

---

**MICROMEM TECHNOLOGIES INC.  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
FOR THE THREE MONTHS ENDED JANUARY 31, 2024  
PREPARED AS OF MARCH 6, 2024.**

---

**NOTICE TO READER**

The Management's Discussion and Analysis ("MD&A") report for Micromem Technologies Inc. for the three months ended January 31, 2024, as attached, is dated as of March 6, 2024, 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 6, 2024.

/s/ Joseph Fuda  
Joseph Fuda, CEO  
March 6, 2024.

**MICROMEM TECHNOLOGIES INC.**  
**MANAGEMENT'S DISCUSSION AND ANALYSIS**  
**FOR THE THREE MONTHS ENDED JANUARY 31, 2024**  
**PREPARED AS OF MARCH 6, 2024.**

---

## **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 ended January 31, 2024, 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, 2023 and 2022, 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. In November 2007, the Company incorporated Micromem Applied Sensor Technologies Inc. ("MAST") for the purpose of moving forward with the planned commercialization of its technology.

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

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

## **FORWARD LOOKING STATEMENTS**

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

consequences. Forward-looking statements may also include, without limitation, any statement relating to future events, conditions, or circumstances. The Company cautions you not to place undue reliance upon any such forward-looking statements, which speak only as of the date they are made. Forward-looking statements relate to, among other things, the successful commercialization of our technology, comments about potential future revenues, joint development agreements and expectations of signed contracts with customers, etc. A number of inherent risks, uncertainties and factors affect the operations, performance and results of the Company and its business, and could cause actual results to differ materially from current expectations of estimated or anticipated events or results. Some of these risks and uncertainties include the risk of not securing required capital in future, the risks of not successfully concluding agreements with potential partners on a timely basis 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.

\*\*\*\*\*

**MICROMEM TECHNOLOGIES INC.  
MANAGEMENT’S DISCUSSION AND ANALYSIS  
FOR THE THREE MONTHS ENDED JANUARY 31, 2024  
PREPARED AS OF MARCH 6, 2024.**

---

**TABLE OF CONTENTS:**

- 1. OVERVIEW**
  - 2. BUSINESS DEVELOPMENTS IN QUARTER ENDING JANUARY 31, 2024**
  - 3. FINANCING**
  - 4. DISCUSSION OF OPERATING RESULTS**
  - 5. RISKS AND UNCERTAINTIES**
  - 6. GOING CONCERN**
  - 7. OTHER MATTERS**
  - 8. SUBSEQUENT EVENTS**
- APPENDIX 1. COMMENTARY ON CONVERTIBLE DEBENTURES**
-

**MICROMEM TECHNOLOGIES INC.**  
**MANAGEMENT'S DISCUSSION AND ANALYSIS**  
**FOR THE THREE MONTHS ENDED JANUARY 31, 2024**  
**PREPARED AS OF MARCH 6, 2024.**

---

**1. OVERVIEW**

Micromem is actively pursuing business opportunities in Romania. It has been engaged in discussions with Romgaz, the state-controlled gas company in Romania for the past 21 months. Under the Romgaz umbrella, the Company has also been pursuing discussions to complete multiple projects with Petrom, the state-controlled oil company and with Transelectrica, the major public utility and interconnection company in Romania.

The Company has previously completed a successful interwell tracer program with Chevron, utilizing a technology application for interwell tracing in operating oil wells. The technology was developed in conjunction with a Silicon Valley-based design and engineering group who developed the technology which is, hereinafter, referred to as ARTRA. The testing of a prototype analyzer was completed in Lost Hills, California with Chevron in 2019-2020. The Company and Chevron committed approximately \$5 million to this initiative. We met most recently with Chevron in December 2023. We are maintaining an active dialogue with Chevron relating to our current undertakings in Romania and with respect to potential future business opportunities with Chevron.

The Company continues to raise capital for its ongoing operations; working capital continues to be constrained. The Company's financial statements are prepared in accordance with International Financial Reporting Standards ("IFRS"). Under IFRS we report our complex financial instruments (convertible debentures) with quarterly remeasurement of the debentures and the related derivative liabilities. The result in such quarterly remeasurements is that the Company reports significant non-cash expenses in each quarter which have a material impact on our financial statement presentation. This matter is more fully addressed in the body and in Appendix 1 of this MD&A report.

Our litigation with Steve Van Fleet, a former officer of the Company, was resolved in our favour in 2021. The Company has been receiving monthly payments from Mr. Van Fleet as part of the settlement agreement that was struck; these monthly payments are scheduled to continue through September, 2027.

The Company has now returned to more normalized operations in the post COVID-19 era. We relocated our offices to smaller, less expensive premises in 2022. We have four personnel who manage the Company's operations including Joseph Fuda, our President & CEO and Dan Amadori, our Chief Financial Officer, both of whom are our named executives.

The Company has scheduled the next Annual General Meeting of Shareholders for April 22, 2024.

## **2. BUSINESS DEVELOPMENTS IN 2023:**

*Romgaz:* As the date of this report, the Company has had positive developments with respect to its working arrangements with Romgaz. These developments include:

- a) A senior team of technical advisors has been enlisted by Romgaz to assist in the execution of our go forward workplan. This development team includes representation from the University of Oil and Gas of Ploiesti in Romania (“the University”). This team will be directed by Professor Dan Ioan Gheorghui, PhD. who serves as the President of the Romanian chapter of the World Energy Council. The team also includes Professor Alin Dinita, PhD. who serves as the Head of Development Strategies and the Faculty of Mechanical and Electrical Engineering at the University of Ploiesti and Professor Alin Dinita, PhD. who serves as Pro-Dean of the Faculty of Electrical Engineering.
- b) Micromem anticipates that it will finalize agreements with respect to three phases of go forward activity with Romgaz in 2024. The 3 phases, as have been previously reported include:
  - i. An initial purchase order for between 2-5 ARTRA units. The University will evaluate these initial units and develop all required specifications for a well-mounted device that incorporates all required analytics software. Upon completion, Micromem anticipates a second purchase order for up to 20 of these upgraded units for infield testing by Romgaz. If these units perform successfully, an order for up to 3,800 units for gas wells and 1,200 units for oil wells is expected to be forthcoming. These commercial units will be fabricated in Romania.
  - ii. The concurrent development of analytics software for the ARTRA units and for broader applications. The software 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 realize recurring revenues as this software is utilized.
  - iii. The development of powerline monitoring solutions for the transmission and interconnection hardware currently in place in Romania’s electric grid system. Micromem will work with its Romanian partners to develop both the powerline monitoring devices and the analytics software for the grid system. It is anticipated that this initiative will be launched in the 2024 fiscal year.
- (c) Micromem has now received the initial draft of the two-unit purchase order from Romgaz and the initial draft of the proposed joint venture agreement between Micromem and Romgaz who is purposed to develop the analytics software applications, the powerline monitoring technology applications and other initiatives going forward.

In anticipation of these developments in 2024, Micromem has planned for its business activity to include the following components:

- (i) Continuance of its working relationship with the developer of the ARTRA technology which Chevron has successfully tested in onsite testing of operating oil wells.

- (ii) Continuance of our working dialogue with Chevron.
- (iii) We have previously 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.
- (iv) 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 met with Chevron in their Houston offices in May 2023, in August 2023 and, most recently, in December 2023 to advise them of our current progress in our dealings with Romgaz. Chevron continues to support these initiatives as we advance our development efforts. We are maintaining an active dialogue with Chevron regarding our current undertakings in Romania and with respect to potential future business opportunities with Chevron.

In May 2023 we met with the developer of the original technology that Chevron deployed in the testing which they completed in Lost Hills California in 2019-2020. That developer will continue to work with Micromem in our current dealings with Romgaz. Our discussions with the developer are ongoing on a regular basis.

### **3. FINANCING**

In Q1 2024 the Company received gross proceeds of \$112,673 from private placements and issued 2,400,000 common shares (2023: \$37,080 and issued 1,000,000 common shares).

The Company issued 3,780,426 common shares relating to the conversion by debenture holders of their debentures totaling \$147,426 during the year (2023: issued 3,788,177 common shares relating to conversion of debentures totaling \$107,774).

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. 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 4; 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 quarter ending January 31, 2024 and 2023 none of which impact the Company's cash flows:

<b>For the 3 months ended January 31, 2024</b>	<b>2024</b>	<b>2023</b>	<b>Change</b>
Accretion expense	\$ 31,637	\$ 79,762	\$ (48,125)
Loss on conversion of convertible debentures	10,345	8,779	1,566
Loss (gain) on revaluation of derivative liabilities	584,900	(304,849)	889,749
Loss on extinguishment/repayment of convertible debentures	386,125	114,570	271,555
Net expense (gain)	\$ 1,013,007	\$ (101,738)	\$ 1,114,745

\*\*\*\*\*



**MICROMEM TECHNOLOGIES INC.**  
**MANAGEMENT'S DISCUSSION AND ANALYSIS**  
**FOR THE THREE MONTHS ENDED JANUARY 31, 2024**  
**PREPARED AS OF MARCH 6, 2024.**

**4. DISCUSSION OF OPERATING RESULTS:**

*(a) Financial Position as at January 31, 2024:*

	(\$US 000)		
	January 31, 2024	October 31, 2023	January 31, 2023
<b>Assets:</b>			
Cash	34	32	43
Prepaid expenses and other receivables	82	104	19
	116	136	62
Property and equipment	29	32	44
<b>Total Assets</b>	145	168	106
<b>Liabilities:</b>			
Accounts payable and other liabilities	298	273	286
Current lease liability	18	17	16
Debentures	3,764	3,586	3,978
Derivative liability	2,032	1,079	568
	6,112	4,955	4,848
Long-term lease liability	8	12	26
Long-term loan	27	43	45
<b>Total Liabilities</b>	6,147	5,010	4,919
<b>Shareholders' Deficit:</b>			
Share capital	90,722	90,471	87,930
Contributed surplus	24,877	24,869	27,443
Equity component of convertible debentures	3,221	3,220	816
Accumulated deficit	(124,822)	(123,402)	(121,002)
	(6,002)	(4,842)	(4,813)
<b>Total Shareholders' Deficit</b>	145	168	106

### Commentary:

1. The Company's working capital deficiency is \$5,995,773 on January 31, 2024 (2023: deficiency of \$4,786,678).
2. For financial reporting purposes the Company reflects an amortized value of \$nil as its patent assets at January 31, 2024 (2023: \$nil). 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 2024 through convertible debentures. Given the terms of the convertible debentures, the Company has measured, as appropriate, the prescribed accounting treatment for these convertible debentures and the related derivatives. These loans were typically of a short-term nature and, 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 debentures at January 31, 2024, is \$3,725,348 (2023: \$3,548,059) and the related derivative liability balance is \$2,031,898 (2023: \$568,291). The Company reports accretion expense on these debentures of \$31,637 (2023: \$79,762), a loss on the conversion of convertible debentures to share capital of \$10,345 (2023: \$8,779), a loss on the revaluation of the underlying derivative liabilities of \$584,900 (2023: gain of \$304,849) and a loss on extinguishment/repayment of convertible debentures of \$271,199 (2023: loss of \$120,237). 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. In 2024 we reported \$140,408 of interest expense on convertible debt obligations (2023: \$131,136).

During the quarter ended January 31, 2024, the Company secured funding from various sources, the significant components include:

	2024	2023
Private placements of shares for cash consideration	\$ 112,673	\$ 37,080
Bridge loan financing	\$ 147,426	\$ 125,600
Settlements for share consideration	\$ -	\$ 107,774
	<u>\$ 260,099</u>	<u>\$ 270,454</u>

### Operating Results:

The following table summarizes the Company's operating results for the quarter ended January 31, 2024 and 2023:

#### Discussion of operating Results

Quarter Ended January 31		
	2024	2023
	(\$000)	(\$000)
Administration	31	26
Professional fees and salaries	117	81
Stock-based compensation	7	6
Travel and entertainment	7	8
Depreciation of property and equipment	4	4
Foreign exchange loss	98	58
Accretion expense	32	80
Interest expense convertible debt	140	131
Other financing costs	4	3
Gain(loss) on revaluation of derivatives liabilities	585	(305)
Loss on conversion of convertible debentures	10	9
Loss on extinguishment/repayment of convertible debentures	386	115
Net expenses	1,421	216
Net comprehensive loss	(1,421)	(216)
Loss per share	-	-

## Q1 Fiscal 2024 Compared to Q1 Fiscal 2023

- a) Administration costs were \$30,576 in 2024 versus \$26,414 in 2023. These costs include rent and occupancy costs; office insurance costs, investor relations, listings and filing fees and other general and administrative expenses.
- b) Professional and other fees and salaries costs were \$117,336 in 2024 versus \$81,170 in 2023. The components of these total costs include legal and audit related expenses, 3<sup>rd</sup> party consulting fees and staff salaries and benefits.

The CFO has received \$12,000 of management fees in 2024 (2023: \$9,000). The CEO of the Company has received \$17,658 of compensation in 2024 (2023: \$34,873).

- c) Travel and entertainment expenses were \$6,576 in 2024 (2023: \$7,805).
- d) Stock-based compensation was \$6,517 in 2024 (2023: \$5,692) calculated using the Black Scholes option-pricing model.
- e) Interest expense was \$140,408 in 2024 versus \$131,326 in 2023. This represents the actual interest expense obligations incurred by the Company based on the stated interest rates on the convertible debenture notes.
- f) Amortization expense was \$4,150 in 2024 relating to Capital Assets (2023: \$4,095).
- g) Financing costs were \$3,715 in 2024 versus \$3,252 in 2023. These expenses relate to costs associated with the convertible debenture financings which the Company completed. The Company raised \$304,501 of such financing in 2024 (2023: \$125,600).
- h) The loss on foreign exchange reported in 2024 was \$98,227 versus a loss of \$58,504 in 2023. 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 \$0.7327 at October 31, 2022, \$0.7209 at October 31, 2023 and \$0.7550 at January 31, 2024.

- i) The other expenses reported relate to the convertible debentures. These expenses are all non-cash expenses and compare as follows:

	<b>2024</b>	<b>2023</b>	<b>Change</b>
Accretion expense	\$ 31,637	\$ 79,762	\$ (48,125)
Loss on conversion of convertible debentures	10,345	8,779	1,566
Gain on revaluation of derivative liabilities	584,900	(304,849)	889,749
Loss on extinguishment/repayment of convertible debentures	386,125	114,570	271,555
Net expense	\$ 1,013,007	\$ (101,738)	\$ 1,114,745

### C. Unaudited Quarterly Financial Information – Summary

<b>Three months ended (unaudited)</b>	<b>Revenues \$</b>	<b>Expenses \$</b>	<b>Income (loss) \$</b>	<b>Loss per share</b>
January 31, 2024	-	(1,420,512)	1,420,512	-
October 31, 2023	-	(1,271,082)	1,271,082	-
July 31, 2023	-	(149,612)	149,612	-
April 30, 2023	-	3,896,034	(3,896,034)	0.01
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	-

<b>Three months ended (unaudited)</b>	<b>Working capital (deficiency)</b>	<b>Capital assets at NBV</b>	<b>Total Assets</b>	<b>Shareholders' equity (deficit)</b>
January 31, 2024	(6,100,773)	28,393	144,827	(6,001,984)
October 31, 2023	(4,818,699)	32,767	168,350	(4,841,204)
July 31, 2023	(6,148,332)	36,331	240,608	(6,174,904)
April 30, 2023	(6,847,503)	39,466	309,695	(6,873,535)
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)

\*\*\*\*\*

**MICROMEM TECHNOLOGIES INC.**  
**MANAGEMENT'S DISCUSSION AND ANALYSIS**  
**FOR THE THREE MONTHS ENDED JANUARY 31, 2024**  
**PREPARED AS OF MARCH 6, 2024.**

---

**5. RISKS AND UNCERTAINTIES**

There are a number of risks which may individually or in 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. 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 each year over 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.

\*\*\*\*\*

**MICROMEM TECHNOLOGIES INC.**  
**MANAGEMENT’S DISCUSSION AND ANALYSIS**  
**FOR THE THREE MONTHS ENDED JANUARY 31, 2024**  
**PREPARED AS OF MARCH 6, 2024.**

---

**6. GOING CONCERN**

The consolidated financial statements have been prepared on a “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. In the quarter ending January 31, 2024, the Company reported a net loss and comprehensive loss of \$1,420,512 (2023 - loss of \$216,630) and negative cash flow from operations of \$(230,361) (2023 - \$144,481). The Company’s working capital deficiency as at January 31, 2024, is \$5,995,773 (2023 - \$4,818,699).

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 2024 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.

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.

\*\*\*\*\*



**MICROMEM TECHNOLOGIES INC.**  
**MANAGEMENT'S DISCUSSION AND ANALYSIS**  
**OR THE THREE MONTHS ENDED JANUARY 31, 2024**  
**PREPARED AS OF MARCH 6, 2024.**

---

**7. 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, convertible debentures and derivative liabilities, convertible debentures, fair value, property and equipment, impairment of long-lived assets, patents, deferred development costs, lease, stock-based compensation, and income taxes. These critical accounting policies are set forth in Note 4 to our consolidated financial statements as of January 31, 2024.

**(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.

In 2021, the court ultimately dismissed all of Mr. Van Fleet's claims, found that he was liable to Micromem and MAST on their counterclaims and ordered an inquest to determine damages. The inquest was held between June 3 - 7, 2021.

On June 16<sup>th</sup>, 2021, the court ordered that Micromem and MAST had established damages of \$765,580, the full amount that had been requested. Additionally, the court awarded costs and statutory prejudgement 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 \$1,051,740.

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.

**(c) Legal Matter**

On November 1, 2023, a former employee filed a statement of claim against the Company relating to employment termination without reasonable notice. The Company filed a statement of defence and counterclaim on November 29, 2023, denying all liability to the former employee. The Company considers the claims of the former employee to be without merit. At January 31, 2024, the timing and outcome of the claim is uncertain and accordingly, no provision has been recorded in these consolidated financial statements.

**(d) 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, 2024.

The Company signed a lease from August 1, 2022, to July 31, 2025. The lease stipulates base monthly and additional rental expense of \$3,943 CDN. Lease commitments are as follows – commitments less than one year of \$26,109 CDN; 1 years to 5 years: \$17,695.

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

At January 31, 2024, 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.

**(f) Share Capital**

At January 31, 2024, the Company reports 516,549,264 common shares outstanding (2023: 510,368,838). Additionally, the Company has 9,750,000 stock options outstanding with a weighted average exercise price of \$0.06 per share (2023: 9,775,000 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. Joseph Fuda and Dan Amadori continue to serve as officers of the Company.

Our management team and directors, along with their 2023 remuneration, is presented as below:

Individual	Position	2023 remuneration		Total
		Cash	Options	
Joseph Fuda	President, Director	141,198	21,046	162,244
Oliver Nepomuceno	Director	-	20,427	20,427
Alex Dey	Director	9,904	20,427	30,331
Dan Amadori	CFO	63,812	21,046	84,858
Total		214,914	82,946	297,860

**(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. Compensation paid or payable to these individuals (or companies controlled by such individuals) is summarized as:

	<u>2024</u>	<u>2023</u>
Professional, other fees and salaries	\$ 117,336	\$ 81,170
Stock based compensation	<u>6,517</u>	<u>5,692</u>
	<u>\$ 123,853</u>	<u>\$ 86,862</u>

In 2023 1,340,000 options were awarded at an exercise price of \$0.07 (Q1 2024 – nil options granted).

**(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 subsequent to the end of the fiscal year, the Company 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, 2024 there are 9,750,000 options outstanding at a weighted average exercise price of \$0.06 per share.

*Capital Resources:* We have no commitments for capital expenditures as of January 31, 2024.

\*\*\*\*\*

**9. SUBSEQUENT EVENTS**

Subsequent to January 31, 2024:

The Company extended convertible debentures with an original maturity date ranging between February 1 to March 6, 2024, for an additional 6 months, expiring between August 1 and September 6, 2024. There were no significant changes to the terms of the convertible debentures as a result of the extension.

**MICROMEM TECHNOLOGIES INC.  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
FOR THE THREE MONTHS ENDED JANUARY 31, 2024  
PREPARED AS OF MARCH 6, 2024.**

---

**APPENDIX 1**

**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 2 months to 12 months).
  - (ii) Interest rate (typically 1 to 2% per month but, in some cases, between 5% - 10% per annum).
  - (iii) Conversion price (which may be fixed at initiation date or fixed at conversion date 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 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(a) above), we are required to revalue the derivative liability at each quarter end using prescribed Black Scholes or binomial methodology. Then, at each reporting period, we are required to report this gain or loss on the revaluation in our 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 2 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 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 this prescribed accounting treatment gives rise to complicated disclosures in our financial statements and footnotes:

- (a) We report substantial accretion expense in our audited 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 result in significant interim 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 2 months), then the effective rate of interest can be very high in these reported financials, as 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 audited consolidated 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 expense (income) relating to items (a) - (d) above reported in the first quarter ended January 31, 2024, was (\$898,081) (2023: \$(96,071)).

**(4) Additional Comments:**

The Company notes the following:

- a) We have had to rely on convertible debenture financings 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 typically ranging between *1% and 2%* per month. 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 Q1 2024 the Company issued 3,780,426 common shares in settlement of \$147,426 of debentures which were converted to common shares by the debenture holders.

In Q1 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.

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.

\*\*\*\*\*