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**MICROMEM TECHNOLOGIES INC.  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
FOR THE THREE MONTHS ENDED JANUARY 31, 2023  
PREPARED AS OF MARCH 29, 2023**

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**NOTICE TO READER**

The Management's Discussion and Analysis ("MD&A") report for Micromem Technologies Inc. for the three months ending January 31, 2023, as attached, is dated as of March 29, 2023, consistent with the date of the Independent Registered Public Accounting Firm report and with the original 52-109 CEO and CFO certification filings related thereto.

/s/ Dan Amadori  
Dan Amadori, CFO  
March 29, 2023

/s/ Joseph Fuda  
Joseph Fuda, CEO  
March 29, 2023

**MICROMEM TECHNOLOGIES INC.**  
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## **INTRODUCTION**

The following sets out the Management's Discussion and Analysis ("MD&A") of the financial position and result of operations for the three months ending January 31, 2023, of Micromem Technologies Inc. (the "Company", "Micromem" or "we"). The MD&A should be read in conjunction with the Company's audited consolidated financial statements and accompanying notes for the fiscal years ending October 31, 2022, and 2021 which are prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board. Additional information regarding the Company is available on the SEDAR website at [www.sedar.com](http://www.sedar.com).

The Company's shares are traded on the OTCQB under the symbol MMTIF and on the Canadian Securities Exchange ("CSE") under the symbol MRM. Micromem has several wholly-owned subsidiaries including Micromem Applied Sensor Technologies Inc ("MAST"). MAST was active until August 2018 and has been inactive since then. All of the Company's other subsidiaries have been inactive since inception.

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

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

## **FORWARD LOOKING STATEMENTS**

This MD&A contains forward-looking statements and forward-looking information within the meaning of applicable Canadian securities legislation ("forward looking statements"). Any statements that express or involve discussions with respect to predictions, expectations, beliefs, plans, projections, objectives, assumptions, potentials, future events or performance (often, but not always, using words or phrases such as "believes", "expects" or "does not expect", "is expected", "anticipates" or "does not anticipate", or "intends" or stating that certain actions, events or results "may", "could", "would", "might" or "will" be taken or achieved) are not statements of historical fact, but are "forward-looking statements". Such forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause the actual results, performance or achievements of the Company, or developments in the Company's business or in its industry, to differ materially from the anticipated results, performance, achievements, or developments expressed or implied by such forward-looking statements. Forward-looking statements include disclosure regarding possible events, conditions or results

of operations that are based on assumptions about future conditions, courses of action and consequences. Forward-looking statements may also include, without limitation, any statement relating to future events, conditions, or circumstances. The Company cautions you not to place undue reliance upon any such forward-looking statements, which speak only as of the date they are made. Forward-looking statements relate to, among other things, the successful commercialization of our technology, comments about potential future revenues, joint development agreements and expectations of signed contracts with customers, etc. A number of inherent risks, uncertainties and factors affect the operations, performance and results of the Company and its business, and could cause actual results to differ materially from current expectations of estimated or anticipated events or results. Some of these risks and uncertainties include the risk of not securing required capital in future, the risks of not successfully concluding agreements with potential partners on a timely basis and the risks associated with commercializing and bringing to market our technology. These risks are affected by certain factors that are beyond the Company's control: the existence of present and possible future government regulation, competition that exists in the Company's business, uncertainty of revenues, markets and profitability, as well as those other factors discussed in this MD&A report. This list is not exhaustive of the factors that may affect any of the Company's forward-looking statements and reference should also be made to the Company's Annual Information Form (prepared and filed in the form of a Form 20-F Annual Report pursuant to The Securities Exchange Act of 1934) for a description of risk factors.

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

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**TABLE OF CONTENTS:**

- 1. OVERVIEW**
  - 2. BUSINESS DEVELOPMENTS, QUARTER ENDED JANUARY 31, 2023**
  - 3. FINANCING**
  - 4. COMMENTARY ON CONVERTIBLE DEBENTURES**
  - 5. DISCUSSION OF OPERATING RESULTS**
  - 6. RISKS AND UNCERTAINTIES**
  - 7. GOING CONCERN**
  - 8. OTHER MATTERS**
  - 9. SUBSEQUENT EVENTS**
-

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**1. OVERVIEW**

Micromem is a company that develops customized, proprietary sensor-based solutions for large multinational corporations. Until August 2018, MAST was traditionally responsible for the development of market opportunities, maintaining customer relationships and the project management of the independent engineering subcontractors that it engaged once a client project was initiated.

In 2022 and in the quarter ended January 31, 2023, the Company has had positive new developments in its business initiatives. It has also experienced client driven delays due to the Covid-19 pandemic in terms of its commercialization strategies for the technology applications that it has been pursuing. It continued to deal with very tight working capital constraints and has been successful in raising additional capital through to the date of this report.

**2. BUSINESS DEVELOPMENTS IN QUARTER ENDING JANUARY 31, 2023:**

*(a) Romgaz:*

Micromem has continued its ongoing discussions and negotiations with Romgaz during Q1 2023. These discussions have advanced and three (3) phases of go forward activity have now been defined. These are as follows:

*Phase one* of the Agreement relates to the development of analytics software for Micromem's ARTRA project which is to be customized for use by Romgaz and Petrom in their respective gas and oil well operations. Micromem will maintain a 50% interest in the jointly developed analytics software which is intended to provide comprehensive real time data and analysis for operating wells. Micromem will receive recurring monthly revenues as this software is utilized.

*Phase two* of the Agreement relates to purchase orders for ARTRA units:

- (i) Initially, Micromem will receive a purchase order for two units to be delivered to the University for their evaluation. These initial two units will be identical to the ARTRA technology that Micromem has previously delivered to Chevron. Micromem will recover all of the costs it incurs with respect to these initial units. The University's team will complete their assessment of the required modifications that will be needed for these initial units in order to conform with all required specifications for a well-mounted device that incorporates all of the analytics software ("Configured Units").
- (ii) The follow up component of the purchase order will be for 20 of the Configured Units to be assessed and tested for field use in operating wells in Romania. These Configured Units will be built in Romania.

- (iii) If the Configured Units are successfully tested in the field, the final component of the purchase order will be for up to 3,800 Configured Units, over 24 months, for installation and networking on gas wells and an additional 1,200 units for installation and networking on oil wells. These units will be built in Romania. The proposed selling price for each of these units has currently been established as Euro 200,000 per unit.

*Phase three* of the agreement, which will occur concurrently, will be to develop a solution for the powerline monitoring system selected for use in Romania's electricity transmission system. Micromem will work with its Romanian partners to develop both the powerline monitoring devices and the analytics software for the Romanian national electrical grid.

Subsequent to January 31, the Company has announced that it has executed an agreement with its Romanian partners with respect to the execution of these phases of development (Note 22).

In anticipation of these developments in 2023, Micromem has planned for its business activity to include the following components:

- (i) Continuance of its working relationship with the developer of the ARTRA 171 technology which Chevron has successfully tested in onsite testing of operating oil wells and for which we anticipate Romgaz purchase orders in 2023.
- (ii) We have established a Toronto - based engineering/product development team in cooperation with an established manufacturing and engineering group whom we expect to have a role in future as a strategic partner to Micromem.
- (iii) We will plan to add additional senior management to the Micromem team in the project management, engineering and financial reporting areas of discipline. We will also look to recruit additional corporate directors to our Board.

*(b) Chevron:*

We anticipate meeting with Chevron during Q2 or Q3 2023.

*(c) Covid 19 update:*

The impact on the Company's operations of the COVID-19 pandemic has been discussed in previous reports. The pandemic has previously resulted in delays in rolling out our Romgaz program. We believe that we will now return to more normalized operations in 2023. However, if the pandemic continues for an extended period of time in 2023 and beyond, there could be additional repercussions to the Company's ongoing business which could be significant.

### **3. FINANCING**

In Q1 2023 the Company secured \$37,080 of financing from private placements (Q1 2022: \$123,885) and received proceeds of \$125,600 (Q1 2022: \$189,000) from the issuance of convertible debentures (referred to interchangeably as "debentures" or "convertible loans" or "loans" throughout this document). The Company issued 3,788,177 common shares relating to the conversion by debenture holders of their debentures totaling \$107,774 during Q1 2023 (Q1 2022: issued 4,593,480 common shares relating to conversion of debentures totaling \$359,507).

The Company's convertible debt structure is complex with 3 broad categories of such debt: (i) \$CDN denominated debt with fixed conversion prices; (ii) \$US denominated debt with fixed conversion prices, and (iii) \$US denominated debt with variable conversion prices. The term of the debt in each instance is typically between 4 months and 12 months. To date, the Company has repaid certain convertible loans at maturity when due as requested by the debenture holder or converted the debenture into common shares at the request of the debenture holder or extended the term of the debenture through negotiations with the debenture holder – in this latter case, certain terms of the loan – interest rate and/or conversion price – have, in some instances, been adjusted as part of the extension.

Under IFRS reporting, such loans require quarterly remeasurements. The application of the remeasurement methodology is very specific. This is more fully discussed in Section 2; in summary, there are several non-cash related income and expense charges that arise from such remeasurements. We recorded the following non-cash charges in the period ending January 31, 2023 and 2022 none of which impact the Company's cash flows:

<b>For the 3 months ended January 31</b>	<b>2023</b>	<b>2022</b>	<b>Change</b>
Accretion expense	\$ 79,762	\$ 823,764	\$ (744,002)
Loss on conversion of convertible debentures	8,779	203,721	(194,942)
Loss (gain) on revaluation of derivative liabilities	(304,849)	31,315	(336,164)
Net Loss (gain) on extinguishment of convertible debentures	114,570	26,844	87,726
Net expense (gain)	\$ (101,738)	\$ 1,085,644	\$ (1,187,382)

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**4. COMMENTARY ON CONVERTIBLE DEBENTURES:**

*This section of the report is intended to provide readers with additional information as to the nature of the reporting requirements, procedures, and impact of the convertible debt financings that the Company has completed. The objective is to facilitate the reader's understanding of this complex aspect of the Company's financial statements.*

**(1) Overview: convertible debenture reporting**

- (a) We are required under IFRS reporting standards to measure the components of our convertible debt including the debt, the derivative liability, and the equity component of the face value of the debt, as appropriate, upon execution of the loan agreement with the lender.
- (b) The measurement methodology that we employ is in accordance with prescribed guidelines under IFRS and International Accounting Guidelines. This methodology is either a Black Scholes pricing model or a binomial distribution measurement model, depending on which model is more suitable in each case. That determination is based on a subjective assessment by the Company.
- (c) When we secure a convertible debenture from an investor, the terms which are finalized through negotiation with the investor will vary on a case-by-case basis in terms of the following aspects:
  - (i) Term (typically 4 months to 12 months).
  - (ii) Interest rate (typically 1 to 2% per month but, in some cases, between 5% - 10% per annum; in yet one other case, the interest rate is 2% per annum).
  - (iii) Conversion price (which may be fixed at initiation date or fixed after 6 months based on a formulaic calculation, denominated in Canadian dollars or U.S. Dollars, the latter being the functional currency of the Company and its subsidiaries).
  - (iv) The option for the Company to prepay the loan during the entire term of the loan or within an initial period of the term of the loan (typically up to 6 months).
- (d) At the maturity date of the debenture, the debenture holder may agree to extend the term of the loan for an additional period of time, either on the same basic terms as already exist or on renegotiated terms.



## **(2) Accounting measurements and periodic reporting of convertible debentures:**

- (a) To the extent that there is a derivative liability that arises in the initial measurement (1(b) above), we are required to revalue the derivative liability at each quarter end using prescribed Black Scholes or binomial methodology. Then, on a quarterly basis, we are required to report this gain or loss on the revaluation in our quarterly consolidated statements of income.
- (b) To the extent that the face value of the loan – which is due at the maturity date – is greater than the amount that is assigned to the loan component of the total amount at inception of the loan (1(a) above), then this difference must be accreted over the term of the loan. Typically, the loan term is from 4 months to 12 months. Thus, over the term of the loan, we are required to report this accretion amount as an expense in our quarterly consolidated statements of income.
- (c) To the extent that a loan is converted into common shares by the debenture holder, we will close out the loan at that point, record remaining accretion expense up to the date of conversion, remeasure the derivative liability to nil and calculate a net gain or loss on conversion of the loan. The net gain or loss is reported in our consolidated statements of income.

## **(3) Impact on financial reporting:**

The realities and complexities of these prescribed accounting treatments give rise to complicated disclosures in our financial statements and footnotes:

- (a) We report substantial accretion expense in our periodic financial statements.
- (b) Over time, barring significant volatility in the share price, we generally report a gain on the settlement of the derivative liabilities. However, the quarterly revaluations of the derivative liabilities can result in significant quarterly fluctuations.
- (c) The calculated *effective interest rate* on debt can be substantial. To illustrate, (for example) if the reported fair value of the debt is a small fraction of the face value at inception and it must be accreted to face value over the term (for example 4 months) then the effective rate of interest can be very high in these reported financials, *representing the rate that would be required to step up the reported value to the face value in the short period of the term of the loan.*

***It is essential, when reviewing our periodic consolidated financial statements, to bear in mind the following:***

- a) Accretion expense is a *non-cash item*.
- b) Gain or loss on revaluation of derivatives in a *non-cash item*.
- c) Gain or loss on extinguishment of debentures *is a non-cash item*.
- d) Gain or loss on conversion of debentures to common shares is a *non-cash item*.

The net non-cash income relating to items (a) - (d) above reported in the quarter ended January 31, 2023 was \$24,468 (quarter ended January 2022: net non-cash loss of \$1,085,214).

**(4) Additional Comments:**

The Company notes the following:

- a) We have had to resort to convertible debentures financing as a primary means of securing financing over the past several years in order to continue our operations.
- b) The *actual interest expense* on our convertible debentures, which is interest paid to the debenture holders, is at a coupon rate ranging between *1% and 2%* per month (in one case at a rate of 2% per annum). The effective rate referenced above is an accounting measurement metric, not a payable obligation.
- c) The use of convertible debentures has served to increase our outstanding number of shares over the past few years. In the quarter ended January 31, 2023, the Company issued 3,788,177 common shares in settlement of \$107,774 of debentures which were converted to common shares by the debenture holders (quarter ended January 31, 2022: 4,593,480 shares issued to settle \$359,507).
- d) The total actual amount that the Company reports as outstanding for debentures at January 31, 2023 is \$3,939,304 (January 31, 2022: \$3,792,064).
- e) At January 31, 2023 we report a total of 472,395,855 common shares outstanding (January 31, 2022: 443,044,888 common shares).

The Company plans to deemphasize or eliminate this complex and expensive source of financing in future as it develops and grows its business and is better able to secure more conventional, lower cost financing.

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**5. DISCUSSION OF OPERATING RESULTS:**

*(a) Financial Position as at January 31, 2023:*

	<b>January 31, 2023</b>	<b>October 31, 2022</b>
	<b>(US \$000)</b>	<b>(US \$000)</b>
<b>Assets:</b>		
Cash	43	34
Prepaid expenses and other receivables	19	18
	<u>62</u>	<u>52</u>
Property and equipment, net	44	48
Patents, at value	-	-
	<u>106</u>	<u>100</u>
<b>Liabilities:</b>		
Accounts payable and accrued liabilities	286	288
Current lease liability	16	15
Debenture Payable	39	38
Convertible debentures	3,939	3,792
Derivative liabilities	568	642
	<u>4,848</u>	<u>4,775</u>
Long-term lease liability	26	29
Long-term loan	45	44
	<u>4,919</u>	<u>4,848</u>
<b>Shareholders' Equity:</b>		
Share capital	87,930	87,785
Contributed surplus	27,443	27,460
Equity component of bridge loans	816	793
Deficit	(121,002)	(120,786)
	<u>(4,813)</u>	<u>(4,748)</u>
	<u>106</u>	<u>100</u>

## Commentary:

1. The Company's working capital deficiency is \$4,786,678 on January 31, 2023 (at October 31, 2022: deficiency of \$4,722,878).
2. For financial reporting purposes the Company has fully amortized the historical cost of its investment in patents. The Company believes that its patents remain as an asset to be exploited in future through the pursuit of licensing agreements with potential strategic partners.
3. The Company continued to secure additional financing in 2023 through convertible bridge loans. Given the terms of the debentures, the Company has measured, as appropriate, the prescribed accounting treatment for these loans and the related derivatives. These loans were typically of a short-term nature and, have, in many cases, renewed on multiple occasions; the related financial reporting has become progressively more complex. Refer to Section 4 of this report for additional commentary.

The balance reported as convertible loans at January 31, 2023, is \$3,939,304 (at October 31, 2022: \$3,792,064) and the related derivative liability balance is \$568,291 (at October 31, 2022: \$641,299).

The Company reports the following charges to the consolidated statements of income:

- a) accretion expense on these debentures of \$79,762 for the quarter ended January 31, 2023 (year ended October 31, 2022: \$1,117,603; quarter ended January 31, 2022: \$823,764).
- b) a loss on the conversion of bridge loans to share capital of \$8,779 for the quarter ended January 31, 2023 (year ended October 31, 2022: gain of \$9,506; for the quarter ended January 31, 2022: loss of \$203,721).
- c) a gain on the revaluation of the derivative liabilities of \$304,849 for the quarter ended January 31, 2023 (a gain on revaluation of \$409,607 for the year ended October 31, 2022; a loss on revaluation of \$31,315 for the quarter ended January 31, 2022).
- d) A net loss on extinguishment of convertible debentures of \$120,237 for the quarter ended January 31, 2023 (a loss of \$200,650 for the year ended October 31, 2022; a loss of \$26,844 for the quarter ended January 31, 2021).

Management generally employs a Black Scholes valuation model although, for certain of the loan transactions contracted for, it uses a binomial measurement model.

Management acknowledges that the cost of financing to the Company is significant; interest on the convertible debentures is substantial. We reported interest expense of \$131,136 for the quarter ended January 31, 2023 (interest expense of \$469,425 for the year ended October 31, 2022; interest expense of \$115,936 for the quarter ended January 31, 2023).

4. The Company secured funding from various sources, the significant components include:

	3months ended January 31, 2023	12months ended October 31, 2022	3months ended October 31, 2022
Private placements	\$ 37,080	\$ 207,588	\$ 123,885
Bridge loan financing	125,600	765,671	189,000
Bridge loan settlements for shares	107,774	764,432	359,507
	<u>\$ 270,454</u>	<u>\$ 1,737,691</u>	<u>\$ 672,392</u>

### 5. Operating Results:

The following table summarizes the Company's operating results for the three months ended January 31, 2023, and 2022:

#### Discussion of operating Results

	Quarter ended January 31,	
	2023 (\$000)	2022 (\$000)
Administration	26	43
Professional fees and salaries	81	185
Stock-based compensation	6	1
Travel and entertainment	8	7
Amortization of property and equipment	4	7
Amortization of patents	-	2
Foreign exchange (gain) loss	58	(58)
Accretion expense	80	824
Interest expense convertible debt	131	116
Other financing costs	3	4
Loss on revaluation of derivatives liabilities	(305)	31
Loss on conversion of convertible debentures	9	204
Loss (gain) on extinguishment of convertible debentures	115	27
Net expenses	216	1,393
Net comprehensive income (loss)	(216)	(1,393)
Income (loss per share)	-	-

#### First quarter ended January 31, 2023 compared to first quarter ended January 31, 2022

- a) Administration costs were \$26,414 versus \$43,001 in 2022. These costs include rent and occupancy costs and investor relations fees.
- b) Professional and other fees and salaries costs were \$81,170 in 2023 versus \$185,026 in 2022. The components of these total costs include legal and audit related expenses,

consulting fees, staff salaries and benefits. Expenses were reduced in Q1 2023 as part of a general cost containment effort.

The CFO has received \$9,000 of management fees in 2023 (2022: \$9,449). The CEO of the Company has received \$34,873 of cash compensation in 2023 (2022: \$21,410).

- c) Travel and entertainment expenses were \$7,805 in Q1 2023 (2022: \$6,967).
- d) Interest expense was \$131,136 in Q1 2023 versus \$115,936 in Q1 2022. This represents the actual interest expense obligations incurred by the Company based on the stated interest rates on the convertible debenture notes.
- e) Amortization expense was \$4,095 in Q1 2023 versus \$9,186 in Q1 2022.
- f) Financing costs were \$3,252 in Q1 2023 versus \$3,975 in Q1 2022. These expenses relate to costs associated with the convertible debenture financings which the Company completed in these time periods.
- g) The loss on foreign exchange reported in Q1 2023 was \$58,504 versus a gain of \$57,844 in Q1 2022. 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, relative to the US dollar was \$0.7516 at January 31, 2023, \$0.7956 at October 31, 2021, \$0.7810 at January 31, 2021.
- h) The other expenses reported relate to the convertible debentures. These expenses are all non-cash expenses and compare as follows:

<b>For the 3 months ended January 31</b>	<b>2023</b>	<b>2022</b>	<b>Change</b>
Accretion expense	\$ 79,762	\$ 823,764	\$ (744,002)
Loss on conversion of convertible debentures	8,779	203,721	(194,942)
Loss (gain) on revaluation of derivative liabilities	(304,849)	31,315	(336,164)
Net Loss (gain) on extinguishment of convertible debentures	114,570	26,844	87,726
Net loss (gain)	\$ (101,738)	\$ 1,085,644	\$ (1,187,382)

C. Unaudited Quarterly Financial Information – Summary

<b>Three months ended (unaudited)</b>	<b>Revenues \$</b>	<b>Expenses \$</b>	<b>Income (loss) in period \$</b>	<b>Loss per share \$</b>
January 31, 2023	-	216,330	(216,330)	-
October 31, 2022	-	(419,082)	419,082	-
July 31, 2022	-	1,421,173	(1,421,173)	-
April 30, 2022	-	(107,839)	107,839	-
January 31, 2022	-	1,392,843	(1,392,843)	-
October 31, 2021	-	(1,259,196)	1,259,196	-
July 31, 2021	-	(2,102,701)	2,102,701	-
April 30, 2021	-	3,154,574	(3,154,574)	-

<b>Three months ended (unaudited)</b>	<b>Working capital (deficiency)</b>	<b>Capital assets at NBV</b>	<b>Other Assets</b>	<b>Total Assets</b>	<b>Shareholders' equity (deficit)</b>
January 31, 2023	(4,786,678)	43,779	-	105,556	(4,813,784)
October 31, 2022	(4,722,878)	48,092	-	99,519	(4,748,000)
July 31, 2022	(5,421,607)	4,445	-	97,504	(5,463,523)
April 30, 2022	(3,939,361)	11,630	-	93,372	(3,790,399)
January 31, 2022	(4,694,513)	11,816	1,877	93,372	(4,368,574)
October 31, 2021	(3,452,924)	26,012	3,877	225,293	(3,471,278)
July 31, 2021	(4,876,595)	31,283	5,877	223,528	(4,887,324)
April 30, 2021	(7,214,669)	38,170	7,877	253,940	(7,318,323)

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**6. RISKS AND UNCERTAINTIES**

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

*Stage of Development of Technology:*

The Company has made strides in advancing its technology and in developing a product portfolio and in engaging customers in joint development projects. There remains the risk that the Company must successfully complete development work on these products to have available commercially viable products which can be licensed or sold.

*Customers' Willingness to Purchase:*

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

*Patent Portfolio:*

The Company has previously committed time and effort and incurred significant costs with respect to the maintenance and development of our intellectual property portfolio. Commencing in 2019, it decided to abandon certain provisional patent filings in international jurisdictions which it believes does not impact on the core patent technology that the Company maintains. Given the nature of IP development, the Company is subject to continuing risks that our patents could be successfully challenged and that our patent pending files may not ultimately be granted full patent status. The Company does not have extensive in-house resources so as to manage its IP portfolio in this environment and has traditionally relied heavily on its patent attorneys for these services.



*Financing:*

The Company has successfully raised funding on a quarterly basis to continue to support its development initiatives and fund the Company's corporate structure and overheads. The Company must continue to source financing in order to continue to support its business initiatives.

*Competitors:*

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

*Management Structure:*

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

*Foreign Currency Exposure:*

The Company expects to sell its products and license technologies in the United States, in Canada and abroad. It has raised financing in both \$CDN and \$USD. The Company has not hedged its foreign currency exposure. Foreign currency fluctuations present an ongoing risk to the business.

*COVID-19 Pandemic:*

The impact on the Company of the COVID-19 pandemic, during the 2022 fiscal year and through to the date of this report has been previously reported, including the steps that management has taken in an attempt to maintain our operations. There remains uncertainty as to the duration of the pandemic. If the pandemic continues for an extended period of time in 2023, there could be repercussions to the Company's ongoing business which could be significant.

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**MICROMEM TECHNOLOGIES INC.**  
**MANAGEMENT’S DISCUSSION AND ANALYSIS**  
**FOR THE THREE MONTHS ENDED JANUARY 31, 2023**  
**PREPARED AS OF MARCH 29, 2023**

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**7. GOING CONCERN**

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

There are material uncertainties related to conditions and events that cast significant doubt about the Company’s ability to continue as a going concern for a reasonable period of time in future. During the three months ended January 31, 2023, the Company reported a net loss and comprehensive loss of \$166,371 (Q1 2022: \$1,392,843) and negative cash flow from operations of \$144,851 (Q1 2022: \$368,723). The Company’s working capital deficiency as at January 31, 2023 is \$4,786,678 (October 31, 2022: \$4,722,878).

The Company’s future 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 2023 and beyond; however, the ability of the Company to continue as a going concern is dependent on its ability to secure additional financing and/or to profitably commercialize its technology. The financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classifications of liabilities that may result from the possible inability of the Company to continue as a going concern.

The COVID 19 pandemic has had a significant impact of the Company’s operations since March 2020 as previously reported. If the pandemic continues for an extended period of time in 2023, there could be additional repercussions to the Company’s ongoing business which could be significant.

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

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**MICROMEM TECHNOLOGIES INC.  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
FOR THE THREE MONTHS ENDED JANUARY 31, 2023  
PREPARED AS OF MARCH 29, 2023**

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**8. OTHER MATTERS**

**(a) Critical Accounting Policies**

The accounting policies the Company believes are critical to the financial reporting process include foreign currency translation, financial instruments, compound and hybrid financial instruments, derivative liabilities, conversion features of bridge loans, patents, impairment of long-lived assets, patents, deferred development costs, revenue recognition, stock-based compensation, and income taxes. These critical accounting policies are set forth in Note 4 to our audited consolidated financial statements as of October 31, 2022; there have been no changes to our critical accounting policies in the quarter ended January 31, 2023.

**(b) Legal matters: lawsuit vs Steven Van Fleet**

We have previously reported on the litigation matter relating to Mr. Van Fleet, the former President of MAST, which commenced in 2018. Ultimately, after all legal and court proceedings, on June 16<sup>th</sup>, 2021 the court ordered that Micromem and MAST had established damages of \$765,579.35, the full amount that had been requested. Additionally, the court awarded costs and statutory prejudgment interest from May 9, 2017. On June 29<sup>th</sup>, 2021 the court entered a judgement (“Judgement”) in favor of Micromem and MAST and against Mr. Van Fleet in the amount of \$1,051,739.83.

With respect to the Company’s efforts to collect on that Judgement, a settlement (“Settlement”) was reached during October 2021. Pursuant to the Settlement, the Company received an initial one-time payment and is entitled to additional monthly payments over a period of up to six years. The Company will record those payments as and when they are received. The total amount to be received by the Company if Mr. Van Fleet makes all the required payments under the terms of the Settlement will be less than the amount of the Judgement obtained by the Company, but if Mr. Van Fleet does not comply with the terms of the Settlement, it also provides the Company a means of enforcing a larger judgement against Mr. Van Fleet that is substantially in line with the Judgement. Mr. Van Fleet has made the prescribed monthly payments each month since October 2021.

**(c) Contingencies and Commitments**

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 accrues 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. There are no such accruals reflected in the Company’s accounts at January 31, 2023.

**(d) Off-Balance Sheet Arrangements**

At January 31, 2023, the Company has no off-balance sheet financial commitments and does not anticipate entering into any contracts of such nature other than the addition of new operating leases for equipment and premises as may be required in the normal course of business.

**(e) Share Capital**

At January 31, 2023, the Company reports 472,395,855 common shares outstanding (October 31, 2022: 467,607,678; January 31, 2022: 443,044,888). Additionally, the Company has 11,725,000 stock options outstanding with a weighted average exercise price of \$0.06 per share (October 31, 2022: 11,700,000 options outstanding with a weighted average exercise price of \$0.06 per share; January 31, 2022: 8,700,000 options outstanding with a weighted average exercise price of \$0.06 per share).

**(f) Management and Board of Directors**

At our most recent Annual Meeting of Shareholders held on September 8, 2020, Joseph Fuda, Oliver Nepomuceno, and Alex Dey were re-elected to serve on our Board of Directors. Brian Von Herzen was not put forward for reelection to the Board at the Annual Meeting. Joseph Fuda and Dan Amadori continue to serve as officers of the Company. Our management team and directors, along with their quarterly remuneration, is presented as below:

	<b>2023 remuneration</b>			
<b>Individual</b>	<b>Position</b>	<b>Cash</b>	<b>Options</b>	<b>Total</b>
Joseph Fuda	President, Director	34,873	-	34,873
Oliver Nepomuceno	Director	-	-	-
Alex Dey	Director	-	-	-
Dan Amadori	CFO	9,000	-	9,000
<b>Total</b>		<b>43,873</b>	<b>-</b>	<b>43,873</b>

	<b>2022 remuneration</b>			
<b>Individual</b>	<b>Position</b>	<b>Cash</b>	<b>Options</b>	<b>Total</b>
Joseph Fuda	President, Director	21,410	-	21,410
Oliver Nepomuceno	Director	-	-	-
Alex Dey	Director	-	-	-
Dan Amadori	CFO	9,449	-	9,449
<b>Total</b>		<b>30,859</b>	<b>-</b>	<b>30,859</b>

**(g) Transactions with Related Parties**

The Company reports the following related party transactions:

*Key management compensation:*

Key management personnel are persons responsible for planning, directing, and controlling activities of the Company, including officers and directors. Quarterly compensation paid or payable to these individuals is summarized as above.

*Trade payables and other liabilities:*

As at January 31, 2023, there was \$5,650 reported as payable to the CFO.

*Convertible debentures:*

In January 2018, an officer of the Company provided a convertible debenture of \$150,000 CDN (\$114,138 USD). At January 31, 2023 no amount remained outstanding.

**(h) Liquidity and Capital Resources**

*Liquidity:*

We currently report negative cash flow from operations. This result will only change once we are generating sufficient revenue from either license fees, royalties or the sale of products utilizing our technology. In 2023 and through to the date of this report, the Company has continued to raise additional financing.

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

We have granted to our directors, officers, and employee's options to purchase shares at prices that are at or above market price on the date of grant. At January 31, 2023, there are 11,725,000 stock options outstanding at an average exercise price of \$0.06 per share.

*Capital Resources:* We have no commitments for capital expenditures as of January 31, 2023.

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**MICROMEM TECHNOLOGIES INC.**  
**MANAGEMENT'S DISCUSSION AND ANALYSIS**  
**FOR THE THREE MONTHS ENDED JANUARY 31, 2023**  
**PREPARED AS OF MARCH 29, 2023**

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**9. SUBSEQUENT EVENTS**

Subsequent to January 31, 2023:

- a) The Company secured twelve (12) 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 \$255,000 CDN (\$186,000 USD) and issued a total of 5,100,000 common shares.
- b) The Company extended convertible debentures that were within 3 months of maturity date from January 31, 2023 for an additional six (6) months.
- c) The Company secured \$115,000 in convertible debentures with a 12 month term and conversion features which become effective six months after initiation date.
- d) The Company converted \$141,882 of convertible debentures through the issuance of 5,760,524 common shares.
- e) The Company granted 2,000,000 options to directors, officers and employees, at an exercise price of \$0.10 CDN (\$0.07 USD), maturing March 20, 2028.
- f) In March 2023 the Company signed an Agreement with Romgaz to pursue the several phases of project work described in Part 2 of this document in partnership with Romgaz and its other Romanian partners.

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