Form 20-F.

Our consolidated financial statements for the years ended October 31, 2019, 2018, 2017, 2016 and 2015 have been prepared in accordance with International Financial Reporting Standards (“IFRS”) as issued by the International Accounting Standards Board.

International Financial Reporting Standards

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

	2019	2018	2017	2016	2015
Working Capital (deficiency)	(4,301,324)	(3,828,503)	(3,865,390)	(4,316,730)	(2,049,302)
Capital Assets	2,677	9,228	9,822	10,988	15,592
Total Assets	83,484	710,737	916,643	736,043	3,667,866
Capital Stock	84,153,696	82,282,903	80,198,194	75,855,139	74,083,975
Shareholders' equity (deficiency)	(4,278,647)	(3,423,170)	(3,424,106)	(3,902,142)	(1,403,888)

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

	2019	2018	2017	2016	2015
Interest and other income	\$ -	\$ -	\$ -	\$ -	\$ -
Research and development expenses (recovery)	(41,546)	130,069	147,008	3,635,613	2,649,019
General and administrative and other expenses	1,599,137	1,742,463	3,004,027	2,950,978	2,703,650
(Gain) on revaluation of derivative liabilities (1)	(343,436)	(1,094,718)	(1,614,822)	(295,616)	-
Loss on conversion of debt (2)	101,919	63,852	1,009,680	-	-
(Gain) on extinguishment of debt (5)	(646)	(399,191)	-	-	-
Accretion Expense (3)	1,517,436	2,039,344	1,358,101	514,560	-
Stock compensation expense (4)	-	140,612	442,206	-	1,163,941
Loss before income taxes	(2,832,864)	(2,362,239)	(4,346,200)	(6,805,535)	(6,516,610)
Net Loss	(2,832,864)	(2,362,239)	(4,346,200)	(6,805,535)	(6,516,610)

- 1) (Gain) on revaluation of derivative liabilities for 2019, 2018, 2017 and 2016 above relates to the measurement of the derivative liabilities relating to the outstanding convertible bridge loans. The gain as reported is a non-cash charge which is calculated in accordance with IFRS.
- 2) Loss on conversion of debt relates to the inducement of additional common shares issued to the bridge loan lenders who converted their bridge loans to common shares.
- 3) Accretion expense is a non-cash expense calculated in accordance with IFRS and relates to increasing the face value of the debt to the contracted amount over the term of the loan.
- 4) Stock compensation expense is a non-cash expense calculated in accordance with the Black Scholes option pricing model or the binomial pricing model.
- 5) Gain on extinguishment of debt relates to the replacement of an existing debt instrument at maturity date with a new debt instrument reflecting revised renewal terms at maturity date.

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. Monetary 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. Non monetary assets and liabilities denominated in Canadian dollars but expressed in this Form 20-F in United States dollars have been converted into US dollars at the historical exchange rate at the date of the transaction.

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.

	2019	2018	2017	2016	2015
High for period	0.7699	0.7513	0.8245	0.7972	0.8501
Low for period	0.7353	0.8138	0.7276	0.6854	0.7141
End of period	0.7699	0.7609	0.7971	0.7461	0.7233
Average for period	0.7529	0.7767	0.7708	0.7538	0.7793

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.

	February 2019	March 2019	April 2019	May 2019	June 2019	July 2019
High	1.3298	1.3438	1.3493	1.3527	1.3470	1.3182
Low	1.3095	1.3260	1.3316	1.3410	1.3087	1.3038

	August 2019	September 2019	October 2019	November 2019	December 2019	January 2020
High	1.3325	1.3343	1.333	1.3307	1.3302	1.3233
Low	1.3217	1.3153	1.3056	1.3148	1.2988	1.2970

On February 24, 2020 the noon buying rate for one Canadian dollar, as quoted by the Bank of Canada, was CDN \$1.3279 = 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 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.

Our ability to continue as a going concern is dependent upon the successful commercialization of our sensor technology platforms that we currently have under development with our industry partners. Ultimately we must achieve a profitable level of operation through licensing fees, royalties and the commercial sale of our products. We will require additional financing in the interim to fund our activity.

Our consolidated financial statements, which have been prepared on a going concern basis, 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. Such adjustments could be material.

At October 31, 2019 we had \$46,056 cash on hand. Our working capital position is (\$4,301,324) at October 31, 2019. Subsequent to October 31, 2019, through to the date of the filing of this Annual Report on Form 20-F, we have raised an additional \$411,891 through the issuance of convertible debentures and \$402,161 through eleven private placements.

We currently have no operating revenue.

We have not yet reported commercial revenues from licensing fees, royalties or product sales. 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 secure from each licensee and the ability of licensees to compete in their particular market.

There are market risks relating to the sale of our sensor technology platforms.

We continued to develop applications of our sensor technology in 2019 working with 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. We believe that these current initiatives will result in revenues and cash flow to the Company in the future but there can be no assurance when and if such revenues will be achieved.

We may face competition from larger corporations which also sell sensor technology and who have greater financial resources than the Company.

Our success will in part be determined by the following factors which have not yet been fully and completely tested nor 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 technology.

Additionally 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. Our success will depend on our ability to protect our intellectual property, 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.

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

Since there is no assurance that commercial revenues will be realized in future, we will need additional financing to continue our development and to successfully market our technology to potential licensees and strategic partners.

There can be no assurance that we will be able to continue to raise sufficient financing in the future and the failure to do so would affect our ability to further develop our technology platforms and to market our products to existing and new potential customers.

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 rights to our technology, including any improvements that may be made on that technology from time to time by us or on our behalf. Certain of our technology is patented or is subject to pending patent applications in the United States and abroad and we know of no challenge that has been made either against our technology or our rights to it. 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 can be no assurance that any of our outstanding 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 future.

To date, we have operated as a product development company and have not been profitable. Unless and until we are able to successfully commercialize our technology applications, we may not be able to generate sufficient revenues in future periods and we may not be able to attain profitability.

The further development of our sensor technology may require significant additional capital which we may have to fund directly if we are unable to secure financing from development partners. Therefore, we may incur expenses without receiving equal and offsetting revenues at least until we are able to license our technology to third parties. This may result in net operating losses until we can generate an acceptable level of revenues. Further, even if we achieve operating revenues, there can be no assurance that such revenues will be sufficient to fund continuing operations.

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 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 our sensor technology. If we are not successful in commercializing our technology platforms, 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 on a timely basis. This could limit future 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 sensor technology platforms, 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 in future. 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 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 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 effect on our future royalty payments and financial condition.

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 and our financial resources have been limited. We will need to add marketing and sales expertise and must also develop the necessary supporting distribution channels. Although we believe we can build the required infrastructure either in-house or through strategic relationships, we may not be successful in doing so. Failure to establish a sales force and distribution network would have an adverse effect on our ability to grow our business.

We depend on key personnel.

Our senior managers and employees are Joseph Fuda, who serves as our Chief Executive Officer, 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. Our success depends on our ability to retain certain of our senior management and key technical personnel, our ability to attract and retain additional highly skilled personnel in the future and to maintain our working relationships with our engineering and technical consulting firms to whom we have historically subcontracted our development work.

Steven Van Fleet resigned as President of our wholly-owned subsidiary, Micromem Applied Sensor Technologies, Inc. (MAST) in August 2018. Micromem has engaged other consultants since September 2018 to assist the Company after Mr. Van Fleet's departure. There can be no assurances that such efforts will be successful.

We are currently engaged in a lawsuit with a former officer and director of the Company.

On October 7, 2018, the former President of MAST, Mr. Steven Van Fleet, filed a lawsuit against Micromem and MAST in New York State Supreme Court, Dutchess County. In the action, Mr. Van Fleet is seeking payment of \$214,574 plus interest relating to alleged remuneration and expense reimbursements due to him prior to his resignation as an officer and director of Micromem and MAST on August 17, 2018. The Company answered the complaint December 7, 2018 by denying the material allegations in Mr. Van Fleet's claims. In addition, the Company interposed 7 counterclaims against Mr. Van Fleet seeking, among other things: (i) damages of not less than \$2.75 million, (ii) specific performance to compel Mr. Van Fleet to comply with his contractual obligations which were required for the period of time that he served as an officer and director through to his resignation date; (iii) repayment of certain salary and expenses paid to Mr. Van Fleet; (iv) a direction for Mr. Van Fleet to turn over all Company property in his possession or control; and (v) an accounting to determine all money and property belonging to the Company and/or MAST. On January 24, 2019, the Company amended its original answer and counterclaims to include, among other things, a demand for additional damages. On February 8, 2019 Mr. Van Fleet, through his counsel, replied to and denied the material allegations in Micromem's counterclaims. The Company reports an accrual of \$205,788 at October 31, 2019 with respect to alleged remuneration and expense reimbursements claimed by Mr. Van Fleet but, nonetheless, has denied the allegations in Mr. Van Fleet's claims. This matter remains as a contingency at February 24, 2020. See Note 18(b) to our Financial Statements in Item 18 of this Annual Report.

A depressed oil and gas sector could place our development projects at risk.

Certain of our development partners are engaged primarily in the oil and gas sector. If market conditions are depressed for this sector, there is a risk that such companies could defer or cancel previously established capital expenditure programs or product development initiatives. If these situations arose with our development partners in this sector, our related development projects could be at risk of delays or cancellation.

We may be materially affected by global economic, political and other conditions beyond our control.

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. Health epidemics, 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. There can be no assurance that we will be able to successfully do so 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 of adoption of our technology.

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

Our new product 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 development efforts could be adversely affected by hardware and software design flaws, product development delays, 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. If we are not successful in meeting these requirements, this could adversely affect our ability to introduce new products on a timely basis.

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

There can be no 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 previously filed patent and trademark registration applications with certain foreign governments; in 2019 we abandoned certain of these foreign applications. 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 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.

There are foreign exchange risks associated with our Company.

Because we have historically raised funds in both U.S. and Canadian markets and a 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 so as 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 15c-2-07 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. 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 66 2/3% 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 who 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 \$344 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, 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 OTCQB 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 121 Richmond Street West, Suite 304, Toronto, Ontario M5H 2K1 (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 Avanti Corp 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.

The Evolution of Micromem from Memory to Sensor Based Client Solutions

Micromem Applied Sensors Technologies, Inc., our wholly-owned subsidiary (“MAST”) was incorporated in 2008 in the State of Delaware. MAST was formed in connection with a contract with BAE Systems in Nashua, New Hampshire. BAE Systems is a Department of Defense trusted facility, which can only do business with U.S. entities (ITAR regulations). BAE Systems’ interest was in the potential to utilize our MRAM technology in a radiation- hardened environment for military applications. At the time of contract, Micromem had not taken the MRAM from the university research environment into a foundry, so the initial contract with BAE Systems was to use the patented MRAM design and manufacture and deliver a memory cell from a GaAs foundry. During this work it was determined that the Hall sensor, which was integral to the MRAM design, had several performance characteristics that by itself, as a product, would potentially create value for MAST.

Frost & Sullivan was contracted by MAST in 2009 to assess the market opportunities for a late entry into the Hall sensor market. The Hall sensor market in 2009 was robust at an estimated \$1.9 billion USD. The market barriers were: mature market, declining margins and heavy competition. A decision was taken to not enter the Hall sensor component market for the above reasons. A decision was taken to explore the market opportunities associated with creating unique sensor based solutions that revolved around our patented Hall sensor technology.

An outside marketing firm was hired to promote the Company. It was quickly learned that the uniqueness of our products made a traditional marketing firm relationship ineffective and that relationship was terminated. Promotion of the Company reverted back to the development of a MAST website and word of mouth marketing at regional technical conferences. Through these endeavors, a decision was taken to internally develop, at our own cost, proof of concepts for products that we had gleaned, through our marketing efforts, to have potential market value. These included a magnetic gold sensor for drilling plug analysis, an oil condition sensor for automotive use and an oil/gas aerial exploration platform. Provisional patents were created on this work.

A potential revenue-generating opportunity emerged in August 2010 when Lux Research contacted us on behalf of their client, a world leader in oil production. They were looking for companies that could create extremely small foot print magnetic sensor solutions for down hole use in production oil fields. MAST was subsequently engaged by this client to develop a sensor platform for detecting four nanometer magnetic particles in a flowing oil stream at a concentration less than 1 ppb. Another revenue generating opportunity came in 2011 from GSI Westwind, a supplier for high speed air bearing motors. MAST replaced the incumbent Hall sensor supplier and delivered a unique circuit board form factor that incorporated the smallest Hall sensor in the world.

It became clear at this point in the development of the Company that MAST had to find an effective means to disseminate its message to a larger market audience. It was now evident that a significant market space existed for companies that could leverage MEMS/Nano fabrication methodologies to create unique combinations of sensors to provide new solutions to business problems. In 2011 MAST became aware of the NineSigma Open Innovation model. Nine Sigma’s core services connect innovation-seeking companies to the best solutions, capabilities and partners around the world. MAST’s relationship with NineSigma provided us access to the Global Fortune 1000 companies and resulted in a future sales proposal pipeline.

In 2011 a decision was taken to stop research and development effort in the MRAM market space. This decision was taken, in part, due to the high capital demand for staying current in the rapidly changing technology and, equally important, the MRAM market had not grown at the anticipated growth rates. Micromem had amassed multiple memory patents and in 2013 began efforts to value the patent portfolio and arrange for a sale of these assets. Integral to the MRAM design is our patented Hall sensor.

Until 2014, Micromem funded virtually all of its research and development initiatives. Our main priority was to provide customers with sensor based platform solutions that address their difficult business problems. Our sensor platform solutions address three primary areas of creating value for our clients:

- Using a MEMS and/or Nano scale pallet, we were able to combine disparate sensor modalities into a common, integrated solution that brings the exact tools in play in solving the target issue. Competitive solutions tend to force fit less than optimum sensor combinations in an effort to sell their standard offerings.
- Although our solutions were custom designed for each client, our processes leading to the solution were automated and the end result was a cost effective solution with a differentially higher return on investment for our clients.
- Our Open Innovation approach to solving client problems allowed us to bring together already proven sensor technologies in different market spaces and allowed us to apply them in new applications in new markets.

By 2015 we had advanced a number of our product development initiatives under joint product development agreements with our clients Chevron, Castrol, Flextronics and Eversource Energy. Our pipeline of development projects expanded.

In 2016 and 2017, we attempted to advance our projects towards field trials. The Flextronics and Eversource projects were ultimately discontinued. We continued with the Chevron and Castrol development projects and began discussions with Repsol SA.

In 2018 the Castrol project was discontinued. We continued to advance our Chevron and Repsol S.A. projects.

In October 2018, Steve Van Fleet filed a lawsuit against the Company and MAST seeking payment of alleged remuneration and expense reimbursements due to him totaling \$214,574. The Company has denied the allegations and, in turn, interposed counterclaims against Mr. Van Fleet seeking, among other things, damages of not less than \$2.75 million. This legal matter remains outstanding as of the date of this Annual Report. See Item 5 – Contingencies in this Annual Report.

B. Business Overview

Update of Product Development Activity at October 31, 2019

The current status of our active development projects is as reported below:

Chevron: In 2019 we continued to engage with Chevron personnel and with our engineering subcontractor, Entanglement Technologies Inc. (“Entanglement”). We met with the Chevron team members in their Houston offices on seven occasions to continue our dialogue and measure our go forward path. We also met directly with Entanglement on three occasions for these purposes.

The field testing of the onsite pilot program was coordinated between Chevron, Entanglement and the Company and commenced in March 2019 at a California based oil well site operated by Chevron. The initial on site testing was conducted over a period of approximately six weeks. Thereafter sample testing from the onsite well continued in both the Entanglement and Chevron laboratories.

Chevron has advised that the results of the testing that has been completed to date has met with their expectations and requirements and that the performance of the technology in the onsite pilot and subsequent lab sample testing has been validated.

We are advised by Chevron that they will adopt the technology as required in future and that they have earmarked funding for commercial units in their 2020 fiscal year budget.

In 2019, under the terms of the preexisting development agreement with Chevron, they paid \$77,597 relating to the work that the Company invoiced for the ongoing pilot tests.

Repsol S.A. (“Repsol”) : We have previously reported on our initial activity with this Spanish energy conglomerate in our 2018 Annual Report.

The developments with Repsol in 2019 are as presented below:

- a) In Q1 2019 we submitted a proposed letter of intent (“Repsol LOI”) to the Repsol engineering team with whom we engaged in September 2018 after the resignation of Mr. Van Fleet .

The Repsol LOI was intended to reset the go forward product development parameters, marketing efforts and cost sharing arrangements for this project. The original Repsol purchase order submitted in 2017 was suspended as part of these current discussions with Repsol.

- b) In mid 2019, we began negotiations with the Repsol team towards a final development contract. The discussions with respect to a final development contract with Repsol remain open as of the date of this Annual Report.

The underlying technology for the Repsol initiative has been referenced in our 2018 Annual Report as the RT Lube Analyzer. The initial development completed on this technology between 2016-2018 was undertaken by the Company and its engineering subcontract, SBM Microsystems. In 2019 we moved the project to an engineering and manufacturing entity in Toronto Canada. This work will restart once financing for the project is secured by the Company.

The Company intends to proceed with this project in 2020 pending finalization of the final development contract. A visit to the Repsol offices in Spain is intended for this purpose in calendar 2020.

Romgaz: Romgaz is the state-controlled gas company in Romania. We initiated a dialogue with the senior management team at Romgaz in May 2019. The opportunity developed as a result of the progress that we had experienced with our Chevron initiative which, by that point, has advanced to the onsite pilot program referenced above.

We continued our initial discussions with Romgaz thereafter and, in October 2019, we announced that the Company had executed a letter of intent (“Romgaz LOI”) which afforded the Company the opportunity to sell the ARTRA technology units to Romgaz and to develop a robust analytics solution for the technology. The key conditions to progressing the Romgaz LOI were twofold:

- a) Romgaz would continue with their due diligence on the ARTRA technology, and
- b) Manufacturing of the commercial units in the future would be completed, with the Company’s input, in Romania. Discussions and negotiations with Romgaz continued after the execution of the Romgaz LOI in October 2019.

These discussions involved Chevron whom the Company introduced to Romgaz as part of the Romgaz due diligence process.

In December 2019 Romgaz put forward a series of questions to Chevron relating to the Chevron experience with the ARTRA technology and the testing that Chevron had conducted in 2019. The dialogue that the Company coordinated between Romgaz and Chevron was very positive, and the specifics of these discussions were approved by both parties and posted to the Micromem website on December 20, 2019.

The Company is now anticipating a series of purchase orders from Romgaz with respect to:

- a. The purchase of initial units of the existing ARTRA technology for training and education purposes
- b. A proposal by Micromem to deliver a comprehensive analytics solution to Romgaz for the technology, and,
- c. Pending satisfactory completion of b. above, a purchase order for commercial orders for the technology which is to be manufactured in Romania.

Based on the above sequence of events, the Company believes that it will report commercial revenues related to Romgaz in 2020, although there can be no assurances that such revenue will be achieved.

Other Developments:

- a) We reported in our 2018 Annual Report on the Company's participation in a conference in Dubai in March 2018. Mr. Van Fleet represented the Company at the conference; subsequently, he prepared a significant number of proposals for various companies in North America and abroad with respect to the ARTRA technology which was showcased at the Dubai conference. Since August 2018, we have directly pursued certain of these proposals. As of this date, there have been no commercial opportunities identified by the Company in these follow up efforts which the Company has undertaken.
- b) We reported in our 2018 Annual Report that the Company was engaged in dialogue with an established privately held company that has engineering and manufacturing capabilities and commercial revenues in North America. In 2019 we actively pursued discussions and those discussions continue. In addition, we have been provided guidance in terms of product development and commercial roll out strategies. We believe that a formal working relationship will materialize in 2020, although there can be no assurances that such relationship will be consummated.
- c) In 2019 we also met with the Chevron personnel who have the responsibility for the cement integrity development project as previously reported in our 2018 Annual Report. While there remains joint interest in pursuing this initiative, there was no substantive progress nor development initiatives on this potential project in 2019.

Deferred development costs/development expenses:

We have previously reported in our 2018 Annual Report on the chronology, by customer, of our investment in development costs relating to our various projects which we undertook with our strategic partners.

Until October 31, 2016, we capitalized as deferred development costs the expenditures that we incurred on these projects, net of the recoveries of such costs from our development partners. Since November 2016, we have expensed net costs as such costs were incurred in that these costs did not meet the criteria for capitalization based on our impairment analysis.

A summary of these costs and recoveries between 2012 and 2019 is provided as below:

Net Costs absorbed by the Company

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	Total
Cost incurred	4,499,466	225,000	2,035,676	939,458	2,470,329	1,129,168	522,720	11,821,817
Recoveries from development partners	(3,442,050)	(100,000)	(838,500)	(300,000)	(200,000)	-	(46,000)	(4,926,550)
Net costs absorbed by the Company	1,057,416	125,000	1,197,176	639,458	2,270,329	1,129,168	476,720	6,895,267

- 1. Chevron (2013-2019)
- 2. Repsol (2018-2019)
- 3. Castrol (2014-2018)
- 4. Saudi Aramco (2012-2013)
- 5. Northeast Utilities (2013-2015)
- 6. GM/Flextronics (2012-2015)
- 7. Other (various) (2011-2014)

The Chevron development project has been virtually self-funding after 2016. The Castrol project was suspended in 2018 given that Castrol was not prepared to commit additional funding to the project. The Saudi Aramco contract was completed in 2014. The Northeast Utilities contract was terminated in 2015 given that Northeast Utilities was not prepared to commit additional funding to the project other than in kind consideration. The GM/Flextronics work commenced in 2012; the Company was absorbing all of the costs associated with the development of the prototype product being developed in conjunction with GM/Flextronics. The prototype work was suspended due to the turnover of the GM project team by 2016-2017 and the Company's decision to stop committing additional funding to the project after 2016. The Company has been awarded several patents relating to the work completed on the GM/Flextronics project.

In 2019 the Company incurred \$36,051 of expenses with respect to the ongoing costs associated with the Chevron project and recovered \$77,597 from Chevron including payments received for certain milestones achieved in 2018.

The Company remains as a pre revenue entity at October 31, 2019. Given the progress and momentum achieved to date with Chevron and, in 2019 with Romgaz, the Company believes it will have commercial orders and revenues in 2020, although there can be no assurances such orders will be made or that revenues will be achieved.

Intellectual Property

Our intellectual property consists of two components:

- a) A series of patents and provisional patents relating to the smart oil pan plug technology (the formal reference is the "multimodal conditional sensor platform and system thereof") originally developed from the work completed on the GM/Flextronics project.
- b) A series of older patents relating to the Hall sensor application for magnetic random access memory (MRAM). These patents and the market for MRAM applications have not been pursued by the Company since 2009 and all of the costs associated with these patents were written off by 2013 after unsuccessful attempts to sell or license this intellectual property to other parties.

Beginning in 2018, we began to abandon provisional patent filings in a number of international jurisdictions as a costs cutting initiative. We continued that process in 2019.

We believe that the U.S. patents that have been granted for the multimodal sensor platform have sustaining value to be realized in future. When the Company's financial position improves, it intends to pursue the exploitation of its patents in this field of endeavors.

In 2019, we reported on our intellectual property as follows:

- a) All current year expenditures were expensed as incurred.
- b) We recorded amortization expense of \$152,962 and an impairment reserve of \$223,143 based on the Company's assessment of potential realization of this asset in future. In summary:

	2019	2018	2017
	\$	\$	\$
Patent expenditures:	18,129	121,603	161,647
Patent costs capitalized:	-	121,603	161,647
Amortization expense:	152,962	156,960	133,785
Impairment Reserve	223,143	-	-

Share Capital

At October 31, 2019 the Company had 346,952,721 common shares outstanding (2018: 259,602,699). Additionally, the Company has 5,730,000 stock options outstanding with a weighted average exercise price of \$0.25 per share (2018: 6,250,000 options outstanding with a weighted average exercise price of \$0.29 per share).

Changes to Our Board of Directors and Management:

There were no changes to the Board of Directors or senior management team in 2019.

The Company plans to schedule an Annual General Meeting of the shareholders for the fiscal years ending 2017, 2018, and 2019 in 2020. It is anticipated that a new, revised slate of directors will be put forward for shareholder approval at the Annual General Meeting. The Company also anticipates adding a new member(s) to the senior management team in 2020 as its current business opportunities are further developed.

Equity Financing Transactions:

In the fiscal year ended October 31, 2019 the Company completed the following transactions:

- (a) It completed four private placements consisting of common shares, pursuant to prospectus and registration exemptions set forth in applicable securities law. The Company received net proceeds of \$212,968 and issued a total of 4,961,059 common shares.
- (b) It issued 350,000 common shares to settle \$21,000 of trade accounts payable.
- (c) It issued 82,038,963 common shares for the conversion of bridge loans totaling \$1,636,825.
- (d) The Company continued its bridge loan financing activities in 2019, specifically:
 - (i) It secured a total of 4 additional \$CDN denominated bridge loans and realized gross proceeds of \$165,266.
 - (ii) It secured a total of 11 additional \$USD denominated bridge loans and realized gross proceeds of \$870,850.
 - (iii) It repaid \$128,543 of CDN (\$97,455 USD) denominated bridge loans previously secured.
 - (iv) It repaid \$75,600 USD denominated bridge loans previously secured.
 - (v) Certain of the bridge loans that matured in 2019 were extended at maturity date, ultimately through October 31, 2019 and thereafter.

In the fiscal year ended October 31, 2018 the Company completed the following transactions:

- (a) It completed thirty-three private placements for cash and received gross proceeds of \$866,200 and issued 14,739,272 common shares.
- (b) It issued 79,765 common shares to settle \$13,379 of trade accounts payable.
- (c) It issued 16,220,951 common shares for the conversion of bridge loans totaling \$1,205,130.
- (d) The Company continued its bridge loan financing activity, specifically:
 - (i) It secured a total of seven additional \$CDN denominated bridge loans in 2018 and realized gross proceeds of \$651,000.
 - (ii) It secured a total of fourteen additional \$USD bridge loans in 2018 and realized gross proceeds of \$1,090,000.
 - (iii) It repaid \$784,138 CDN denominated bridge loans previously secured.
 - (iv) It repaid \$105,000 of USD denominated bridge loans previously secured.

- (v) Certain of the bridge loans that matured in 2018 were extended at maturity date, ultimately through October 31, 2018 and thereafter.

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 Micromem Applied Sensors Technology, Inc. (“MAST”) as a Delaware-based wholly-owned subsidiary. MAST had an office in New York City and was being managed by Steven Van Fleet, its then President and a director of Micromem. We have utilized the services of other consultants to continue the work of MAST since the departure of Mr. Van Fleet in August 2018.

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 2,500 square feet of commercial office space pursuant to a lease that we extended in February, 2017 for five years through 2021. In 2019, the Company sublet a portion of its rental space on a month to month basis and realized \$7,309 of sub-rental income. In 2019 the Company incurred nil capital expenditures, \$3,548 in 2018 and \$3,809 in 2017.

ITEM 4A. UNRESOLVED STAFF COMMENTS

None.

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 years ended October 31, 2019, October 31, 2018 and October 31, 2017. 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 IFRS, as issued by the IAASB, and are stated in United States dollars.

A. Operating Results

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

Selected statement of operation and deficit information

	2019	2018	2017
Administration	197,208	305,338	305,421
Professional and other fees and salaries	441,981	747,280	1,433,113
Travel and entertainment	52,568	101,496	118,261
Development costs (recovery)	(41,546)	(130,069)	147,008
Stock compensation expense	-	140,612	442,206
Interest expense	496,172	504,778	666,245
Amortization expense	156,137	160,882	137,777
Impairment reserve on patents	223,143	-	-
Accretion expense	1,571,436	2,039,344	1,358,101
Loss on conversion of bridge loans	101,919	63,852	1,009,680
Gain on revaluation of derivatives	(343,436)	(1,094,718)	(1,614,822)
Gain on extinguishment of debt	(646)	(399,191)	-
Financing costs	72,476	40,414	-
Foreign exchange loss (gain)	(40,548)	(117,779)	343,210
Loss for the year	2,832,864	2,362,239	4,346,200
Loss per share - basic and diluted	0.01	0.01	0.02

Selected balance sheet information

	2019	2018	2017
Working capital (deficiency)	(4,301,324)	(3,828,503)	(3,865,390)
Other Assets	22,677	405,333	441,284
Total Assets	83,484	710,737	916,643
Shareholders' equity (deficiency)	(4,278,647)	(3,423,170)	(3,424,106)

Fiscal 2019 Compared to Fiscal 2018

- a) Administration costs were \$197,208 in 2019 versus \$305,338 in 2018. These costs include: rent and occupancy costs of \$64,647 (2018: \$70,674, the Company reported sublet income for a portion of its office space in 2019); office insurance costs of \$26,812 (2018: \$117,615; the Company did not renew its D&O insurance coverage in 2019); investor relations, listings and filing fees of \$49,029 (2018: \$53,113); and other general and administrative expenses of \$56,720 (2018: \$63,936).
- b) Professional and other fees and salaries costs were \$441,981 in 2019 versus \$747,280 in 2018. The components of these total costs included:

	2019	2018
	\$	\$
a) Legal and Audit expenses	157,354	165,685
b) Third party, consulting fees	53,845	81,518
c) Steven Van fleet compensation through August 2010	-	186,059
d) CFO compensation	-	49,238
e) Staff salaries and benefits	230,782	264,780
	441,981	747,280

The Company has disputed fees charged by Mr. Van Fleet in 2018 – see Item 5– (Contingencies) in this Annual Report.

The CFO has received no compensation from the Company since March 2018. The CEO of the Company has received \$4,682 of salary in 2019 which amount is reported in staff salaries and benefits; he received no compensation in 2018. These reductions in expenses were part of a broad effort to reduce the Company's operating expenses after the resignation of Mr. Van Fleet in August 2018.

- c) Travel and entertainment expenses were \$52,568 in 2019 (\$101, 496 in 2018; including travel expenses reported by Mr. Van Fleet between November 2017 – August 2018 prior to his resignation). We limited travel expenses in 2019 as part of a broad effort to reduce the Company's operating expenses.
- d) Development cost recoveries represent development costs incurred less costs reimbursed by our development partners which are paid at milestone dates under our joint development contract. The components of the net totals reported were:

	2019	2018
	\$	\$
Development costs incurred	36,051	608,914
Cost reimbursements received	(77,597)	(738,983)
Net development cost recovery	(41,546)	(130,069)

The Company incurred development costs on its Chevron contract in 2019 and 2018; it also incurred development costs relating to Repsol in 2018.

- e) There were no stock options grants awarded in 2019. In 2018 the Company granted 2.2 million options to directors, officers, employees, and consultants. The related expense of \$140,612 was calculated using the Black Scholes option-pricing model.
- f) Interest expense was \$496,172 in 2019 versus \$504,778 in 2018. This represents the actual interest expense obligations incurred by the Company based on the stated interest rates on its convertible debenture notes.

- g) Amortization expense was \$156,137 in 2019 consisting of \$152,962 relating to patents and \$3,175 relating to capital assets (2018: \$160,882 consisting of \$156,920 relating to patents and \$3,922 relating to capital assets). In 2019 the Company recorded an impairment reserve of \$223,143 on its patent portfolio based on its assessment of the net present value of its patent portfolio as of October 31, 2019 (2018: nil).
- h) Financing costs were \$72,476 in 2019 versus \$40,414 in 2018. These expenses relate to costs associated with the convertible debenture financings which the Company completed in 2019 and 2018. The Company utilized convertible debenture financing to a greater extent in 2019.
- i) The gain on foreign exchange reported in 2019 was \$40,548 versus \$117,779 in 2018. This included the exchange relating to the translation of \$CDN denominated transactions during the year and to Canadian denominated assets and liabilities at fiscal quarter and year ends. It also included the foreign exchange relating to the initiation, renewal, conversion and repayment of convertible debentures transactions during the fiscal years. The Canadian dollar has declined from 0.7905 at October 31, 2017 to 0.7601 at October 31, 2018 to 0.7509 at October 31, 2019 relative to the US dollar. We relied to a greater extent on \$CDN denominated convertible debenture financing in 2018 giving rise to a larger exchange gain in 2018 versus 2019.
- j) The other expenses reported relate to the convertible debentures. These expenses are all non-cash expenses and compare as follows:

	2019	2018	Change
	\$	\$	\$
Accretion expense	1,517,436	2,039,344	(521,908)
Loss on conversion of bridge loans	101,919	63,852	38,067
Gain on extinguishment of derivatives	(343,436)	(1,094,718)	751,282
Gain on extinguishment of debt	(646)	(399,191)	398,545
Net Expense	1,275,273	609,287	665,986

In 2019, the renewal terms at maturity date of the debentures which were renewed were typically for a shorter duration. This gave rise to generally lower accretion expense recorded over the term of the renewed debentures and lower offsetting gains reported on the revalued derivatives and the gains on extinguishment of such debt at renewal date. Typically these variables move in opposite directions.

Fiscal 2018 Compared to Fiscal 2017

- a. Administration costs were \$305,338 in 2018 versus \$305,421 in 2017. These expenses principally relate to rent, insurance, communications, telephone, investor relations and filing fees. In total there were no significant changes in the year over year costs. Our insurance costs increased to \$117,615 in 2018 versus \$54,023 in 2017, the result of additional coverage secured in 2018. We reduced general administration costs to \$63,936 in 2018 versus \$98,187 in 2017, through cost reduction efforts and with the departure of Steven Van Fleet in August 2018. We reduced our investor relations and filing fees costs to \$53,113 in 2018 from \$80,486 in 2017 through cost reduction efforts.
- b. Professional fees which include legal and audit related expenses were \$165,685 in 2018 versus \$224,139 in 2017; we utilized less professional services in 2018 and reduced the cost of our external audit by engaging additional consulting services to assist us in the year end audit process.

Consulting fees were \$316,815 in 2018 versus \$813,735 in 2017. In 2018 the CEO received no compensation versus \$319,429 in 2017; the CFO received \$49,238 as compensation versus \$114,601 in 2017; the fees reported in 2018 for Mr. Van Fleet total \$186,059 (the Company is disputing these fees currently – see Item 5G – Contingencies) versus \$231,694 in 2017.

Salaries expense was \$265,134 in 2018 versus \$395,239 in 2017, reflecting cost reduction implemented in 2018.

- c. Travel and entertainment costs were \$101,496 in 2018 versus \$118,261 in 2017. In 2018, we incurred travel expenses with respect to the Dubai trade show which we attended, costs associated with travel to the Repsol offices in Madrid in September and costs associated with the in person meetings with Chevron in Houston; otherwise travel related expenses were significantly curtailed in 2018.
- d. Stock compensation expense relates to the issuance of stock options. In 2018 we issued 2.2 million options; the related costs using the Black Scholes pricing model was \$140,612. In 2017 we issued 2.89 million options; the related costs using the Black Scholes pricing model was \$442,206.
- e. Interest expense in 2018 was \$504,778 versus \$666,245 in 2017. This represents the actual interest expense obligations incurred by the Company based on the stated interest rates on the convertible debenture notes. We redeemed or converted a number of bridge loans in 2018.
- f. The other expenses reported with respect to the bridge loans, which are all non cash expenses compare as follows:

	2018	2017	Change
	\$	\$	\$
Accretion expense	2,039,344	1,358,101	681,243
Loss on conversion of bridge loans	63,852	1,009,680	(945,828)
Gain on extinguishment of derivatives	(1,094,718)	(1,614,822)	520,104
Gain on extinguishment of debt	(399,191)	-	(399,191)
Net Expense	609,287	752,959	(143,672)

The bridge loan transactions give rise to accounting measurements under IFRS which track the loan components at the inception of the loan, during the term to maturity date and remeasurements as required for changes in terms upon renewal of maturity or upon conversion/repayment at maturity. As these variables change by loan and on a year by year basis, the expenses, gains and losses will change in accordance with these prescribed IFRS requirements. The net result of these measurements illustrates a comparable net non cash expense between 2018 and 2017.

Unaudited Quarterly Financial Information

	Revenue	Expenses	Income (Loss)	Loss per Share
	\$	\$	\$	\$
January 31, 2018	-	2,291,691	(2,291,691)	0.01
April 30, 2018	-	(207,605)	207,605	-
July 31, 2018	-	(22,711)	22,711	-
October 31, 2018	-	331,264	(331,264)	-
January 31, 2019	-	1,110,303	(1,110,303)	-
April 30, 2019	-	48,088	(48,088)	-
July 31, 2019	-	554,533	(554,533)	-
October 31, 2019	-	1,119,940	(1,119,940)	-

B. Liquidity and Capital Resources:

Liquidity

We have not yet realized commercial revenues from the exploitation of our technology platforms. We currently do not have positive cash flow from operations and will not realize positive cash flow until we license or directly produce and sell products utilizing our technology platforms.

We currently have no lines of credit available. We have relied on obtaining equity financing from investors through private placements, through the exercise by shareholders of common share purchase warrants, through the exercise of common stock options by officers and directors, and through bridge loans that the Company has secured in order to meet our cash flow needs until we can generate sustainable revenues. At October 31, 2019 we had a working capital deficiency of \$4,301,324 (2018: \$3,828,503) including cash on hand of \$46,056 (2018: \$206,832). Since October 31, 2019 we have raised an additional \$411,891 of bridge loan financing and \$402,161 of financing from 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.

Capital Resources

We incurred nil capital expenditures in 2019, \$3,548 of expenditures in 2018 and \$3,809 of expenditures in 2017.

C. Research and Development:

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

D. Trend Information:

The market applications for “smart” sensors are expanding; there are potential applications that could be utilized in virtually every industry vertical.

Our prospects for commercial revenues are dependent upon the successful completion of milestones in the development contracts that we have initiated to date and upon the customers deciding to proceed with commercial orders once these development contracts are successfully completed.

E. Off-Balance Sheet Arrangements:

We are not party to any off-balance sheet arrangements except for operating lease commitments. 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, 2019 is as below:

	Payments due by period (USD)			
	Total	Less than 1 year	1-5 years	More than 5 years
Operating lease obligations	132,165	48,060	84,105	-

	Payments due by period (USD)			
	Total	Less than 30 days	31-90 days past billing date	Over 90 days past billing date
Trade payable	812,690	18,201	13,259	781,230

	Payments due by period (USD)				
	Total	Less than 3 months	Three to six months	Six to twelve months	
Convertible debentures	2,599,074	754,799	1,168,349	675,926	
Derivative liability	765,425	75,528	71,326	618,571	

Critical Accounting Policies:

Our significant accounting policies are set forth in 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 IFRS .

We have not yet realized commercial revenues from the exploitation of our technology. Under IFRS, research costs are expensed in the period incurred. Development expenses are expensed as incurred unless they meet the criteria for deferral and amortization under IFRS which is the translation of research findings or other knowledge into a plan for the technology prior to commercial production or use. As at October 31, 2019, the Company capitalized nil of development costs and capitalized nil as intangible assets under IFRS.

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 three 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.

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. The Company may be subject to litigation, claims and governmental and regulatory proceedings arising in the ordinary course of business. In such cases, the Company would accrue a loss contingency for these matters when it is probable that a loss has been incurred and the amount of the loss can be reasonably estimated.
- C. On October 7, 2018, the former President of MAST, Mr. Steven Van Fleet, filed a lawsuit against Micromem and MAST in New York State Supreme Court, Dutchess County. In the action, Mr. Van Fleet is seeking payment of \$214,574 plus interest relating to alleged remuneration and expense reimbursements due to him prior to his resignation as an officer and director of Micromem and MAST on August 17, 2018. The Company answered the complaint December 7, 2018 by denying the material allegations in Mr. Van Fleet's claims. In addition, the Company interposed 7 counterclaims against Mr. Van Fleet seeking, among other things: (i) damages of not less than \$2.75 million, (ii) specific performance to compel Mr. Van Fleet to comply with his contractual obligations which were required for the period of time that he served as an officer and director through to his resignation date; (iii) repayment of certain salary and expenses paid to Mr. Van Fleet; (iv) a direction for Mr. Van Fleet to turn over all Company property in his possession or control; and (v) an accounting to determine all money and property belonging to the Company and/or MAST. On January 24, 2019, the Company amended its original answer and counterclaims to include, among other things, a demand for additional damages. On February 8, 2019 Mr. Van Fleet, through his counsel, replied to and denied the material allegations in Micromem's counterclaims. The Company reports an accrual of \$205,788 at October 31, 2019 with respect to alleged remuneration and expense reimbursements claimed by Mr. Van Fleet but, nonetheless, has denied the allegations in Mr. Van Fleet's claims. The matter is currently at the pretrial stage pending discoveries. This matter remains as a contingency at February 24, 2020. See Note 18(b) to the Financial Statements in Item 18 of this Annual Report.

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 three 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 February 24, 2020 are set forth below:

<u>Name</u>	<u>Age</u>	<u>Position</u>
Joseph Fuda	58	President, Chief Executive Officer and Director
Dan Amadori	68	Chief Financial Officer
Oliver Nepomuceno	52	Director
Alex Dey	76	Director
Brian Von Herzen	60	Director

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 also served as a director of Echo Energy Canada Inc, and of Echo Power Generational Inc until June 2004.

Dan Amadori has served as Chief Financial Officer of Micromem since June 2004. He also currently serves as a director of Nerium Biotechnology Inc. He served previously as a director of Invesque Inc. from 2015 through May 2019. 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 as Chair of the Audit Committee of Hydrive from 2006-2008. He served as a Director and CFO of XGEN Ventures Inc. between November 2005 and September 2009. He was appointed as Chairman of Kingsway Arms Retirement Residences in August 2011. He is President of Lamerac Financial Corp., a financial advisory firm and has held that position since October 1988. Mr. Amadori is a Chartered Professional Accountant and holds an MBA from the Ivey School of Business.

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 is located in Switzerland. He actively assists corporations in the development of new business opportunities in new markets.

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

Brian Von Herzen has served as a director of Micromem since 2014. Since 1993, Dr. Von Herzen has served as Chief Executive Officer at Rapid Prototypes, Inc. providing turnkey electronic product design services, including commercial product specifications and fully functional engineering product prototypes, frequently using programmable logic devices. Rapid Prototypes is expert in electronic engineering design technologies designed to minimize time to market for new electronic products in networking, consumer electronics and other commercial products. The company has developed some of the world's fastest commercial FPGA applications. Dr. Von Herzen also serves on the board of directors of the Climate Foundation and Bright Energy Storage Technologies, LLP. Dr. Von Herzen has also developed software and hardware systems ranging from apps on smartphones to multi-GHz correlating spectrometers for the Caltech Submillimeter Observatory. He has extensive experience with electronic and optical system development for commercial electronic products.

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).

B. Compensation

Name and Principal Position	Annual Compensation			Long-Term Compensation	
	Fiscal Year	Salary (US\$)	Bonus (US\$)	Other Annual Compensation (US\$)	Securities Under Options Granted (#)
Joseph Fuda Chief Executive Officer	2017	319,429	-	99,450	650,000 ⁽⁴⁾
	2018	-	-	15,979	250,000
	2019	4,684	-	-	-
David Sharpless Former Director (2,3)	2017	-	-	22,950	150,000 ⁽⁴⁾
	2018	-	-	-	-
Steve Van Fleet Former Director and President of MAST, Inc. (2,3)	2017	233,694	-	99,450	650,000 ⁽⁴⁾
	2018	186,059	-	-	-
Dan Amadori Chief Financial Officer	2017	114,601	-	99,450	650,000 ⁽⁴⁾
	2018	49,238	-	15,979	250,000 ⁽⁵⁾
	2019	-	-	-	-
Larry Blue Former Director (2,3)	2017	-	-	7,650	50,000 ⁽⁴⁾
	2018	-	-	-	-
Oliver Nepomuceno	2017	-	-	22,950	150,000 ⁽⁴⁾
	2018	-	-	6,391	100,000 ⁽⁵⁾
	2019	-	-	-	-
Alex Dey	2017	-	-	30,600	200,000 ⁽⁴⁾
	2018	-	-	6,391	100,000 ⁽⁵⁾
	2019	-	-	-	-
Brian Von Herzen Director (1)	2017	-	-	-	-
	2018	-	-	-	-
	2019	-	-	-	-

Notes:

1. Brian Von Herzen became a director in February 2014. Rapid Prototypes, Inc., a company whose major shareholder is Mr. Von Herzen, invoiced the Company for engineering, product development and design services in 2015. In 2019, 2018 and 2017 the total charges invoiced to the Company by Rapid Prototypes were nil.
2. Larry Blue resigned on September 28, 2017; David Sharpless resigned on March 31, 2018; and, Steven Van Fleet resigned as a director on August 17, 2018.
3. Options granted previously to Messrs Van Fleet, Sharpless and Blue expired unexercised, 45 days after their resignation as directors.
4. Each option entitles the holder to purchase one common share at a price of \$0.25 per share prior to expiration in December 2021.
5. Each option entitles the holder to purchase one common share at a price of \$0.10 per share prior to expiration in June 2023.

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. These options are approved by the Compensation Committee. None of the directors have agreements that provide for benefits upon termination of service.

In 2019 no stock options were granted. In 2018 a total of 2,200,000 stock options were granted to officers, directors and employees. The weighted average exercise price was \$0.10 CDN per share. In 2017 a total of 2,890,000 stock options were granted to officers, directors and employees. The weighted average exercise price was \$0.25 USD per share.

C. Board Practices:

All matters pertaining to our financing, contractual arrangements and Management and Director compensation are approved by the Board of Directors. The members of the Board of Directors are appointed to a one-year term at our Annual General Meeting or until such time as the next Annual General Meeting is held.

Our Board of Directors meets on an as required basis during the fiscal year. Our Board of Directors did not meet in person in 2019. The Board was convened informally as of each quarter end.

Our Audit Committee met regularly during fiscal 2019 for the purpose of approving and recommending to the Board the quarterly financial statements and our yearend financial statements. In addition, our Audit Committee receives regular periodic reports from management.

Our Compensation Committee met as part of our audit committee meetings in 2019; it receives regular reports from the audit committee and management. Our Compensation Committee approves management and director compensation and all stock option grants for recommendation to the Board of Directors.

Audit Committee

The Board of Directors has appointed an Audit Committee consisting of two independent directors. The members of the Audit Committee are Alex Dey (Chairman) and Oliver Nepomuceno, each of whom serves 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 2019 the Audit Committee met formally in January, February March, June, September and October.

Compensation Committee

The Board of Directors has appointed a Compensation Committee which meets on executive compensation matters as and when required. Our Compensation Committee includes Oliver Nepomuceno and Alex Dey as outside directors. The Compensation Committee did not meet separately in 2019 as both members also serve on the Audit Committee.

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 Joseph Fuda, the Company's CEO, and Alex Dey, an outside director.

D. Employees

We have five employees, two of which serve in a management capacity and three of which serve in an administrative capacity. This includes the Chief Executive Officer and President, the Chief Financial Officer and three support staff, all 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.

E. Share Ownership

NAME	SHARES OWNED	OPTIONS HELD	OPTION EXERCISE PRICE	EXPIRATION DATE	% OF TOTAL ¹
Joseph Fuda Chief Executive Officer and Director	1624,335	22,500 650,000 250,000	\$0.46 \$0.34 \$0.13	08/20/2020 12/30/2021 06/29/2023	0.73% (2,546,835)
Dan Amadori Chief Financial Officer	779,517 ²	650,000 250,000	\$0.34 \$0.13	12/30/2021 06/29/2023	0.48 % (1,679,517)
Oliver Nepomuceno Director	1,078,572	150,000 100,000	\$0.34 \$0.13	12/30/2021 06/29/2023	0.38% (1,328,572)
Alex Dey Director	899,800 ³	200,000 100,000	\$0.34 \$0.13	12/30/2021 06/29/2023	0.35% (1,199,800)
Brian Von Herzen Director	-	-	-	-	0.0%

1 Calculated based on shares owned plus options held as a percentage total of shares outstanding as of October 31, 2019, plus options held.

2 215,716 shares are held by a corporation controlled by Mr. Amadori.

3 254,863 shares are held by a corporation wholly owned by Mr. Dey.

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 48% of the issued and outstanding common shares are held by Canadian investors; approximately 41% of the issued and outstanding shares are held by U.S. investors; and approximately 11% are held by investors outside of Canada and the U.S.

B. Related Party Transactions:

The Company reports the following related party transactions:

(a) Management and consulting fees:

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

	2019	2018	2017
Cash Compensation	\$4,684	\$235,297	\$667,724
Stock-based compensation	-	44,740	382,531
	<u>\$4,684</u>	<u>\$280,037</u>	<u>\$1,050,255</u>

In 2019 these parties were not awarded stock options. In 2018 these parties were awarded a total of 700,000 stock options at an exercise price of \$0.10 USD per share and in 2017 these parties were awarded a total of 1,950,000 stock options at an exercise price of \$0.25 USD.

ITEM 8. FINANCIAL INFORMATION

A. Consolidated Statements and Other Financial Information

Our consolidated financial statements for the years ended October 31, 2019, 2018 and 2017 have been prepared in accordance with IFRS as issued by the IASB.

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

B. Significant Changes

Significant Changes since October 31, 2019 are as presented in Note 22 to the Company's Consolidated Financial Statements. See "Item 18 – Financial Statements".

C. Interests of Experts and Counsel.

Not applicable.

ITEM 9. THE OFFER AND LISTING

Our common shares are traded in the United States and are quoted on the OTCQB. The common shares are quoted under the symbol MMTIF. Our common shares are traded in Canada on the CSE under the symbol MRM.

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 end October 31.

Period	High	Low
Last six months:		
February 2020	0.11	0.0931
January 2020	0.09	0.02
December 2019	0.04	0.01
November 2019	0.03	0.01
October 2019	0.03	0.01
September 2019	0.04	0.01
Last eight quarters:		
Q4 2019	0.04	0.01
Q3 2019	0.04	0.02
Q2 2019	0.07	0.03
Q1 2019	0.13	0.02
Q4 2018	0.10	0.02
Q3 2018	0.15	0.06
Q2 2018	0.27	0.10
Q1 2018	0.28	0.09
Last five years:		
2019	0.13	0.01
2018	0.28	0.02
2017	0.31	0.12
2016	0.45	0.16
2015	0.80	0.34

On February 21, 2020, the last reported sale price for our common shares on the OTCQB was \$0.109 per share.

ITEM 10. ADDITIONAL INFORMATION

A. Share Capital

Our authorized capital consists of an unlimited number of common shares, of which 346,952,721 shares were issued and outstanding as of October 31, 2019, and 2,000,000 special, redeemable, voting preference shares, referred to herein as special shares, none of which were outstanding, as of October 31, 2019.

Additionally, the Company has 5,730,000 stock options outstanding with a weighted average exercise price of \$0.25 (2018: 6,250,000 options outstanding with a weighted average exercise price of \$0.29)

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 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, at least twenty five percent (25%), or if they are less than 4, at least one 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

None

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, and at any time 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.

On December 22, 2017, President Trump signed into law the Tax Cuts and Jobs Act, effective for 2018. The following summary does not discuss the impact of the new law to U.S. investors with respect to their ownership of our shares. Each U.S. Investor should consult its own tax advisor about the consequences of this new legislation with respect to the purchase, ownership and disposition of our shares.

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, 2013, 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 20%. 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.

Withholding

A U.S. Holder may be subject to backup withholding with respect to cash dividends and proceed from a disposition of shares. In general, back-up withholding will apply only if a U.S. Holder fails to comply with specified identification procedures. Backup withholding will not apply with respect to payments made to designated exempt recipients, such as corporations and tax-exempt organizations. Backup withholding is not an additional tax and may be claimed as a credit against the U.S. federal income tax liability of a U.S. Holder, provided that the required information is timely furnished to the IRS.

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 at 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

We are exposed to market risks in the ordinary course of our business. Market risk represents the risk of loss that may impact our financial position due to adverse changes in financial market prices and rates. Our market risk exposure is primarily a result of fluctuations in interest rates and foreign currency exchange rates. We do not hold or issue financial instruments for trading purposes. See Note 19 to our consolidated financial statements for our quantitative and qualitative disclosures about market risk.

ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES

Not Applicable.

PART II

ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES

None.

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-15f and 15d-15(e) under the Securities Exchange Act of 1934, as amended, referred to herein as the "Exchange Act") as of October 31, 2019. Based on management's evaluation in 2019, our Chief Executive Officer and Chief Financial Officer concluded that, as of October 31, 2019, 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 accumulated 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, 2019. 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, 2019 our internal control over financial reporting were effective.

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, Alex Dey, 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, 2019 and 2018, and fees billed for other services rendered by our auditors including our offerings of securities and tax services.

	<u>Fiscal 2019</u>	<u>Fiscal 2018</u>
Audit Fees	\$ 85,000	\$96,000
Audit Related Fees	-	-
Tax Fees	\$4000	\$4000
All Other Fees	-	-

Audit Fees

In 2019, we incurred a total of \$85,000 to MNP LLP for audit services; in 2018 we incurred a total of \$96,000 to MNP LLP for audit services.

Audit Related Fees

None

Tax Fees

We paid \$4,000 of tax-related fees for services in 2019 and \$4,000 of tax related fees in 2018 to Chiampou Travis LLP.

All Other Fees

None

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.

None.

ITEM 16F. Change in Registrants Certifying Accountant.

Not Applicable.

ITEM 16G. Corporate Governance

Not applicable.

ITEM 16H. Mine Safety Disclosure

Not applicable.

PART III

ITEM 17. Financial Statements

Not applicable, see Item 18.

ITEM 18. Financial Statements



Micromem Technologies Inc.
Consolidated Financial Statements
For the years ended October 31, 2019, 2018 and 2017
(Expressed in United States Dollars)

Micromem Technologies Inc.
Consolidated Financial Statements
For the years ended October 31, 2019, 2018 and 2017
(Expressed in United States Dollars)

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders of Micromem Technologies Inc.:

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated financial statements of Micromem Technologies Inc.(the Company), which comprise the consolidated statements of financial position as at October 31, 2019 and 2018, and the related consolidated statements of operations and comprehensive loss, changes in equity, and cash flows for each of the years in the three year period ended October 31, 2019, and the related notes (collectively referred to as the “consolidated financial statements”).

In our opinion, the consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Company as of October 31, 2019 and 2018, and the results of its consolidated operations and its consolidated cash flows for each of the years in the three year period ended October 31, 2019, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

Material Uncertainty Related to Going Concern

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As discussed in Note 2 to the consolidated financial statements, the Company has suffered recurring losses from operations and has a net capital deficiency that raise substantial doubt about its ability to continue as a going concern. Management's plans in regard to these matters are also described in Note 2. The consolidated financial statements do not include any adjustments that might result from the outcome of this uncertainty.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

MNP LLP

*Chartered Professional Accountants
Licensed Public Accountants*

We have served as the Company's auditor since 2017.
Toronto, Ontario
February 24, 2020



ACCOUNTING > CONSULTING > TAX
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Micromem Technologies Inc.
Consolidated Statements of Financial Position
As at October 31, 2019 and 2018
(Expressed in United States dollars)

	<u>Notes</u>	<u>2019</u>	<u>2018</u>
Assets			
Current			
Cash	19	\$ 46,056	\$ 206,832
Development costs receivable	7	-	81,841
Prepaid expenses and other receivables		14,751	16,731
Total current assets		<u>\$ 60,807</u>	<u>\$ 305,404</u>
Property and equipment		2,677	9,228
Patents	8	<u>20,000</u>	<u>396,105</u>
Total assets		<u>\$ 83,484</u>	<u>\$ 710,737</u>
Liabilities			
Current			
Trade payables and other liabilities	19(c)	\$ 997,632	\$ 1,007,220
Convertible debentures	9,19	2,599,074	2,476,571
Derivative liabilities	9,19	765,425	650,116
Total liabilities		<u>\$ 4,362,131</u>	<u>\$ 4,133,907</u>
Shareholders' Deficiency			
Share capital	10	84,153,696	82,282,903
Contributed surplus		27,757,639	27,630,909
Equity component of convertible debentures	9	50,147	70,283
Accumulated deficit		<u>(116,240,129)</u>	<u>(113,407,265)</u>
Total shareholders' deficiency		<u>\$ (4,278,647)</u>	<u>\$ (3,423,170)</u>
Total liabilities and shareholders' deficiency		<u>\$ 83,484</u>	<u>\$ 710,737</u>
Going concern	2		
Commitments	17		
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The accompanying notes are an integral part of these consolidated financial statements

Approved on behalf of the Board of Directors:

"Joseph Fuda"
Director

"Alex Dey"
Director

Micromem Technologies Inc.
Consolidated Statements of Operations and Comprehensive Loss
For the years ended October 31, 2019, 2018 and 2017
(Expressed in United States dollars)

	<u>Notes</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>
Operating expenses				
General and administration	14(a)	\$ 197,208	\$ 305,338	\$ 305,421
Professional, other fees and salaries	14(b)	441,981	747,280	1,433,113
Stock-based compensation	11	-	140,612	442,206
Development expense (recovery)	7	(41,546)	(130,069)	147,008
Travel and entertainment		52,568	101,496	118,261
Amortization of property and equipment		3,175	3,922	3,992
Amortization of patents	8	152,962	156,960	133,785
Impairment of patents	8	223,143	-	-
Foreign exchange loss (gain)	19(a)	(40,548)	(117,779)	343,210
Total operating expenses		<u>\$ 988,943</u>	<u>\$ 1,207,760</u>	<u>\$ 2,926,996</u>
Other expenses				
Accretion expense	9	1,517,436	2,039,344	1,358,101
Interest expense	9	496,172	504,778	666,245
Financing costs	9	72,476	40,414	-
Gain on revaluation of derivative liabilities	9	(343,436)	(1,094,718)	(1,614,822)
Loss on conversion of convertible debentures	9	101,919	63,852	1,009,680
Gain on extinguishment of convertible debentures	9	(646)	(399,191)	-
Total other expenses		<u>\$ 1,843,921</u>	<u>\$ 1,154,479</u>	<u>\$ 1,419,204</u>
Loss before income tax provision		<u>\$ (2,832,864)</u>	<u>\$ (2,362,239)</u>	<u>\$ (4,346,200)</u>
Income tax provision	13	-	-	-
Net loss and comprehensive loss		<u>\$ (2,832,864)</u>	<u>\$ (2,362,239)</u>	<u>\$ (4,346,200)</u>
Weighted average number of outstanding shares, basic and diluted	12	288,398,051	237,242,674	207,131,781
Basic and diluted loss per share	12	\$ (0.01)	\$ (0.01)	\$ (0.02)

The accompanying notes are an integral part of these consolidated financial statements

Micromem Technologies Inc.
Consolidated Statements of Changes in Equity
For the years ended October 31, 2019, 2018 and 2017
(Expressed in United States dollars)

		Number of	Share	Contributed	Equity component of convertible	Accumulated	Total
	Notes	shares	capital	surplus	debentures	deficit	
Balance at November 1, 2016		204,388,569	\$ 75,855,139	\$ 26,918,470	\$ 23,075	\$ (106,698,826)	\$ (3,902,142)
Private placements of shares for cash	10	3,873,223	719,403	-	-	-	719,403
Shares issued on settlement of accounts payable		547,643	107,708	-	-	-	107,708
Stock-based compensation	11	-	-	442,206	-	-	442,206
Shares issued as settlement of wages		132,381	21,909	-	-	-	21,909
Convertible debentures converted into common shares		20,370,895	2,536,963	-	-	-	2,536,963
Reallocation from derivative liability for conversion		-	20,970	-	-	-	20,970
Treasury shares cancelled		(750,000)	-	-	-	-	-
Loss on conversion of convertible debentures		-	936,102	-	38,975	-	975,077
Net loss		-	-	-	-	(4,346,200)	(4,346,200)
Balance at October 31, 2017		228,562,711	\$ 80,198,194	\$ 27,360,676	\$ 62,050	\$ (111,045,026)	\$ (3,424,106)
Private placements of shares for cash	10	14,739,272	866,200	-	-	-	866,200
Shares issued on settlement of accounts payable		79,765	13,379	-	-	-	13,379
Stock-based compensation	11	-	-	140,612	-	-	140,612
Convertible debentures converted into common shares	9	16,220,951	1,205,130	-	-	-	1,205,130
Expiry of convertible debenture conversion option		-	-	129,621	(129,621)	-	-
Renewal of convertible debentures	15	-	-	-	137,854	-	137,854
Net loss		-	-	-	-	(2,362,239)	(2,362,239)
Balance at October 31, 2018		259,602,699	\$ 82,282,903	\$ 27,630,909	\$ 70,283	\$ (113,407,265)	\$ (3,423,170)
Private placements of shares for cash	10	4,961,059	212,968	-	-	-	212,968
Financing costs converted into common shares	9	350,000	21,000	-	-	-	21,000
Convertible debentures converted into common shares	9	82,038,963	1,636,825	-	-	-	1,636,825
Expiry of convertible debenture conversion option		-	-	126,730	(126,730)	-	-
Renewal of convertible debentures	15	-	-	-	106,594	-	106,594
Net loss		-	-	-	-	(2,832,864)	(2,832,864)
Balance at October 31, 2019		<u>346,952,721</u>	<u>\$ 84,153,696</u>	<u>\$ 27,757,639</u>	<u>\$ 50,147</u>	<u>\$ (116,240,129)</u>	<u>\$ (4,278,647)</u>

The accompanying notes are an integral part of these consolidated financial statements

Micromem Technologies Inc.
Consolidated Statements of Cash Flows
For the years ended October 31, 2019, 2018 and 2017
(Expressed in United States dollars)

	<u>Notes</u>	<u>2019</u>	<u>2018</u>	<u>2017</u>
Operating activities				
Net loss		\$ (2,832,864)	\$ (2,362,239)	\$ (4,346,200)
Items not affecting cash:				
Stock-based compensation	11	-	140,612	442,206
Amortization of property and equipment		3,175	3,922	3,992
Amortization of patents	8	152,962	156,960	133,785
Impairment of patents	8	223,143	-	-
Bad debt expense		-	10,000	-
Accretion expense	9,15	1,517,436	2,039,344	1,358,101
Convertible debenture interest converted	9,15	63,409	47,435	-
Accrued interest on convertible debentures	15	164,243	125,328	666,245
Shares issued for financing costs	9	21,000	-	-
Gain on revaluation of derivative liabilities	9,15	(343,436)	(1,094,718)	(1,614,822)
Loss on conversion of convertible debentures	9	101,919	63,852	1,009,680
Gain on extinguishment of convertible debentures	9,15	(646)	(399,191)	-
Loss on disposal of property and equipment		5,000	220	983
Foreign exchange gain	19(a)	(136,606)	(87,033)	-
		<u>(1,061,265)</u>	<u>(1,355,508)</u>	<u>(2,346,030)</u>
Net changes in non-cash working capital:				
Decrease (increase) in development costs receivable	7	81,841	324,016	(415,857)
Decrease (increase) in prepaid expenses and other assets		1,980	33,582	(16,986)
Increase (decrease) in trade payables and other liabilities		(4,993)	(341,399)	723,631
Cash flows used in operating activities		(982,437)	(1,339,309)	(2,055,242)
Investing activities				
Purchase of property and equipment		-	(3,548)	(3,809)
Patents	8	-	(121,603)	(161,647)
Cash flows used in investing activities		-	(125,151)	(165,456)
Financing activities				
Private placements of shares for cash	10	212,968	866,200	719,403
Proceeds from issuance of convertible debentures	15	780,891	1,457,983	1,788,974
Repayments of convertible debentures	9,15	(172,198)	(662,080)	(581,618)
Repayments from related parties		-	-	15,000
Cash flows provided by financing activities		<u>821,661</u>	<u>1,662,103</u>	<u>1,941,759</u>
Net change in cash		(160,776)	197,643	(278,939)
Cash - beginning of year		206,832	9,189	288,128
Cash - end of year		<u>\$ 46,056</u>	<u>\$ 206,832</u>	<u>\$ 9,189</u>
Supplemental cash flow information				
Interest paid (classified in operating activities)	9	\$ 353,214	\$ 322,930	\$ 321,700
Income taxes paid	13	\$ -	\$ -	\$ -
Shares issued on settlement of convertible debentures	9	\$ 1,636,825	\$ 1,205,130	\$ 2,536,963
Shares issued on settlement of accounts payable		\$ -	\$ 13,379	\$ 107,708
Shares issued on settlement of wages		\$ -	\$ -	\$ 21,909

The accompanying notes are an integral part of these consolidated financial statements

1. Reporting entity and nature of business

Micromem Technologies Inc. ("Micromem" or the "Company") is incorporated under the laws of the Province of Ontario, Canada. Micromem is a publicly traded company with its head office located at 121 Richmond Street West, Suite 304, Toronto, Ontario, Canada. The Company's common shares are currently listed on the Canadian Securities Exchange under the trading symbol "MRM" and on the Over the Counter Venture Market under the trading symbol "MMTIF".

The Company develops, based upon proprietary technology, customized sensor applications for companies (referred to as "development partners") operating internationally in various industry segments. The Company has not generated commercial revenues through October 31, 2019 and is devoting substantially all its efforts to securing commercial revenue opportunities.

2. Going concern

These consolidated financial statements have been prepared with the assumption that the Company will be able to realize its assets and discharge its liabilities in the normal course of business for the foreseeable future.

There are material uncertainties related to conditions and events that cast significant doubt about the Company's ability to continue as a going concern and ultimately on the appropriateness of the use of the accounting principles applicable to a going concern. During the year ended October 31, 2019, the Company reported a net loss and comprehensive loss of \$2,832,864 (2018 - \$2,362,239; 2017 - \$4,346,200) and negative cash flow from operations of \$982,437 (2018 - \$1,339,309; 2017 - \$2,055,242). The Company's working capital deficiency as at October 31, 2019 is \$4,301,324 (2018 - \$3,828,503).

The Company's success depends on the profitable commercialization of its proprietary sensor technology. There is no assurance that the Company will be successful in the profitable commercialization of its technology. Based upon its current operating and financial plans, management of the Company believes that it will have sufficient access to financial resources to fund the Company's planned operations through fiscal 2020; however, the ability of the Company to continue as a going concern is dependent upon its ability to secure additional financing and/or profitably commercialize its technology. These consolidated financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classifications of liabilities that may result from the possible inability of the Company to continue as a going concern.

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

3. Basis of presentation

These consolidated financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board ("IASB") and interpretations issued by the IFRS Interpretations Committee ("IFRIC"). The Company applied, as of November 1, 2018, International Financial Reporting Standard ("IFRS") 9 Financial instruments. The nature and effect of those changes are disclosed in Note 5. The Company has not early adopted any other standard, interpretation or amendment that has been issued but is not yet effective.

These consolidated financial statements were authorized for issuance and release by the Company's Board of Directors on February 24, 2020.

(a) Basis of consolidation

These consolidated financial statements include the accounts of Micromem Technologies Inc. and its subsidiaries. All intercompany transactions and balances have been eliminated upon consolidation. The Company applies the acquisition method to account for business combinations. Acquisition-related costs are expensed as incurred.

The Company's wholly-owned subsidiaries include:

- (i) Micromem Applied Sensors Technology, Inc. ("MAST") which was incorporated in November 2007 and is domiciled in Delaware, United States. MAST has traditionally had the primary responsibility for the exploitation of the Company's technologies in conjunction with various strategic partners and customers.

3. Basis of presentation (continued)

(a) Basis of consolidation (continued)

(ii) 7070179 Canada Inc. which was incorporated in October 2008 under the Canada Business Corporations Act in Ontario, Canada. The Company has assigned to this entity its rights, title and interests in certain patents, which it previously held, directly, in exchange for common shares of this entity.

(iii)	<u>Inactive subsidiaries</u>	<u>Domiciled in</u>
	Memtech International Inc.	Bahamas
	Memtech International (USA) Inc., Pageant Technologies (USA) Inc.	United States
	Pageant Technologies Inc., Micromem Holdings (Barbados) Inc.	Barbados

(b) Basis of measurement

These consolidated financial statements have been prepared on the historical cost basis, except for financial instruments designated at fair value through profit and loss which are measured at their fair value.

(c) Functional and presentation currency

These consolidated financial statements are presented in United States dollars ("USD"), which is the functional currency of the Company and all of its subsidiaries.

(d) Use of estimates and judgments

The preparation of these consolidated financial statements in conformity with IFRSs requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. These estimates are reviewed periodically and adjustments are made as appropriate in the reporting period they become known. Items for which actual results may differ materially from these estimates are described in the following section.

(i) Fair value of options and conversion features

The Company makes estimates and utilizes assumptions in determining the fair value for stock options and derivative liabilities based on the application of the Black-Scholes option pricing model or the binomial option pricing model, depending on the circumstances. These pricing models require management to make various assumptions and estimates that are susceptible to uncertainty, including the volatility of the share price, expected dividend yield, expected term, expected risk-free interest rate, and exercise price in the binomial option pricing model.

(ii) Useful lives and recoverability of long-lived assets

Long-lived assets consist of property and equipment and patents. Amortization is dependent upon estimates of useful lives and impairment is dependent upon estimates of recoverable amounts. These are determined through the exercise of judgment and are dependent upon estimates that take into account factors such as economic and market conditions, frequency of use, anticipated changes in laws, and technological improvements.

(iii) Income taxes

Income taxes and tax exposures recognized in the consolidated financial statements reflect management's best estimate of the outcome based on facts known at the reporting date. When the Company anticipates a future income tax payment based on its estimates, it recognizes a liability. The difference between the expected amount and the final tax outcome has an impact on current and deferred taxes when the Company becomes aware of this difference.

When the Company incurs losses for income tax purposes, it assesses the probability of taxable income being available in the future, based on budgeted forecasts. These forecasts are adjusted for certain non-taxable income and expenses and specific rules on the use of unused credits and tax losses. When the forecasts indicate that sufficient future taxable income will be available to deduct the temporary differences, a deferred tax asset is recognized for all deductible temporary differences.

3. Basis of presentation (continued)

(d) Use of estimates and judgments (continued)

(iv) Going concern assumption

The Company applies judgment in assessing whether material uncertainties exist that would cause doubt as to the whether the Company could continue as a going concern.

(v) Expected credit losses on financial assets

Determining an allowance for expected credit losses ("ECLs") for all debt financial assets not held at fair value through profit or loss requires management to make assumptions about the historical patterns for the probability of default, the timing of collection and the amount of incurred credit losses, which are adjusted based on management's judgment about whether economic conditions and credit terms are such that actual losses may be higher or lower than historical patterns suggest.

4. Summary of significant accounting policies

The principal accounting policies applied to the preparation of these consolidated financial statements are set out below:

(a) Foreign currency translation

These consolidated financial statements are presented in USD, which is the functional currency of the Company and all of its subsidiaries. At each reporting date, foreign currency denominated monetary assets and liabilities are translated at year-end exchange rates. Non-monetary assets and liabilities that are measured in terms of historical cost in a foreign currency are translated using the exchange rate at the date of the transaction. Income and expenses, and cash flows of foreign operations, are translated into USD using annual average exchange rates. Exchange differences arising from operating transactions are recorded in operating profit or loss for the period; exchange differences related to financing transactions are recognized in finance income or directly in equity.

(b) Financial instruments

The Company aggregates similar financial instruments into classes based on their nature and characteristics. All financial assets except those classified as fair value through profit or loss are reviewed at each reporting date to determine whether there is any indication of impairment. Financial assets are considered to be impaired when there is objective evidence that the estimated future cash flows of the investment have been affected as a result of one or more events that occurred after the initial recognition.

The Company's accounting policy for each class of financial instruments is as follows:

(i) Fair value through profit or loss

Financial instruments classified as fair value through profit or loss are reported at fair value at each reporting date, and any change in fair value is recognized in net income in the period during which the change occurs. In these consolidated financial statements, cash and derivative liabilities have been classified as fair value through profit or loss.

(ii) Loans and receivables and other financial liabilities

Financial instruments classified as loans and receivables and other financial liabilities are carried at amortized cost using the effective interest method. Transaction costs are included in the amount initially recognized. In these consolidated financial statements, development costs receivable have been classified as loans and receivables. Trade payables and other liabilities and convertible debentures have been classified as other financial liabilities.

(c) Convertible debentures and derivative liabilities

The Company issues convertible debentures used as bridge loans, which can be converted into common shares at the option of the holder, into a fixed number of shares for a fixed amount of consideration, or into a fixed number of shares for a variable amount of consideration, or into a variable number of shares.

4. Summary of significant accounting policies (continued)

(c) Convertible debentures and derivative liabilities (continued)

(i) Initial recognition

Upon initial recognition, the Company determines whether the convertible debentures consist of liability and equity components, or if both components represent liabilities.

For convertible debentures which provide conversion into a fixed number of shares, the liability component is recognized initially at the fair value of a similar, non-convertible liability. The equity component is recognized as the difference between the fair value of the instrument as a whole and the fair value of the liability component. Any directly attributable transaction costs are allocated to the liability and equity components in proportion to their initial carrying amounts.

For convertible debentures which provide conversion into a variable number of shares or into a fixed number of shares for a variable amount of consideration, the conversion option is accounted for as an embedded derivative, which is separated from the host contract. Upon initial recognition, the derivative liability is valued at fair value using a Black Scholes or a binomial pricing model. The carrying amount of the convertible debenture is recognized as the difference between the fair value of the instrument as a whole and the fair value of the derivative liability. Any directly attributable transaction costs allocated to the derivative liability are expensed in the period

(ii) Modifications and extinguishments

To the extent there are changes to the terms of outstanding convertible debentures, these changes may be recorded as a modification or an extinguishment. A substantial change in the terms of an existing financial liability is accounted for as an extinguishment of the original financial liability and the recognition of a new financial liability. The terms are substantially different if the discounted present value of the cash flows under the new terms is at least 10% different from the discounted present value of the remaining cash flows of the original financial liability. A modification of the original financial liability is accounted for as an adjustment to the effective interest rate.

(d) Property and equipment

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

	<u>Method</u>	<u>Rate</u>
Computers	Declining balance	30%
Furniture and equipment	Declining balance	30%

(e) Impairment of long-lived assets

The Company follows the guidelines prescribed in IAS 36 with respect to the measurement for impairment of assets. The carrying amounts of property and equipment and patents are reviewed for impairment when events or changes in circumstances indicate that the carrying amounts may not be recoverable. When the carrying amount exceeds the estimated recoverable amount, the assets are written down to their recoverable amount.

The recoverable amount of long-lived assets is the greater of fair value less costs to sell and value in use. Impairment losses are recognized in the consolidated statements of loss and comprehensive loss.

(f) Development costs

Research costs are expensed in the period incurred. Development costs are expensed as incurred unless they meet the criteria for capitalization. Expenditures during the development phase are capitalized if the Company can demonstrate each of the following criteria:

(i) the technical feasibility of completing the asset so that it will be available for use or sale, (ii) its intention to complete the asset and use or sell it, (iii) its ability to use or sell the asset, (iv) how the asset will generate probable future economic benefits, (v) the availability of adequate technical, financial and other resources to complete the development and to use or sell the asset, and (vi) its ability to measure reliably the expenditure attributable to the asset during its development; otherwise, these costs are expensed as incurred. Payments received from development partners on projects are recorded to deferred development costs as a recovery of costs incurred.

4. Summary of significant accounting policies (continued)

(g) Patents

Patents are recorded at cost and are amortized on a straight line basis over their estimated useful lives of 5 years.

(h) Stock-based compensation and other stock-based payments

Where equity instruments are granted to employees, they are recorded at the fair value of the equity instrument granted at the grant date. The grant date fair value is recognized in net income over the vesting period. Where equity instruments are granted to non-employees, they are recorded at the fair value of the goods or services received. When the value of goods or services received in exchange for the stock-based payment cannot be reliably estimated, the fair value is measured by use of a valuation model. The cost recognized for all equity-settled stock-based payments are reflected in contributed surplus, until the instruments are exercised. Upon exercise, shares are issued from treasury and the amount previously reflected in contributed surplus along with any proceeds paid upon exercise, are credited to share capital.

(i) Income taxes

The Company accounts for its income taxes using the deferred tax assets and liabilities method. Deferred income tax assets and liabilities are determined based on the difference between the carrying amount and the tax basis of the assets and liabilities. Any change in the net amount of deferred income tax assets and liabilities is included in profit or loss or equity. Deferred income tax assets and liabilities are determined based on enacted or substantively enacted tax rates and laws which are expected to apply to taxable profit for the years in which the assets and liabilities will be recovered or settled. Deferred income tax assets are recognized when it is probable they will be realized. Deferred tax assets and liabilities are not discounted.

(j) Provisions

Provision for risks and expenses are recognized for probable outflows of resources that can be estimated and that result from present obligations resulting from past events. In the case where a potential obligation resulting from past events exists, but where occurrence of the outflow of resources is not probable or the estimate is not reliable, these contingencies are disclosed. Provisions, if any, are measured based on management's best estimates of outcomes on the basis of facts known at the reporting date.

(k) Share capital

Share capital is presented at the fair value of the shares issued. Costs related to the issuance of shares are reported in equity, net of tax, as a deduction from the issuance proceeds.

(l) Earnings or loss per share

The Company presents basic and diluted earnings per share data for its common shares. Basic earnings per share is calculated by dividing the profit or loss attributable to common shareholders of the Company by the weighted average number of common shares outstanding during the period. Diluted earnings per share is determined by adjusting the profit or loss attributable to common shareholders and the weighted average number of common shares outstanding, for the effects of all potentially dilutive common shares, which comprise stock options and convertible debentures.

5. Adoption of new accounting pronouncements

(a) Amendments to IFRS 2 Share-based payments

IFRS 2 clarifies how to account for certain types of share-based payment transactions. The amendments provide requirements on the accounting for the effects of vesting and non-vesting conditions on the measurement of cash-settled share-based payments, share-based payment transactions with a net settlement feature for withholding tax obligations, and a modification to the terms and conditions of a share-based payment that changes the classification of the transaction from cash-settled to equity-settled. The effective date of these amendments is for annual periods beginning January 1, 2018. The Company has adopted these amendments as of the effective date and has assessed no significant changes as a result of the adoption of these amendments.

5. Adoption of new accounting pronouncements (continued)

(b) IFRS 9 Financial instruments

IFRS 9 addresses classification and measurement of financial assets and replaces the multiple category and measurement models in IAS 39 for debt instruments with a new mixed measurement model having only two categories: amortized cost, and fair value through profit or loss. IFRS 9 also replaces the models for measuring equity instruments and such instruments are either recognized at fair value through profit or loss or at fair value through other comprehensive income ("FVOCI"). The effective date of this standard is for annual periods beginning January 1, 2018. The Company has adopted this new standard as of its effective date on a retrospective basis with the exception of financial assets that were derecognized at the date of initial application, November 1, 2018. There was no significant impact on these consolidated financial statements as a result of the adoption of this new standard. The new classification and measurement of the Company's financial assets are as follows:

(i) Amortized cost

This category includes financial assets that are held within a business model with the objective to hold the financial assets in order to collect contractual cash flows that meet the solely principal and interest ("SPPI") criterion. Financial assets classified in this category are measured at amortized cost using the effective interest method.

(ii) Fair value through profit or loss ("FVTPL")

This category includes derivative instruments as well as quoted equity instruments which the Company has not irrevocably elected, at initial recognition or initial application date, to classify at FVOCI. This category would also include debt instruments whose cash flow characteristics fail the SPPI criterion or are not held within a business model whose objective is either to collect contractual cash flows, or to both collect and sell contractual cash flows. Financial assets in this category are recorded at fair value with changes recognized in profit or loss.

(iii) Impairment of financial assets

Critical to the determination of ECLs is the definition of default and the definition of a significant increase in credit risk. The definition of default is used in measuring the amount of ECLs and in the determination of whether the loss allowance is based on 12-month or lifetime ECLs. The Company considers the following as constituting an event of default: the borrower is past due more than 90 days on any material credit obligation, or the borrower is unlikely to pay its credit obligations to the Company in full. The Company monitors all financial assets that are subject to the impairment requirements to assess whether there has been a significant increase in credit risk since initial recognition. If there has been a significant increase in credit risk, the Company will measure the loss allowance based on lifetime rather than 12-month ECLs. In assessing whether the credit risk on a financial asset has increased significantly since initial recognition, the Company compares the risk of a default on the financial asset at the current reporting date against the risk of a default that was anticipated when the financial asset was first recognized, adjusted for remaining maturity of the instrument.

The IFRS 9 requirements for the classification and measurement of financial liabilities are substantially unchanged from IAS 39 except for the removal of cost exception for derivative financial liabilities and changes in fair value as a result of entity's own credit risk now recognized in OCI. The Company has assessed no change in classification and measurement of financial liabilities.

The assessment of the Company's business models was made as of the date of initial application, November 1, 2018, and then applied retrospectively to those financial instruments that were not derecognized before November 1, 2018. There was no adjustment to opening accumulated deficit resulting from the retrospective application of IFRS 9 to these financial instruments.

	IFRS 9	IAS 39
Financial assets		
Cash	Amortized cost	FVTPL
Development costs receivable	Amortized cost	Amortized cost
Other receivables	Amortized cost	Amortized cost
Financial liabilities		
Trade payables and other liabilities	Amortized cost	Amortized cost
Convertible debentures	Amortized cost	Amortized cost
Derivative liabilities	FVTPL	FVTPL

5. Adoption of new accounting pronouncements (continued)

(c) IFRS 15 Revenue from contracts with customers

IFRS 15 replaces the previous guidance on revenue. This standard specifies how and when revenue should be recognized based on a five- step model, which is applied to all contracts with customers. The revenue recognition model has changed from one based on the transfer of risks and rewards of ownership to one based on the transfer of control. IFRS 15 became effective for annual periods beginning on or after January 1, 2018, with early adoption permitted. The Company has adopted this new standard as of its effective date, using the full retrospective method of adoption. The Company does not have any current contracts with customers and has assessed no changes to current and prior reporting periods as a result of the adoption of this new standard.

6. New and revised standards and interpretations issued but not yet effective

(a) IFRS 16 Leases

IFRS 16 replaces the previous guidance on leases. This standard provides a single recognition and measurement model to be applied by lessees to leases, with required recognition of assets and liabilities for most leases. This standard is effective for annual periods beginning on or after January 1, 2019, with early adoption permitted. The Company will adopt this new standard as of its effective date.

The Company has reviewed all of the Company's leasing arrangements as at October 31, 2019, in respect of the new lease standard. The standard will primarily affect the accounting of the Company's operating leases. At the reporting date, the Company has non-cancellable operating lease commitments of \$132,165 CDN (Note 17). The Company intends to apply the simplified transition approach and will not restate comparative amounts to the year prior to adoption. The Company expects to approximately recognize net right-of-use assets of \$74,307, current lease liabilities of \$36,442, and non-current lease liabilities of \$37,865. The Company does not expect any adjustment to opening accumulated deficit as at November 1, 2019. The Company expects that profit (loss) will decrease (increase) by approximately \$4,374 for the year ended October 31, 2020 as a result of the application of IFRS 16.

(b) IFRIC 23 Uncertainty over income tax treatments

IFRIC 23 clarifies the application of recognition and measurement requirements in IAS 12, Income Taxes, when there is uncertainty over income tax treatments. It specifically addresses whether an entity considers each tax treatment independently or collectively, the assumptions an entity makes about the examination of tax treatments by taxation authorities, how an entity determines taxable profit (tax loss), tax bases, unused tax losses, unused tax credits and tax rates, and how an entity considers changes in facts and circumstances. IFRIC 23 will be effective for the annual periods beginning on or after January 1, 2019, with earlier application permitted. The Company will adopt this interpretation as of its effective date. The Company has performed a preliminary analysis and has not assessed any significant impacts as a result of the adoption of this standard.

7. Development costs receivable

The Company incurs development costs, and recovers from its development partners, a portion of the costs it has incurred in accordance with meeting milestones as stipulated in development contracts. The remaining balances outstanding from its development partners are recorded as development costs receivable on the statement of financial position.

8. Patents

	November 1, 2017	Additions	October 31, 2018	Additions	Impairment	October 31, 2019
Cost	\$ 782,828	\$ 121,603	\$ 904,431	\$ -	\$ (223,143)	\$ 681,288
Accumulated amortization	351,366	156,960	508,326	152,962	-	661,288
Net book value	\$ 431,462		\$ 396,105			\$ 20,000

The Company holds several patents in the United States for its Multimodal Fluid Condition Sensor Platform. In prior years, the Company had negotiated with a major automotive company and a Tier 1 manufacturer for the development and commercial exploitation of this patented technology. In 2019, the Company discontinued provisional patent applications in international jurisdictions and determined that patents was impaired, its carrying amount was higher than its recoverable amount. The value in use, measured as the present value of the future cash flows expected to be derived from this asset class, has been estimated at a minimum of \$20,000 at October 31, 2019. Accordingly, the Company has recorded an impairment reserve of \$223,143 in the current fiscal year. The Company maintains that there remains significant potential value in its existing patents in terms of potential licensing agreements and royalty fees once it begins to exploit this asset class in the future.

Micromem Technologies Inc.
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9. Convertible debentures

The Company issues three types of convertible debentures: USD denominated convertible debentures with an equity component, Canadian dollar ("CDN") denominated convertible debentures with an embedded derivative due to variable consideration receivable upon conversion caused by foreign exchange, and USD denominated convertible debentures with an embedded derivative caused by variable conversion prices.

	Convertible debentures		Derivative liabilities		Equity component of convertible debentures	
	2019	2018	2019	2018	2019	2018
(a)	\$ 2,511,514	\$ 2,419,877	\$ 204,366	\$ 151,918	\$ 50,147	\$ 70,283
(b)	87,560	56,694	561,059	498,198	-	-
	<u>\$ 2,599,074</u>	<u>\$ 2,476,571</u>	<u>\$ 765,425</u>	<u>\$ 650,116</u>	<u>\$ 50,147</u>	<u>\$ 70,283</u>

(a) USD denominated debentures with equity components and CDN denominated debentures with embedded derivatives

All loan principal amounts are expressed in original currency and all remaining dollar amounts expressed in USD. Convertible debentures outstanding as at October 31:

	USD (equity component)		CDN (embedded derivative)	
	2019	2018	2019	2018
Loan Principal				
Opening balance	\$ 931,000	\$ 730,000	\$ 2,234,294	\$ 2,392,860
Issuance during the year	-	231,000	165,266	1,035,800
Repayment or conversion	-	(30,000)	(128,543)	(1,194,366)
Outstanding at year-end	<u>\$ 931,000</u>	<u>\$ 931,000</u>	<u>\$ 2,271,017</u>	<u>\$ 2,234,294</u>
Terms of Loan				
Annual interest rate	12% - 24%	12% - 24%	12% - 24%	12% - 24%
Effective annual interest rate	24% - 36%	36% - 37%	13% - 645%	23% - 398%
Conversion price to common shares	\$0.04 - \$0.07	\$0.04 - \$0.21	\$0.05 - \$0.15	\$0.05 - \$0.15
Remaining life (in months)	1 - 6	0 - 7	0 - 12	0 - 7

Consolidated Statements of Financial Position

Carrying value of loan principal	\$ 906,993	\$ 894,838	\$ 1,464,416	\$ 1,428,616
Interest payable	18,661	15,100	121,444	81,323
Convertible debentures	\$ 925,654	\$ 909,938	\$ 1,585,860	\$ 1,509,939
Derivative liability	\$ -	\$ -	\$ 204,366	\$ 151,918
Equity component	\$ 50,147	\$ 70,283	\$ -	\$ -

Consolidated Statements of Operations and Comprehensive Loss

Accretion expense	\$ 118,749	\$ 110,469	\$ 914,780	\$ 1,652,007
Interest expense	\$ 191,001	\$ 168,052	\$ 229,673	\$ 284,908
Gain on revaluation of derivative liability	\$ -	\$ -	\$ (846,401)	\$ (1,322,507)
Loss on conversion of debentures	\$ -	\$ -	\$ -	\$ 6,261
Loss (gain) on extinguishment	\$ -	\$ 2,792	\$ (2,865)	\$ (401,983)

Consolidated Statements of Changes in Equity

Amount of principal converted to common shares	\$ -	\$ -	\$ -	\$ 19,023
Amount of interest converted to common shares	\$ -	\$ -	\$ -	\$ 60,634
Number of common shares issued on conversion of convertible debentures	-	-	-	770,962

Consolidated Statements of Cash Flows

Amount of principal repaid in cash	\$ -	\$ 30,000	\$ 96,598	\$ 632,080
Amount of interest repaid in cash	\$ 187,440	\$ 161,424	\$ 159,801	\$ 161,506

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9. Convertible debentures (continued)

(b) USD denominated debentures with embedded derivatives

During the year ended October 31, 2019, the Company has incurred \$72,476 (2018 - \$40,414; 2017 - \$nil) financing costs which primarily consist of early repayment premiums and admin fees relating to the convertible debentures, of which \$21,000 (2018 - \$nil; 2017 - \$nil) was converted into common shares.

Convertible debentures outstanding as at October 31:

	(i)		(ii)	
	2019	2018	2019	2018
Loan Principal				
Opening balance	\$ 213,600	\$ -	\$ 101,250	\$ -
Issuance during the year	563,600	278,600	307,250	142,750
Conversion	(397,600)	(65,000)	(287,500)	(41,500)
Repayment	(75,600)	-	-	-
Outstanding at year-end	<u>\$ 304,000</u>	<u>\$ 213,600</u>	<u>\$ 121,000</u>	<u>\$ 101,250</u>
Terms of Loan				
Annual interest rate	4%	12%	10%	10%
Effective annual interest rate	139% - 5044%	4380% - 4932%	4338% - 5368%	3873% - 5658%
Conversion price to common shares	(i)	(i)	(ii)	(ii)
Remaining life (in months)	6 - 11	4 - 12	3 - 12	6 - 8
Consolidated Statements of Financial Position				
Carrying value of loan principal	\$ 39,993	\$ 772	\$ 23,429	\$ 262
Interest payable	10,953	12,973	13,185	4,238
Convertible debentures	\$ 50,946	\$ 13,745	\$ 36,614	\$ 4,500
Derivative liability	\$ 370,759	\$ 190,274	\$ 190,300	\$ 89,328
Consolidated Statements of Operations and Comprehensive Loss				
Accretion expense	\$ 57,111	\$ 2,496	\$ 165,753	\$ 264
Interest expense	\$ 27,053	\$ 11,769	\$ 21,916	\$ 4,670
Loss on revaluation of derivative liability	\$ 196,842	\$ 8,690	\$ 294,673	\$ 16,332
Loss on conversion of debentures	\$ 49,738	\$ 3,652	\$ 52,181	\$ 10,513
Loss on extinguishment	\$ 2,219	\$ -	\$ -	\$ -
Consolidated Statements of Changes in Equity				
Amount of principal converted to common shares	\$ 397,600	\$ 65,000	\$ 287,500	\$ 41,500
Amount of interest converted to common shares	\$ 23,100	\$ -	\$ 21,969	\$ 6,400
Number of common shares issued on conversion of convertible debentures	29,106,847	2,456,707	33,421,726	982,921
Consolidated Statements of Cash Flow				
Amount of principal repaid in cash	\$ 75,600	\$ -	\$ -	\$ -
Amount of interest repaid in cash	\$ 5,973	\$ -	\$ -	\$ -

(i) Conversion price defined as 75% multiplied by average of lowest 3 closing stock prices for the 10 trading days prior to conversion date.

(ii) Conversion price defined as 75% multiplied by lowest stock price for the 20 trading days prior to conversion date.

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9. Convertible debentures (continued)

(b) USD denominated debentures with embedded derivatives (continued)

Convertible debentures outstanding as at October 31:

	(iii)		(iv)	
	2019	2018	2019	2018
Loan Principal				
Opening balance	\$ -	\$ 100,200	\$ 308,000	\$ 343,000
Issuance during the year	-	175,800	-	308,000
Conversion	-	(276,000)	(308,000)	(343,000)
Outstanding at year-end	\$ -	\$ -	\$ -	\$ 308,000

Terms of Loan

Annual interest rate	n/a	12%	5%	5%
Effective annual interest rate	n/a	264% - 6002%	5234%	160% - 5242%
Conversion price to common shares	(iii)	(iii)	(iv)	(iv)
Remaining life (in months)	n/a	n/a	n/a	1 - 5

Consolidated Statements of Financial Position

Carrying value of loan principal	\$ -	\$ -	\$ -	\$ 26,755
Interest payable	-	-	-	11,694
Convertible debentures	\$ -	\$ -	\$ -	\$ 38,449
Derivative liability	\$ -	\$ -	\$ -	\$ 218,596

Consolidated Statements of Operations and Comprehensive

Loss

Accretion expense	\$ -	\$ 61,453	\$ 261,042	\$ 212,655
Interest expense	\$ -	\$ 14,816	\$ 22,443	\$ 20,563
Loss (gain) on revaluation of derivative liability	\$ -	\$ 19,375	\$ 11,451	\$ 183,392
Loss on conversion of debentures	\$ -	\$ 43,426	\$ -	\$ -
Loss on extinguishment	\$ -	\$ -	\$ -	\$ -

Consolidated Statements of Changes in Equity

Amount of principal converted to common shares	\$ -	\$ 276,000	\$ 308,000	\$ 343,000
Amount of interest converted to common shares	\$ -	\$ 10,145	\$ 18,339	\$ 12,554

Number of common shares issued on conversion of convertible debentures	-	6,076,094	19,510,390	5,934,267
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(iii) Conversion price defined as 80% multiplied by lowest 3 closing stock prices for the 10 trading days prior to conversion date.

(iv) Conversion price defined as 75% multiplied by lowest stock price for the 15 trading days prior to conversion date.

9. Convertible debentures (continued)

(c) Fair value of derivative liabilities outstanding

The fair value of the derivative liabilities is determined in accordance with the Black Scholes or binomial option-pricing models, depending on the circumstances. The underlying assumptions are as follows:

	<u>2019</u>	<u>2018</u>
Share price	\$0.02	\$0.03
Exercise price	\$0.01 - \$0.11	\$0.02 - \$0.11
Volatility factor (based on historical volatility)	173% - 321%	168% - 297%
Risk free interest rate	1.67% - 1.69%	1.74% - 2.22%
Expected life of conversion features (in months)	0 - 12	0 - 12
Expected dividend yield	0%	0%
CDN to USD exchange rate (as applicable)	0.7582	0.7609
Call value	\$0.00 - \$0.02	\$0.00 - \$0.02

Volatility was estimated using the historical volatility of the Company's stock prices for common shares.

10. Share capital

(a) Authorized and outstanding shares

The Company has two classes of shares as follows:

- (i) Special redeemable voting preference shares - 2,000,000 authorized, nil issued and outstanding.
- (ii) Common shares without par value – an unlimited number authorized. The holders of the common shares are entitled to receive dividends which may be declared from time to time, and are entitled to one vote per share at shareholder meetings of the Company. All common shares are ranked equally with regards to the Company's residual assets.

(b) Private placements

- (i) In 2019, the Company completed four private placements with investors consisting of common shares with no warrants, pursuant to prospectus and registration exemptions set forth in applicable securities law. The Company received net proceeds of \$212,968 and issued a total of 4,961,059 common shares.
- (ii) In 2018, the Company completed thirty-three private placements with investors consisting of common shares with no warrants, pursuant to prospectus and registration exemptions set forth in applicable securities law. The Company received net proceeds of \$866,200 and issued a total of 14,739,272 common shares.
- (iii) In 2017, the Company completed twenty-four private placements with investors consisting of common shares, with no warrants, pursuant to prospectus and registration exemptions set forth in applicable securities law. The Company received net proceeds of \$719,403 and issued a total of 3,873,223 common shares.

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11. Stock options

(a) Stock option plan

The Company has a fixed stock option plan. Under the Company's stock option plan (the "Plan"), the Company may grant options for up to 18,840,000 shares of common stock to directors, officers, employees or consultants of the Company and its subsidiaries. The exercise price of each option is equal to or greater than the market price of the Company's shares on the date of grant unless otherwise permitted by applicable securities regulations. An option's maximum term under the Plan is 10 years. Stock options are fully vested upon issuance by the Company unless the Board of Directors stipulates otherwise by Directors' resolution.

(b) Summary of changes

	Number of options	Weighted average exercise price
Outstanding at November 1, 2017	6,595,000	\$ 0.37
Granted ⁽ⁱ⁾	2,200,000	0.10
Expired	(2,545,000)	0.34
Outstanding at October 31, 2018		
	6,250,000	\$ 0.29
Expired	(520,000)	0.34
Outstanding at October 31, 2019	5,730,000	\$ 0.25

(i) The fair value of the options granted was determined in accordance with the Black Scholes option-pricing model. The underlying assumptions are as follows:

	2018
Share price	\$0.09
Exercise price	\$0.10
Volatility factor (based on historical volatility)	95%
Risk free interest rate	2.07%
Expected life of conversion features (in months)	60
Expected dividend yield	0%
Forfeiture rate	0%

All options vest immediately upon issuance. There were no options issued to directors and officers during the year ended October 31, 2019 (2018 - 700,000; 2017 - 2,500,000) nor employees (2018 - 1,500,000; 2017 - 390,000).

(c) Stock options outstanding at October 31, 2019

Date of issue	Expiry Date	Number of options	Weighted average Exercise price	Remaining contractual life (years)
June 4, 2015	June 4, 2020	300,000	\$ 0.49	0.6
August 20, 2015	August 20, 2020	940,000	0.46	0.8
September 30, 2015	September 30, 2020	250,000	0.40	0.9
December 30, 2016	December 30, 2021	2,040,000	0.25	2.2
June 29, 2018	June 29, 2023	2,200,000	0.10	3.7
Outstanding and exercisable at October 31, 2019		5,730,000	\$ 0.25	2.4

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12. Loss per share

Basic and diluted loss per share are calculated using the following numerators and denominators:

Numerator	2019	2018	2017
Loss attributable to common shareholders	\$ (2,832,864)	\$ (2,362,239)	\$ (4,346,200)
Loss used in computation of basic and diluted loss per share	\$ (2,832,864)	\$ (2,362,239)	\$ (4,346,200)
Denominator	2019	2018	2017
Weighted average number of common shares for computation of basic and diluted loss per share	<u>288,398,051</u>	<u>237,242,674</u>	<u>207,131,781</u>

For the year ended October 31, 2019, 2018 and 2017, all stock options and conversion options were anti-dilutive and, therefore, are excluded from the calculation of diluted loss per share.

13. Income taxes

- (a) The Company has non-capital losses of approximately \$30.5 million available to reduce future taxable income, the benefit of which has not been recognized in these consolidated financial statements. At October 31, 2019, the tax losses expire as follows:

	Canada	Other foreign	Total
2026	\$ 1,824,942	\$ -	\$ 1,824,942
2027	1,534,633	-	1,534,633
2028	-	-	-
2029	1,572,795	452,762	2,025,557
2030	2,122,111	1,880,897	4,003,008
2031	1,278,506	18,526	1,297,032
2032	1,416,917	325,793	1,742,710
2033	1,717,443	157,463	1,874,906
2034	2,484,557	679,089	3,163,646
2035	2,807,765	570,901	3,378,666
2036	3,295,071	441,019	3,736,090
2037	2,637,800	232,719	2,870,519
2038	1,783,250	-	1,783,250
2039	1,224,688	5,254	1,229,942
	<u>\$ 25,700,478</u>	<u>\$ 4,764,423</u>	<u>\$ 30,464,901</u>

- (b) In addition, the Company has available capital loss carry forwards of approximately \$1.3 million to reduce future taxable capital gains, the benefit of which has not been recognized in these consolidated financial statements. Capital losses carry forward indefinitely.
- (c) Deferred income taxes reflect the net tax effect of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and amounts used for income tax purposes. Significant components of the Company's deferred tax assets and liabilities are as follows:

	2019	2018	2017
Non-capital losses and other	\$ 8,073,286	\$ 7,698,859	\$ 7,277,434
Capital losses	175,090	175,090	350,180
Property, equipment, patents and deferred costs	<u>1,668,632</u>	<u>1,567,228</u>	<u>1,598,394</u>
	\$ 9,917,008	\$ 9,441,177	\$ 9,226,008
Deferred tax asset not recognized	<u>(9,917,008)</u>	<u>(9,441,177)</u>	<u>(9,226,008)</u>
	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

As at October 31, 2019 and 2018, the Company assessed that it is not probable that sufficient taxable profit will be available to use deferred income tax assets based on operating losses in prior years; therefore, there are no balances carried in the consolidated statements of financial position for such assets.

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13. Income taxes (continued)

(d) The reconciliation of income tax attributed to continuing operations computed at the statutory tax rates to income tax expense is as follows:

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Loss before income taxes	\$ (2,832,864)	\$ (2,362,239)	\$ (4,346,200)
Statutory tax rate	26.50%	26.50%	26.50%
Expected income tax recovery	\$ (750,709)	\$ (625,993)	\$ (1,151,743)
Non-deductible expenses and other items	270,610	182,056	413,499
Effect of exchange rate on deferred tax assets carried forward	4,269	225,846	424,023
Effect of higher tax rates in foreign jurisdiction	-	-	163,651
Change in deferred tax assets not recognized	475,830	218,091	150,570
	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

14. Operating expenses

(a) General and administration

The components of general and administration expenses are as follows:

	<u>2019</u>	<u>2018</u>	<u>2017</u>
General and administrative	\$ 56,720	\$ 63,936	\$ 98,187
Rent and occupancy	64,647	70,674	72,725
Office insurance	26,812	117,615	54,023
Investor relations, listing and filing fees	49,029	53,113	80,486
	<u>\$ 197,208</u>	<u>\$ 305,338</u>	<u>\$ 305,421</u>

(b) Professional, other fees and salaries

The components of professional, other fees and salaries expenses are as follows:

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Professional fees	\$ 157,354	\$ 165,685	\$ 224,139
Consulting fees	53,845	316,815	813,735
Salaries and benefits	230,782	264,780	395,239
	<u>\$ 441,981</u>	<u>\$ 747,280</u>	<u>\$ 1,433,113</u>

15. Supplemental cash flow information

The following provides a reconciliation of the cash flows from convertible debentures and derivative liabilities :

	<u>2019</u>	<u>2018</u>
Balance - beginning of year	\$ 3,126,687	\$ 2,978,751
Cash flows from financing activities:		
Proceeds from issuance of convertible debentures	780,891	1,457,983
Repayments of convertible debentures	(172,198)	(662,080)
Non-cash changes:		
Increase in loan principal ⁽ⁱ⁾	60,000	-
Accretion expense	1,517,436	2,039,344
Accrued interest on convertible debentures	164,243	125,328
Gain on revaluation of derivative liabilities	(343,436)	(1,094,718)
Gain on extinguishment of debt	(646)	(399,191)
Convertible debentures converted into common shares	(1,636,825)	(1,093,842)
Renewal of convertible debentures	(106,594)	(137,854)
Foreign exchange gain	(25,059)	(87,034)
Balance - end of year	<u>\$ 3,364,499</u>	<u>\$ 3,126,687</u>

(i) In accordance with the convertible debenture agreements, additional consideration was provided as of the conversion date, based on the stipulated conversion price.

16. Key management compensation and related party transactions

The Company reports the following related party transactions:

(a) Key management compensation

Key management personnel are persons responsible for planning, directing and controlling activities of the Company, including officers and directors. Compensation paid or payable to these individuals (or companies controlled by such individuals) are summarized as follows:

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Professional, other fees, and salaries	\$ 4,684	\$ 235,297	\$ 667,724
Stock-based compensation	-	44,740	382,531
	<u>\$ 4,684</u>	<u>\$ 280,037</u>	<u>\$ 1,050,255</u>

In 2019, these parties were not awarded any options (2018 - 700,000 options at an exercise price of \$0.10; 2017 - 1,950,000 options at an exercise price of \$0.25).

(b) Trade payables and other liabilities

As at October 31, 2019 and 2018, the Company reports in trade payables and other liabilities a balance owing to the former President of MAST of \$193,174 which represents alleged outstanding wages payable, see Note 18(b).

As at October 31, 2019 and 2018, the Company reports \$167,000 in trade payables and other liabilities owing to a company whose major shareholder is a director of the Company and who has also previously served as its Chief Technology Officer. This individual was elected as a director on February 19, 2014. The balance reported relates to alleged services provided in 2015; there have been no invoices submitted by this related party after October 31, 2015.

(c) Convertible debentures

In May 2019, the CEO of the Company subscribed for a short-term loan of \$15,000 CDN (\$11,450 USD). At October 31, 2019, \$10,000 CDN (\$7,582 USD) in loan principal remains outstanding.

In January 2018, the CEO of the Company subscribed for a convertible debenture of \$150,000 CDN (\$114,138 USD). At October 31, 2019, \$52,319 CDN (\$39,756 USD)(October 31, 2018 - \$ 100,862 CDN, \$76,713 USD) in loan principal remains outstanding.

17. Commitments

The Company has extended the lease for its premises through July 2022. The lease term is for 5 years and stipulates base monthly rental expenses of \$4,005 CDN. Lease commitments are as follows:

	<u>CDN</u>
Less than one year	\$ 48,060
Two to five years	84,105
	<u>\$ 132,165</u>

18. Contingencies

- (a) The Company has agreed to indemnify its directors and officers and certain of its employees in accordance with the Company's bylaws. The Company maintains insurance policies that may provide coverage against certain claims.
- (b) On October 7, 2018, the former President of MAST, Inc. (a wholly-owned subsidiary), Mr. Steven Van Fleet, filed a lawsuit against Micromem and MAST in New York State Supreme Court, Dutchess County. In the action, Mr. Van Fleet is seeking payment of \$214,574 plus interest relating to alleged remuneration and expense reimbursements due to him prior to his resignation as an officer and director of Micromem and MAST on August 17, 2018. The Company answered the complaint on December 7, 2018 by denying the material allegations in Mr. Van Fleet's claims. In addition, the Company interposed 7 counterclaims against Mr. Van Fleet seeking, among other things: (i) damages of not less than \$2.75 million, (ii) specific performance to compel Mr. Van Fleet to comply with his contractual obligations which were required for the period of time that he served as an officer and director through to his resignation date; (iii) repayment of certain salary and expenses paid to Mr. Van Fleet; (iv) a direction for Mr. Van Fleet to turn over all Company property in his possession or control; (v) an accounting to determine all money and property belonging to the Company and/or MAST. On January 24, 2019, the Company amended its original answer and counterclaims to include, among other things, a demand for additional damages based on new information that had come to light. On February 8, 2019, Mr. Van Fleet, through his counsel, replied to and denied the material allegations in Micromem's counterclaims. The Company reports an accrual of \$205,788 at October 31, 2019 with respect to alleged remuneration and expense reimbursements claimed by Mr. Van Fleet but, nonetheless, has denied the allegations in Mr. Van Fleet's claims. The matter is currently at the pre-trial stage, pending discoveries and remains as a contingency at February 24, 2020.

19. Financial risk management

- (a) Currency risk

Currency risk is the risk that the fair value of, or future cash flows from, the Company's financial instruments will significantly fluctuate due to changes in foreign exchange rates. The Company is exposed to currency risk to the extent that it incurs expenses and issues convertible debentures denominated in Canadian dollars. The Company manages currency risk by monitoring the Canadian position of these monetary financial instruments on a periodic basis throughout the course of the reporting period.

As at October 31, 2019, balances that are denominated in CDN are as follows:

	<u>2019</u>	<u>2018</u>
Cash (bank indebtedness)	\$ (3,188)	\$ 99,139
Trade payables and other liabilities	\$ 387,766	\$ 318,172
Convertible debentures	\$ 2,010,940	\$ 1,877,487
Derivative liabilities	\$ 207,161	\$ 199,650

A 10% strengthening of the USD against the CDN would decrease accumulated deficit by \$126,371 as at October 31, 2019 (2018 - decrease accumulated deficit by \$158,836). A 10% weakening of the USD against the CDN would have had the opposite effect of the same magnitude.

- (b) Interest rate risk

Interest rate risk is the risk that the fair value of, or future cash flows from, the Company's financial instruments will significantly fluctuate due to changes in market interest rates. The Company is exposed to interest rate risk on its interest-bearing convertible debentures. This exposure is limited due to the short-term nature of the convertible debentures.

- (c) Liquidity risk

Liquidity risk is the risk that the Company will not be able to meet its financial obligations as they become due. The Company's policy is to review liquidity resources and ensure that sufficient funds are available to meet financial obligations as they become due. Further, the Company's management is responsible for ensuring funds exist and are readily accessible to support business opportunities as they arise. The Company's funding is provided in the form of capital raised through the issuance of shares on conversion of convertible debentures. All financial liabilities are due within 1 year as at October 31, 2019.

19. Financial risk management (continued)

(c) Liquidity risk (continued)

(i) Trade payables

The following represents an analysis of the maturity of trade payables:

	<u>2019</u>	<u>2018</u>
Less than 30 days past billing date	\$ 18,201	\$ 87,356
31 to 90 days past billing date	13,259	12,837
Over 90 days past billing date	781,230	740,131
	<u>\$ 812,690</u>	<u>\$ 840,324</u>

As at October 31, 2019, trade payables include \$540,000 (2018 - \$334,000) of invoices which the Company has disputed and/or are stale-dated. The Company does not anticipate that it will be required to discharge such amounts.

(ii) Convertible debentures and derivative liabilities

The following represents an analysis of the maturity of the convertible debentures and derivative liabilities:

	<u>2019</u>		<u>2018</u>	
	Convertible debentures	Derivative liability	Convertible debentures	Derivative liability
Less than three months	\$ 754,799	\$ 75,528	\$ 862,686	\$ 90,142
Three to six months	1,168,349	71,326	1,346,315	382,309
Six to twelve months	675,926	618,571	267,570	177,665
	<u>\$ 2,599,074</u>	<u>\$ 765,425</u>	<u>\$ 2,476,571</u>	<u>\$ 650,116</u>

(d) Credit risk

Credit risk is the risk of financial loss to the Company if a customer or counterparty to a financial instrument fails to meet its contractual obligations, and arises principally from the Company's cash, development costs receivable, and other receivables. The maximum exposure to credit risk is the carrying value of these financial assets, which amounted to \$46,056 as at October 31, 2019 (2018 - \$288,673). The Company reduces its credit risk by assessing the credit quality of counterparties, taking into account their financial position, past experience and other factors.

The Company held cash of \$46,056 at October 31, 2019 (2018 - \$206,832). The cash is held with central banks and financial institution counterparties that are highly rated. The Company has assessed no significant change in credit risk and an insignificant loss allowance, which was not recognized in these consolidated financial statements.

20. Fair value hierarchy

Assets and liabilities recorded at fair value in the consolidated statements of financial position are classified using a fair value hierarchy that reflects the significance of the inputs used in making the measurements. The fair value hierarchy has the following levels:

Level 1 - valuation based on quoted prices (unadjusted) in active markets for identical assets and liabilities. There are no assets or liabilities in this category in these consolidated financial statements.

Level 2 - valuation techniques based on inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly or indirectly. In these consolidated financial statements, derivative liabilities are included in this category.

Level 3 - valuation techniques using the inputs for the asset or liability that are not based on observable market data. There are no assets or liabilities in this category in these consolidated financial statements.

The Company's policy for determining when transfers between levels of fair value hierarchy occur is based on the date of the event or changes in circumstances that caused the transfer. During the year ended October 31, 2019 and 2018, there were no transfers between levels.

21. Capital risk management

The Company's objectives when managing capital are to (i) maintain its ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders, (ii) ensure it has sufficient cash resources to further develop and market its technologies and (iii) maintain its ongoing operations. The Company defines its capital as its net assets (total assets less total liabilities). In order to secure the additional capital necessary to pursue these objectives, the Company may attempt to raise additional funds through the issuance of equity or convertible debentures or by securing strategic partners. The Company is not subject to externally imposed capital requirements and there has been no change with respect to the overall capital risk management strategy during the year ended October 31, 2019.

22. Subsequent events

Subsequent to October 31, 2019:

- (a) The Company secured, in aggregate, \$411,891 in convertible debentures with terms of 6 to 12 months. These loans have conversion features which become effective six months after initiation date.
- (b) The Company repaid \$122,764 CDN and \$80,000 USD in convertible debentures and \$179,370 in convertible debentures were converted into 15,927,765 common shares.
- (c) The Company extended convertible debentures that were within 4 months of maturity date from October 31, 2019. Extension terms ranged from 2 months to 6 months.
- (d) The Company secured private placements with investors consisting of common shares with no warrants pursuant to prospectus and registrations set forth in applicable securities law. It realized net proceeds of \$402,161 and issued a total of 10,008,491 common shares.

ITEM 19. Exhibits

The following exhibits are filed as part of this Annual Report:

- [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. 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 \(filed herewith\).](#)
- [Exhibit No. 15.1](#) [Consent of MNP LLP \(filed herewith\)](#)

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, 2020

**SECTION 302 CERTIFICATION
CERTIFICATION OF CHIEF EXECUTIVE OFFICER**

I, Joseph Fuda, certify that:

1. I have reviewed this annual report on Form 20-F of Micromem Technologies Inc. for the Fiscal Year Ended October 31, 2019;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

- a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
- b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 28, 2020

/s/ Joseph Fuda

Joseph Fuda
Chief Executive Officer
(Principal executive officer)

**SECTION 302 CERTIFICATION
CERTIFICATION OF CHIEF FINANCIAL OFFICER**

I, Dan Amadori, certify that:

1. I have reviewed this annual report on Form 20-F of Micromem Technologies Inc. for the Fiscal Year Ended October 31, 2019;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the period covered by the annual report that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

- a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
- b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: February 28, 2020

/s/ Dan Amadori

Dan Amadori
Chief Financial Officer
(Principal financial officer)

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of Micromem Technologies Inc. (the "Company") on Form 20-F for the Fiscal Year Ended October 31, 2019 (the "Report"), I, Joseph Fuda, Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, based on my knowledge, that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

Date: February 28, 2020

/s/ Joseph Fuda

Joseph Fuda
Chief Executive Officer
(Principal executive officer)

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Annual Report of Micromem Technologies Inc. (the "Company") on Form 20-F for the Fiscal Year Ended October 31, 2019 (the "Report"), I, Dan Amadori, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. §1350, as adopted pursuant to §906 of the Sarbanes-Oxley Act of 2002, based on my knowledge, that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and result of operations of the Company.

Date: February 28, 2020

/s/ Dan Amadori
Dan Amadori
Chief Financial Officer
(Principal financial officer)



CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the Registration Statement on Form S-8 (No. 333-203466) of our report dated February 24, 2020 relating to the consolidated financial statements of Micromem Technologies Inc. consisting of the consolidated statements of financial position as at October 31, 2019 and 2018 and the related consolidated statements of operations and comprehensive loss, changes in equity and cash flows for each of the years in the three year period ended October 31, 2019, which appears in this Form 20-F dated February 28, 2020.

Signed:

MNP LLP

Toronto, Ontario

February 28, 2020



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