



SPARQ SYSTEMS INC.

Management's Discussion and Analysis

For the three and six months ended June 30, 2024 and 2023

Dated August 28, 2024

Management's Discussion and Analysis

This Management's Discussion and Analysis ("MD&A") has been prepared by management of SPARQ Systems Inc. (formerly, SPARQ Corp.) (the "**Company**") and should be read in conjunction with the Company's unaudited condensed interim financial statements for the three and six months ended June 30, 2024 and 2023 and the audited financial statements and notes thereto for the years ending December 31, 2023 and December 31, 2022 (collectively, the "**Financial Statements**"). The Financial Statements have been prepared using International Financial Reporting Standards ("**IFRS**") issued by the International Accounting Standards Board and interpretations of the International Financial Reporting Interpretations Committee. All amounts are in Canadian dollars unless otherwise specified. The Financial Statements may be found under the Company's SEDAR+ profile at www.sedarplus.ca.

This MD&A contains commentary from the Company's management regarding the Company's strategy, operating results, financial position and outlook. Management is responsible for the accuracy, integrity, and objectivity of the MD&A, and develops, maintains and supports the necessary systems and controls to provide reasonable assurance as to the accuracy of the comments contained herein.

The Audit Committee and the Board of Directors provide an oversight role with respect to all public financial disclosures by the Company. The Board of Directors approves the Financial Statements and MD&A after the completion of its review and recommendation for approval by the Audit Committee, which meets periodically to review all financial reports prior to filing.

Forward-Looking Statements

Certain statements contained in this MD&A constitute "forward-looking information" and "forward-looking statements". All statements other than statements of historical fact contained in this MD&A. Such statements can, in some cases, be identified by the use of forward-looking terminology such as "expect," "likely," "may," "will," "should," "intend," or "anticipate," "potential," "proposed," "estimate" and other similar words, including negative and grammatical variations thereof, or statements that certain events or conditions "may" or "will" happen, or by discussions of strategy. The forward-looking statements included in this MD&A are made only as of the date of this MD&A and the Company assumes no obligation to update or revise them to reflect subsequent information, events or circumstances or otherwise, except as required by applicable securities laws.

Forward-looking statements in this MD&A are not guarantees of future performance and involve assumptions, risks and uncertainties that are difficult to predict. Therefore, actual results may differ materially from what is expressed, implied or forecasted in such forward-looking statements. Management provides forward-looking statements because it believes they provide useful information to readers when considering their investment objectives and cautions readers that the information may not be appropriate for other purposes.

Factors which could cause the actual results to differ materially from current expectations include but are not limited to:

- key contract risk;
- if demand for solar energy solutions does not grow or grows at a slower rate than anticipated, the Company's business will suffer;
- the rapidly changing solar industry makes it difficult to evaluate the Company's current business and future prospects;
- an increase in interest rates or tightening of the supply of capital in the global financial markets could make it difficult for end-users to finance the cost of a solar photovoltaic ("**PV**") system and could reduce the demand for smart energy products and thus demand for the Company's products;
- defects or performance problems in our products could result in loss of customers, reputational damage, and reduced revenue, and the Company may face warranty, indemnity, and product liability claims arising from defective products;

- the Company depends on sole-source and limited-source suppliers for key components and products. If the Company is unable to source these components and products on a timely basis, the Company will not be able to deliver its products to customers;
- the Company depends upon a small number of outside contract manufacturers, and business and operations could be disrupted if the Company encounters problems with these contract manufacturers;
- if the Company or its contract manufacturers are unable to obtain raw materials in a timely manner or if the price of raw materials increases significantly, production time and product costs could increase, which may adversely affect the Company's business;
- manufacturing problems could result in delays in product shipments, which would adversely affect the Company's revenue, competitive position and reputation;
- the Company relies primarily on distributors, installers and providers of solar financing to assist in selling products to customers, and the failure of these customers to perform at the expected level, or at all, would have an adverse effect on the Company's business, financial condition and results of operations;
- mergers in the solar industry among the Company's current or potential customers may adversely affect its competitive position;
- the solar industry is highly competitive, and the Company expects to face increased competition as new and existing competitors introduce products or develop alternative technologies, which could negatively impact its business, financial condition and results of operations;
- the Company's microinverter products may not achieve broader market acceptance, which would prevent the Company from increasing its revenue and market share;
- the Company's recent and planned expansion into existing and new markets could subject it to additional business, financial and competitive risks;
- the Company may fail to capture customers in the new product and geographic markets that the Company is pursuing;
- if the Company fails to retain key personnel or if the Company fails to attract additional qualified personnel, the Company may not be able to achieve its anticipated level of growth and its business could suffer;
- any failure by management to properly manage growth could have a material adverse effect on its business, operating results, and financial condition;
- use of social media may materially and adversely affect the Company's reputation or subject it to fines or other penalties;
- the Company is subject to insurance-related risks;
- credit risk;
- liquidity risk;
- foreign currency risk;
- conflicts of interest;
- if the Company fails to protect or incur significant costs in defending its intellectual property and other proprietary rights, the Company's business and results of operations could be materially harmed;
- third parties may assert that the Company is infringing upon their intellectual property rights, which could divert management's attention, cause the Company to incur significant costs and prevent it from selling or using the technology to which such rights relate;
- the Company's failure to obtain the right to use necessary third-party intellectual property rights on reasonable terms, or the Company's failure to maintain, and comply with the terms and conditions applicable to these rights, could harm the Company's business and prospects;
- the Company may not be able to protect and enforce its trademarks and trade names, or build name recognition in our markets of interest thereby harming its competitive position;
- obtaining and maintaining patent protection depends on compliance with various required procedures, document submissions, fee payments and other requirements imposed by governmental patent agencies, and the Company's patent protection could be reduced or eliminated for non-compliance with these requirements;
- patent terms may be inadequate to protect the Company's competitive position on its products for an adequate amount of time;

- the Company relies on trade secrets;
- changes in laws and regulations;
- the Company's anticipated international sales subject us to additional risks that could adversely affect its business, results of operations and financial condition;
- the Company may be involved in legal proceedings from time to time and, while management cannot predict the outcomes of such proceedings and other contingencies with certainty, some of these outcomes could adversely affect the Company's business and financial condition;
- insufficiency of capital resources;
- the reduction, elimination or expiration of government subsidies and economic incentives for on-grid solar electricity applications could reduce demand for solar PV systems and harm the Company's business;
- the Company's gross profit may fluctuate over time, which could impair the Company's ability to achieve or maintain profitability;
- the Company may be under pressure to reduce the prices of its products, which may adversely affect the Company's gross margins;
- a drop in the retail price of electricity derived from the utility grid or from alternative energy sources, or a change in utility pricing structures, may harm the Company's business, financial condition and results of operations;
- if the Company does not forecast demand for its products accurately, the Company may experience product shortages, delays in product shipment, excess product inventory, difficulties in planning expenses or disputes with suppliers, any of which will adversely affect the Company's business and financial condition;
- parties with whom the Company does business may be subject to insolvency risks or may otherwise become unable or unwilling to perform their obligations to the Company;
- natural disasters, public health events, significant disruptions of information technology systems, data security breaches, or other catastrophic events could adversely affect the Company's operations;
- general global economic conditions;
- international conflict;
- inflation;
- access to capital;
- estimates or judgments relating to critical accounting policies;
- quarterly performance variation;
- market for the common shares;
- no history of payment of cash dividends;
- significant sales of common shares;
- analyst coverage; and
- tax issues.

Please refer to the Company's management's discussion and analysis for the years ended December 31, 2023 and 2022 (the "**Annual MD&A**") for a detailed description of the risk factors associated with the Company. The Annual MD&A may be found under the Company's SEDAR+ profile at www.sedarplus.ca.

Description of the Company's Business

The Company was incorporated under the *Business Corporations Act* (Ontario) on November 13, 2018. On December 31, 2021, the Company completed its qualifying transaction pursuant to the rules of the TSX Venture Exchange (the “**Qualifying Transaction**”), resulting in a reverse takeover of the Company by SPARQ Systems Inc. (“**SPARQ**”). The Qualifying Transaction was completed by way of a three-cornered amalgamation (the “**Amalgamation**”) pursuant to which, among other things, (i) SPARQ amalgamated with a wholly-owned subsidiary of the Company, incorporated for the purposes of the Amalgamation, pursuant to the provisions of the *Business Corporations Act* (Ontario), and (ii) all of the outstanding common shares in the capital of SPARQ were cancelled and, in consideration therefor, the holders thereof received post-consolidation common shares in the capital of the Company on a 1:1 basis.

On January 1, 2023, the Company completed a short-form vertical amalgamation with SPARQ pursuant to the *Business Corporations Act* (Ontario) (the “**Vertical Amalgamation**”). Upon completion of the Vertical Amalgamation, the Company changed its name from “SPARQ Corp.” to “SPARQ Systems Inc.”

The Company designs and manufactures next generation single-phase microinverters for residential and commercial solar electric applications. The Company has developed a proprietary PV solution called the Quad; the Quad inverter optimizes four PV modules with a single microinverter, simplifying design and installation, and lowering cost for solar power installations when compared to existing market offerings.

The address of the Company's registered and head office is 945 Princess Street, Box 212, Kingston, Ontario K7L 0E9. The common shares are listed for trading on the TSX Venture Exchange under the symbol “SPRQ”. The common shares are also quoted for trading on the OTCQB under the symbol “SPRQF”.

Highlights of the three and six months ended June 30, 2024 and to the date of this MD&A

- On February 7, 2024, the Company entered into a manufacturing and supply agreement (the “**Manufacturing and Supply Agreement**”) with Jio Things Limited, a leading technology player in India and a subsidiary of Jio Platforms Limited (collectively, “**Jio**”), India's largest digital services player, whereby the parties have agreed to develop, manufacture and distribute microinverters in India, and incorporate the Company's microinverters into Jio's solutions globally. The Manufacturing and Supply Agreement sets out a framework under which the Company and Jio will collaborate to innovate and develop new products. The Company will engage a third-party contract manufacturing base in India to manufacture its microinverters. The Manufacturing and Supply Agreement provides for a long-term partnership leveraging each other's strengths to positively impact the industry, as well as certain volume commitments for the initial few years until the capacity volume is stabilized. The Manufacturing and Supply Agreement also provides the Company with certain agreed product margins.
- On June 26, 2024, the Company received purchase orders for supplying over 6,000 Q2000 Quad microinverters for the Indian market, and on August 27, 2024, received purchase orders for another 10,000 Q2000 Quad microinverters.

Financing summary for the six months ended June 30, 2024 and to the date of this MD&A

- The Company entered into unsecured loan agreements with certain third party lenders to borrow an aggregate of \$675,000 (the “**2024 Loans**”). The 2024 Loans bore interest at a rate of 12% per annum and the principal and any accrued interest on the 2024 Loans became payable on the later of: (i) May 27, 2024; and (ii) the date on which the Company completes an equity or debt financing. Upon completion of the Offering (defined herein), the Company settled the 2024 Loans (comprised of \$675,000 in principal and \$35,256 in interest) in full by issuing an aggregate of 1,775,640 common shares at a deemed issuance price of \$0.40 per common share.

- On May 31, 2024, the Company closed the first tranche of a brokered private placement of common shares (the “**Offering**”) by issuing 11,938,746 common shares at a price of \$0.40 per common share for aggregate gross proceeds of \$4,775,498. Pollitt & Co. Inc. (the “**Agent**”) was engaged as the sole agent and bookrunner for the Offering to offer the common shares on a best efforts agency basis. In connection with the closing of the first tranche of the Offering, the Agent received: (i) a cash commission of \$239,212; and (ii) 361,442 compensation warrants (each, a “**Compensation Warrant**”) exercisable at \$0.40 per common share for a period of two years from the closing of the first tranche of the Offering. On June 7, 2024, the Company closed the second tranche of the Offering by issuing 18,950,975 common shares at a price of \$0.40 per common share for aggregate gross proceeds of \$7,580,390. In connection with the closing of the second tranche of the Offering, the Agent received: (i) a cash commission of \$450,823; (ii) 1,107,059 Compensation Warrants exercisable at \$0.40 per common share for a period of two years from the closing of the second tranche of the Offering; and (iii) a corporate advisory fee of \$250,000 which was satisfied through the issuance of 625,000 common shares. The expenses of the Offering totalled \$214,622. The net proceeds of the Offering are intended to be used for working capital and general corporate purposes.

Results of Operations

For the three and six months ended June 30, 2024, the Company incurred a net loss and net comprehensive loss of \$2,768,911 and \$3,714,968, respectively, compared to a net loss and comprehensive loss of \$950,904 and \$1,890,150, for the three and six months ended June 30, 2023, respectively. The details of the net loss and net comprehensive loss are described below.

Revenue

During the three and six months ended June 30, 2024, the Company reported revenues of \$16,654 and \$19,220, respectively. This was compared to revenues reported for the three and six months ended June 30, 2023 of \$207,763 and \$207,763, respectively, which were earned under a sales and distribution agreement dated March 27, 2023 with Rolaz Green Energy PVT. Ltd. The Company has been in a research and development stage and was previously unable to build material quantities of inventory due to a funding shortfall, supply chain issues from the continued impact of COVID-19 and the lack of availability of supplies from China. The Company is reliant on these supplies for building its inventory, to fill orders and to generate revenue. The Company’s plan to generate material revenue is contingent upon the access and funding to acquire these supplies. Through the closing of the Offering, the Company has alleviated its short-term funding issues. In addition, since entering the Manufacturing and Supply Agreement, the Company expects to have an improved ability to procure components from chip manufacturers.

As noted above, between June 26, 2024 and August 27, 2024, the Company received purchase orders for supplying 16,000 units of Q2000 microinverters. The Company and Jio are collaborating to setup the manufacturing lines in India, and are conducting due diligence on contract manufacturers.

Cost of Finished Goods Sold

During the three and six months ended June 30, 2024, the Company recognized cost of sales of \$10,308 and \$10,308, respectively, compared to \$186,843 and \$186,843, respectively, for the three and six months ended June 30, 2023.

During the three and six months ended June 30, 2024, the Company had an inventory write down charge of \$42,530 and \$51,846, respectively, (\$53,498 and \$89,978, respectively, for the three and six months ended June 30, 2023) representing a write off of finished goods and raw materials for items no longer expected to be manufactured and sold, plus other one-time inventory charges. The inventory is reviewed at the end of each reporting quarter to determine the amount of obsolescence.

Operating Expenses

For the three and six months ended June 30, 2024 and 2023, total operating expenses are detailed as follows:

Expenses		Three months ended June 30		Six months ended June 30,	
		2024	2023	2024	2023
		\$	\$	\$	\$
Research and development	(i)	252,388	309,689	533,981	621,763
Sales and marketing	(ii)	26,393	3,829	45,670	23,135
General and administration	(iii)	516,517	529,917	1,072,768	1,039,158
Depreciation of property and equipment		33,290	24,902	65,542	40,097
Stock-based compensation	(iv)	1,674,616	74,376	1,710,339	148,752
		2,503,204	942,713	3,428,300	1,872,905

- (i) Research and development costs include building prototypes, certification, testing, salaries of personnel working on projects, and consulting fees. There was an over-reduction in this expense category for the three and six months ended June 30, 2024 compared to the three and six months ended June 30, 2023, of \$57,301 and \$87,782, respectively, as illustrated below.

A breakdown of research and development costs for the three and six months ended June 30, 2024, along with the respective variances, are as follows:

	Three months ended June 30			Six months ended June 30		
	2024	2023	Variance	2024	2023	Variance
Personnel	\$207,467	\$228,406	(\$20,939)	\$452,346	\$471,619	(\$19,273)
Professional fees	14,832	12,785	2,047	39,287	32,860	6,427
Beta Testing	10,391	-	10,391	10,391	12,057	(1,666)
Administration	469	2,037	(1,568)	730	3,899	(3,169)
Equipment Rental	3,688	17,269	(13,581)	4,835	17,269	(12,434)
Lab Supplies and Materials	15,541	21,838	(6,297)	21,174	40,325	(19,151)
Certification and Safety Testing	-	27,354	(27,354)	5,218	43,734	(38,516)
	\$252,388	\$309,689	(\$57,301)	\$533,981	\$621,763	(\$87,782)

- (ii) Sales and marketing costs relate to a sales consultant, trade shows, and developing marketing materials. The increase is due to the retention of a sales consultant in the second half of 2023.
- (iii) General and administration expenses are the costs incurred by the Company that are not directly related to the production of goods or services. These expenses include items such as rent, utilities, office supplies, salaries of support staff, legal fees, accounting fees, insurance, and other general costs.

A breakdown of general and administrative costs for the three and six months ended June 30, 2024, along with the respective variances, are as follows:

	Three months ended June 30			Six months ended June 30		
	2024	2023	Variance	2023	2022	Variance
Professional fees	\$155,808	\$196,841	(\$41,032)	\$365,497	\$372,744	\$(7,247)
Salaries	243,166	243,619	(453)	486,886	472,204	14,682
Office and general	86,270	72,684	13,586	171,034	145,133	25,901
Regulatory	31,273	16,773	14,500	49,352	49,077	275
	\$516,517	\$529,917	\$(13,399)	\$1,072,769	\$1,039,158	\$33,611

- (iv) Stock-based compensation relates to the value of stock options issued that vested during the period

and is a non-cash expense. The increase in stock-based compensation was due to 4,624,702 stock options granted on June 28, 2024, that immediately vested on the date of grant with an estimated fair value of \$1,641,071.

Other income (expense items) included:

	Three months ended June 30,		Six months ended June 30,	
	2024	2023	2024	2023
	\$	\$	\$	\$
Interest and accretion	(56,360)	-	(107,307)	-
Loss on derecognition of derivative liability	(98,402)	-	(98,402)	-
Investment tax credits	-	(5,325)	-	(5,325)
Interest income	-	20,244	564	49,378
Foreign exchange gain (loss)	(74,761)	9,468	(38,589)	7,760
	(229,523)	24,387	(243,734)	51,813

Liquidity

As at June 30, 2024, the Company had working capital of \$11,982,170 (December 31, 2023 - \$1,634,719). The increase in working capital was the result of the cash proceeds from the Offering. The Company currently does not generate a sufficient amount of cash and cash equivalents from its operations.

Cash used in operating activities for the six months ended June 30, 2024 was \$2,164,513. Cash outflows from operating activities mainly relate to the net loss for the period and the negative impact of changes in working capital items, and primarily the settlement of accounts payable.

Cash from financing activities for the six months ended June 30, 2024, was \$11,602,435, comprised of the net proceeds from the Offering in the amount of \$11,444,980, proceeds from loans in the amount of \$175,000, and offset by lease payments in the amount of \$17,545.

During the six months ended June 30, 2024, the Company used \$17,579 in cash for the purchase of equipment.

Capital Resources

The Company regularly monitors and manages its capital resources to assess the liquidity necessary to fund operations and capacity expansion. As at June 30, 2024, the Company had a cash balance of \$9,708,175 and working capital of \$11,982,170.

As of the date of this MD&A, the Company's current resources are sufficient to settle its current liabilities for the next 12 months. The Company currently does not have any commitments for capital expenditures. Management may need to raise additional capital to execute its business objectives and meet ongoing general and administrative requirements beyond the next 12 months. The Company has been successful in the past at raising necessary funds but the timing and ability to do so will depend on the liquidity of the financial markets, economic conditions, as well as the acceptance by investors of small cap companies. There can be no guarantee that the Company will be able to secure any required financing. Given the volatility in financial markets it may be difficult to raise financing when needed. Failure to implement the Company's business plan could have a material adverse effect on its financial condition and financial performance. Accordingly, there are material risks and uncertainties that cast significant doubt over the Company's ability to continue as a going concern.

Selected Quarterly Information (all amounts in accordance with IFRS)

The following table summarizes the Company's financial information for the last eight quarters:

Financial Results	Q2 2024 \$	Q1 2024 \$	Q4 2023 \$	Q3 2023 \$	Q2 2023 \$	Q1 2023 \$	Q4 2022 \$	Q3 2022 \$
Revenue	16,654	2,566	189,976	-	-	-	-	-
Gross Profit (Loss)	(36,184)	(6,750)	(1,048,650)	(38,693)	(32,578)	(36,480)	(291,011)	(35,380)
Total Expenses	2,503,204	925,096	757,034	961,084	942,713	930,192	1,643,245	876,531
Net Income (Loss)	(2,768,911)	(946,057)	(1,922,200)	(955,010)	(950,904)	(939,246)	(1,291,811)	(911,911)
Basic profit (loss) per share	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)
Fully-diluted profit (loss) per share	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)

The Company's level of activity and expenditures during a specific quarter have been influenced by the availability of working capital, the availability of additional external financing and the status of projects and level of expenditures required to complete them. Given the past start up phases of the Company, there has been no seasonality factors or other trends that have affected the quarterly results.

Proposed Transactions

As at the date of this MD&A, there are no proposed transactions.

Off-balance Sheet Arrangements

As at the date of this MD&A, the Company does not have any off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on the results of operations or financial condition of the Company.

Transactions Between Related Parties

- During the six months ended June 30, 2024, the Company was charged \$150,000 (June 30, 2023 - \$150,000) for consulting services provided by PE Consultants Inc., an entity which is controlled by Praveen Jain, the Chief Executive Officer of the Company. These expenses have been recorded in research and development and general and administrative expenses. As at June 30, 2024, \$nil (December 31, 2023 – \$131,500) of this amount is included in accounts payable and accrued liabilities.
- During the six months ended June 30, 2024, the Company was charged \$18,000 (June 30, 2023 - \$18,000) for consulting services provided by CFO Advantage Inc., an entity which is controlled by Kyle Appleby, the Chief Financial Officer of the Company. These expenses have been recorded in general and administrative expenses. As at June 30, 2024, \$3,390 (December 31, 2023 – \$22,170) of this amount is included in accounts payable and accrued liabilities.
- On June 16, 2022, the Company signed a manufacturing agreement (the “**Manufacturing Agreement**”) with Ti-Lane Precision Electronic Company Limited (“**Ti-Lane**”) to manufacture turn-key Q1200 microinverters for the Company on a high volume basis at Ti-Lane's facility based in Guangdong Province, China. The Manufacturing Agreement has an initial term of three years and will automatically renew for additional one year terms after expiration of the initial term unless terminated earlier by either the Company or Ti-Lane. Ti-Lane is a shareholder in the Company and is controlled by Baojun (Robbie) Luo, one of the Company's directors. During the six months ended June 30, 2024, the Company was charged \$340,975 (June 30, 2023 - \$589,909) by Ti-Lane. As at

June 30, 2024, \$758,125 (December 31, 2023 - \$700,346) of this amount is included in accounts payable and accrued liabilities.

- (d) Transactions with related parties are incurred during the course of normal operations and initially recorded at fair value. Key management includes directors and officers of the Company. Compensation awarded to key management was comprised of the following for the three and six months ended June 30, 2024 and 2023:

	Three months ended June 30,		Six months ended June 30,	
	2024	2023	2024	2023
Short-term compensation	\$ 84,000	\$ 84,000	\$ 168,000	\$ 168,000
Share-based payments	1,229,445	46,902	1,229,445	93,804
Total	\$ 1,313,445	\$ 130,902	\$ 1,397,445	\$ 261,804

Risks and Uncertainties

The Company's business is subject to a number of risk factors which are described in detail in the Annual MD&A. See "Forward-looking Statements" above for a summary of such risk factors.

Financial Risk Management

The Company is exposed in varying degrees to a variety of financial instrument related risks. The Company mitigates these risks by assessing, monitoring and approving the Company's risk management processes:

- (a) Credit risk

Credit risk is the risk of a potential loss to the Company if one party of a financial instrument fails to meet its contractual obligations. The maximum credit exposure as at June 30, 2024 and December 31, 2023 relates to the carrying amount of cash and cash equivalents, accounts receivable, investment tax credit recoverable, and government assistance receivable. To reduce credit risk, all significant cash balances are placed with major financial institutions and accounts receivable, investment tax credit receivable and government assistance receivable is due from the Government of Canada and therefore credit risk is low.

The Company provides credit to its customers in the normal course of its operations. It carries out, on a continuing basis, credit checks on its clients and maintains provisions for contingent credit losses which, once they materialize, are consistent with management's forecasts. The maximum exposure to credit risk is the carrying value of the accounts receivable. The Company does not normally require a guarantee. As at June 30, 2024, 84% of the Company's accounts receivables were comprised of outstanding balances from customers (December 31, 2023- 89%).

The Company's expected credit loss allowance is estimated using historical loss information, current industry conditions and payment practices, as well as reasonable and supportable forecasts of future economic conditions. Credit risk is assessed based on days outstanding and utilizes both internal credit assessments and publicly available credit information. As a result, the allowance reflects anticipated effects caused by recent market deterioration. As at June 30, 2024, the current expected credit loss allowance was \$Nil (December 31, 2023 - \$Nil).

- (b) Liquidity risk

Liquidity risk is the risk that the Company will not be able to meet its financial obligations associated with financial liabilities. The Company manages liquidity risk through the effective management of its capital structure. The Company's approach to managing liquidity is to ensure that it will have sufficient liquidity at all times to settle obligations and liabilities when due. The Company has the following contractual obligations:

	Less than 1 year	1 to 3 years	Total	Carrying
	\$	\$	\$	value
Accounts payable and accrued liabilities	1,063,530	-	1,063,530	1,063,530
Lease liability	29,834	22,247	52,081	52,081
June 30, 2024	1,093,364	22,247	1,115,611	1,115,611

	Less than 1 year	1 to 3 years	Total	Carrying
	\$	\$	\$	value
Accounts payable and accrued liabilities	1,795,772	-	1,795,772	1,795,772
Lease liability	35,091	40,940	76,031	65,554
Loan payable	530,000	-	530,000	454,849
December 31, 2023	2,360,863	40,940	2,401,803	2,316,175

(c) Interest rate risk

Interest rate risk relates to the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. The Company's financial liabilities are non-interest bearing as at June 30, 2024, and therefore the Company is not exposed to interest rate risk.

(d) Foreign exchange risk

The Company is exposed to foreign exchange risk from various currencies, primarily the US dollar. Foreign exchange risk arises from sales and purchase transactions as well as recognized financial assets and liabilities that are denominated in a currency other than the Canadian dollar, which is the functional currency of the Company.

The Company's primary objective in managing its foreign exchange risk is to preserve sales values and cash flows and reduce variations in performance. Although management monitors exposure to such fluctuations, it does not employ any external hedging strategies to counteract the foreign currency fluctuations.

The following amounts were denominated in foreign currency:

	Currency	December 31, 2023	June 30, 2024
Cash	US Dollar	\$ 53,573	\$ 5,118,327
Accounts Receivable	US Dollar	\$ 110,684	\$ 123,684
Accounts Payable	US Dollar	\$ 560,962	\$ 553,901

On June 30, 2024, an increase of 1% in the value of the US dollar will result in a gain of \$51,183 (December 31, 2023 - \$535) in the value of cash, \$1,236 (December 31, 2023 - \$1,106) in accounts receivable and loss of \$5,539 (December 31, 2023 - \$5,609) in accounts payable. Similarly, a decrease of 1% in the value of the US dollar will have similar effects but in opposite direction.

Critical Accounting Estimates

Estimated Useful Lives and Depreciation of Property and Equipment

Depreciation of property and equipment is dependent upon estimates of useful lives which are determined through the exercise of judgment. The assessment of any impairment of these assets is dependent upon estimates of recoverable amounts that take into account factors such as economic and market conditions and the useful lives of assets.

Valuation of Deferred Tax Assets

Deferred tax assets, including those arising from tax loss carryforwards, require management to assess the likelihood that the Company will generate sufficient taxable income in future periods in order to utilize recognized deferred tax assets. Assumptions about the generation of future taxable profits depend on management's estimates of future cash flows. In addition, future changes in tax laws could limit the ability of the Company to obtain tax deductions in future periods. To the extent that future cash flows and taxable income differ significantly from estimates, the ability of the Company to realize the net deferred tax assets recorded at the reporting date could be impacted.

Going Concern Risk Assessment

The assessment of the Company's ability to continue as a going concern and meet its liabilities for the ensuing year involves significant judgment based on expectation of future events that are believed to be reasonable under the circumstances.

Valuation of Research and Development Costs and Tax Credits

The Company claims investment tax credits as a result of incurring scientific research and experimental development expenditures. Investment tax credits are recognized when the related expenditures are incurred, and there is reasonable assurance of their realization. Management has made a number of estimates and assumptions in determining the expenditures eligible for the investment tax credit claim. The Company's claim is subject to audit by Canada Revenue Agency which may allow more than the amount recorded or may disallow all or a portion of the amount recorded.

Fair Value of Stock Options

Stock-based compensation expense is measured by reference to the fair value of the stock options at the date at which they are granted. Estimating fair value for granted stock options requires determining the most appropriate valuation model which is dependent on the terms and conditions of the grant. This estimate also requires determining the most appropriate inputs to the valuation model including the expected life of the option, volatility, dividend yield, interest rate, and rate of forfeitures and making assumptions about them. Expected volatility is estimated using price history of comparable companies that are publicly listed over the expected life of the options granted.

Expected Credit Losses

The Company's accounts receivables are typically short-term in nature, with the exception of holdbacks and the Company recognized an amount equal to the lifetime expected credit losses ("ECLs"). The Company measures ECLs based on historical experience and forecasted economic conditions. The amount of the ECLs is sensitive to changes in future circumstance and economic conditions.

Valuation of Inventory

The Company's inventory is valued at the lower of average cost or net realizable value and management makes an estimate for any item that cannot be sold. If realization of inventory values differs from estimates, future earnings would be affected.

Outstanding Share Data

The authorized capital of the Company consists of an unlimited number of common shares. The Company has the following securities issued and outstanding as at the date of this MD&A:

Securities	Number Outstanding
Common shares	115,735,112
Options ⁽¹⁾	11,116,702
Deferred Share Units ⁽²⁾	550,817
Bonus Warrants ⁽³⁾	1,000,000

Compensation Warrants ⁽⁴⁾	1,468,501
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Notes:

(1) The Company has an omnibus equity incentive plan (the “**Equity Incentive Plan**”), which replaced the Company’s existing stock option plan effective June 1, 2022. Under the terms of the Equity Incentive Plan, officers, directors, employees and consultants are eligible to receive grants of stock options, deferred share units (“**DSUs**”), restricted share units, performance share units, and other share-based awards. The Equity Incentive Plan allows for (a) the grant of up to such number of stock options as is equal 10% of the total issued and outstanding common shares at the date of the grant; and (b) the grant of other forms of equity incentive awards such that up to an aggregate maximum of 8,244,475 common shares may be issuable pursuant to those awards.

(2) On November 22, 2023, the Company granted an aggregate of 550,817 DSUs having a value of \$62,243 to certain non-executive employees with an effective grant date of November 30, 2023. The DSUs vest one year following the date of grant.

(3) On November 27, 2023, the Company issued an aggregate of 1,000,000 common share purchase warrants (each, a “**Bonus Warrant**”) to an arm’s length third party in connection with an unsecured loan agreement having a principal amount of \$500,000. Each Bonus Warrant shall entitle the holder to purchase one (1) common share at a price per share equal to \$0.405 per share for a period of one year from the date of issuance.

(4) On May 31, 2024 and June 7, 2024, the Company issued 361,442 and 1107,059 Compensation Warrants, respectively, in connection with the Offering. Each Compensation Warrant shall entitle the holder to purchase one (1) common share at a price per share equal to \$0.40 per share for a period of two years from the date of issuance.

Internal Control Over Financial Reporting

Management has established processes to provide them with sufficient knowledge to support representations that they have exercised reasonable diligence to ensure that (i) the financial statements do not contain any untrue statement of material fact or omit to state a material fact required to be stated or that is necessary to make a statement not misleading in light of the circumstances under which it is made, as of the date of and for the periods presented by the financial statements; and (ii) the financial statements fairly present in all material respects the financial condition, results of operations and cash flows of the Company, as of the date at and for the periods presented.

In contrast to the certificate required for non-venture issuers under National Instrument 52-109 *Certification of Disclosure in Issuers’ Annual and Interim Filings* (“**NI 52-109**”), the Company uses the Venture Issuer Basic Certificate, which does not include representations relating to the establishment and maintenance of disclosure controls and procedures (“**DC&P**”) and internal control over financial reporting (“**ICFR**”), as defined in NI 52-109. In particular, the certifying officers filing this certificate are not making any representations relating to the establishment and maintenance of:

1. controls and other procedures designed to provide reasonable assurance that information required to be disclosed by the issuer in its annual filings, interim filings or other reports filed or submitted under securities legislation is recorded, processed, summarized and reported within the time periods specified in securities legislation; and
2. a process to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with the issuer’s generally accepted accounting principles (IFRS). The Company’s certifying officers are responsible for ensuring that processes are in place to provide them with sufficient knowledge to support the representations they are making in this certificate.

Investors should be aware that inherent limitations on the ability of certifying officers of a venture issuer to design and implement on a cost-effective basis DC&P and ICFR as defined in NI 52-109 may result in additional risks to the quality, reliability, transparency and timeliness of interim and annual filings and other reports provided under securities legislation.

Additional Information

Additional information relating to the Company can be found on SEDAR+ at www.sedarplus.ca.

Approval

The Board of Directors has approved the disclosure contained in this MD&A.