INNOVATIVE & REVOLUTIONARY THREAT DETECTION

MANAGEMENT'S DISCUSSION AND ANALYSIS
YEAR ENDED DECEMBER 31, 2022

(Expressed in U.S. dollars, unless otherwise stated and per share amounts)

Dated: April 24, 2023

Liberty Defense Holdings, Ltd., ("Liberty" or the "Company") has prepared this Management's Discussion and Analysis ("MD&A") as of April 24, 2023 and should be read in conjunction with the Company's audited consolidated financial statements for the year ended December 31, 2022. Unless otherwise stated, all financial information has been prepared in accordance with International Financial Reporting Standards ("IFRS") as issued by the International Accounting Standards Board. All dollar amounts herein are expressed in U.S. dollars unless stated otherwise. References to $ means U.S. dollars, and CAD$ are to Canadian dollars. The MD&A should be read in conjunction with the Company's audited consolidated financial statements for the year ended December 31, 2022.

This MD&A may contain forward looking statements based on assumptions and judgments of management regarding events or results that may prove to be inaccurate as a result of development or other risk factors beyond its control. Actual results may differ materially from the expected results.

Additional information on the Company is available at the Company's website *www.libertydefense.com* and under the Company's profile at www.sedar.com.

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1) Overview

(a) Description of Business

Liberty Defense Holdings, Ltd., is a public company (TSXV: SCAN, Frankfurt: L2D, OTCQB: LDDFF), that was incorporated under the Business Corporation Act of Ontario on June 8, 2012. The Company's registered and records office address is 1055 West Georgia Street, 1500 Royal Centre, P.O. Box 11117. Vancouver, British Columbia, V6E 4N7, Canada.

The Company undertook a reverse takeover ("RTO") transaction with DrawDown Detection, Inc. ("DrawDown" or "DD") on March 17, 2021, in which Liberty acquired all of the issued and outstanding common shares of DrawDown on a post-DrawDown consolidation basis in exchange for common shares of Liberty on a one to one basis post-Liberty consolidation. As described to undertake this transaction, Liberty completed a share consolidation on a 6.2 old shares to 1 new share basis and DrawDown also completed a share consolidation on a two old shares to one new share basis. Drawdown has been identified as the accounting acquirer and, accordingly, the Company is considered to be a continuation of Drawdown, and the net assets of the Company at the date of the reverse acquisition are deemed to have been acquired by Drawdown. Financial information includes the results of operations of the Company from March 17, 2021.

The Company, through its wholly owned subsidiary Liberty Defense Technologies Inc. ("LDT"), is principally engaged in the commercialization of an active 3D imaging technology system, HEXWAVE, to detect concealed threats.

(b) License Agreements

i) HEXWAVE Technology

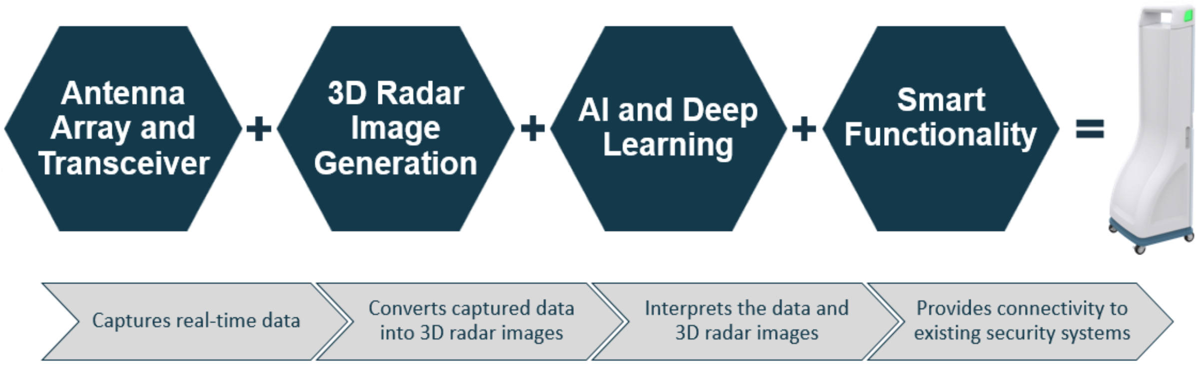
a. Active real-time 3D imaging technology licensed from MIT LL

Active video rate imaging technology was developed by the Massachusetts Institute of Technology Lincoln Labs ("MIT LL") and the technology has been in development since 2014. In October 2017, a concept demonstrator (pre-prototype) of the core technology was successfully tested under environmental conditions by MIT LL.

MIT LL undertook 4 years of research and development, including building a working prototype and testing the technology in both lab and real electromagnetic environments. LDT worked with MIT LL to transfer the active imaging technology starting in Q4 2018. In September 2019, Liberty and MIT LL were recognized by the FLC (Federal Laboratory Consortium) for the 2019 Excellence in Technology Transfer Northeast Region.

With the exclusive global license agreement (the "License Agreement") for the use of the active imaging technology, the Company has continued to develop HEXWAVE using the technology and concepts demonstrated by MIT LL. MIT LL, through the Technology Transfer Agreement ("TTA") has transferred the intellectual property and understanding to Liberty's Center of Excellence ("COE") in order for the technology to be further refined and developed. As part of the commercialization and go to market strategy, the Company had identified certain required changes and entered into a Cooperative Research and Development Agreement (CRADA) with MIT LL to leverage off their existing experience and accelerate the development of certain aspects of HEXWAVE. In addition to active imaging technology, the Company is also developing Automatic Threat Detection technology with the help of rich 3-dimension data and deep learning algorithms.

HEXWAVE Overview:



Since acquiring the License Agreement from MIT LL, Liberty has significantly advanced HEXWAVE which includes the active imaging technology, automated threat detection ("ATD") and smart IoT technologies. This culminated in the demonstration of the four principal subsystems in September 2019. This step represented a significant de-risking of the product development phase.

b. Artificial intelligence and Deep Learning – Automatic Threat Recognition ("ATR")

Automatic Threat Recognition utilizing deep learning algorithms was developed by Liberty to recognize person-borne concealed metal and non-metal threats. The 3-D data and images produced by the HEXWAVE are used to train and enhance the artificial intelligence engine using deep-learning algorithms.

At a frame capture rate of 20 images per second, the algorithms can exploit the changes in person's positioning from frame-to-frame, thus maximizing the total coverage area and threat detection performance.

ATR improves detection accuracy, reduces resources required for screening, and allows the security personnel to take necessary action instantly. As additional field data and images are collected by the system over time, our goal will be to continuously improve HEXWAVE and its threat detection performance by receiving real time updates to its algorithms as new and emerging threats are identified.

Global License Agreement – September 2018

The License Agreement for the use of the technology behind HEXWAVE with MIT is to be in effect until December 2035. Under the License Agreement, several milestones are required to be met to keep it in good standing. MIT continues to work closely with Liberty on developing this technology and amended the timeline to develop a beta prototype from on or before December 31, 2019, to removing the deadline entirely and replacing it with an in-plant inspection by MIT at regular intervals with at least six (6) months between each such inspection. The amendment also included additional details in relation to changes on required commercial sales dates, required total net sales by year, and payment dates on its license agreement. Refer to SEDAR (www.sedar.com) for further details on the MIT amendment.

HEXWAVE Key Discriminators

Central to positioning HEXWAVE is building on its key discriminators. These are enabled by the system architecture that aligns to key market needs. These include:

- Detects metal & non-metal threat objects
- Operates in both indoor and outdoor locations including both overt and covert applications
- Protects privacy (no personal data is collected or analyzed)
- ATD in real-time using rich 3D data and deep learning algorithms
- Smart functionality provides connectivity to existing security systems (VMS, door locks, networks)
- Routine software & artificial intelligence updates
- Operationally agile (mobile and deployable across detection space)

- High throughput (over 700 screens per hour) with precise secondary screening

About the Explosives and Weapon Detection Market

The aggregate markets associated with the explosives and weapon detection market are expected to total over $11 billion by 2025. The verticals most relevant to the growing Urban Security Market ("USM") are public venues, secured perimeters & buildings, land transportation, government, and others (schools, hotels, casinos, places of worship, malls, workplace & community screening).

The complexity of the urban security threat environment has dramatically changed over the last decade, requiring a more proactive approach to preventing violent attacks against communities. Since the 9/11 events, the air transportation community has effectively deployed a combination of detection technologies that are being consistently upgraded in an attempt to "stay ahead" of evolving threats. The array of detection tools has largely been protecting access to aircraft systems as gated or "point" solutions. The public is forced to tolerate the delays associated with such inspections due to the extreme risks that explosives or weapons can have on an aircraft and its passengers.

In contrast, urban communities are largely unprotected against random acts of violence or use systems that significantly impede the flow of customers into and within business facilities. While the occasional violent act was more often considered an anomaly, the frequency and magnitude of violent attacks is forcing both businesses and governments to rethink how to move to more proactive measures. Since 2015, there have been over 300 mass shootings per year in the United States ("US") at a pace of nearly one per day. There is a market-driven need for security detection that can be broadly deployed across nearly all public and private facilities. The base requirements are that they be both highly accurate and nonintrusive to our daily lives.

Current Alternatives

The current alternatives in the United States market are typically restricted to:

- principally focusing on metal threats, therefore non-metal threats can potentially go undetected
- airport solutions which are not able to be used across other verticals and do not have the requisite throughput
- limited outdoor application and therefore hinder the capability of providing a layered defense for proactive threat detection
- requiring large, dedicated areas or space versus integration into existing infrastructure
- limited capability for integration into existing security systems command & control

About Liberty's Management Team

Central to Liberty's team is the technical and management expertise are: CEO and Director, Bill Frain, former Senior Vice President for L-3 Security & Detection Systems (NYSE – LHX), the world's leading supplier of security inspection systems. In this role Bill led global sales, business development and key account management. President and CTO, Mike Lanzaro, former Vice President of Engineering and Technology at L-3 Security & Detection Systems. Vice President of Engineering, Jeffrey Gordon, who spent his last five years working at General Electric Global Research developing roadmaps for imaging and sensor technologies and over 35 years experience leading the development of ground-breaking sensing products for the military, medical, industrial, and commercial markets, including body scanners that can be seen deployed across most United States and European Union airport checkpoints.

Liberty's Advisors

Liberty has assembled a group of Advisors that can provide unprecedented market access to several of our identified market verticals including the National Football League, law enforcement, federal and state government facilities, and former airport executives. A key aspect to Liberty's success will be gaining access and developing the market for HEXWAVE.

ii) MIT License Agreement Description and Commitments

The Company, through its wholly owned subsidiary Liberty Defense Technologies Inc. ("LDT"), has entered into agreements with the Massachusetts Institute of Technology ("MIT") and MIT's Lincoln Laboratory ("MIT LL"), including an exclusive patent licence agreement between MIT and LDT dated September 10, 2018, as amended from time to time (the "Licence Agreement"), a technology transfer agreement between LDT and MIT LL, effective August 24, 2018 (the "Technology Transfer Agreement"), and a cooperative research and development agreement between LDT and MIT dated as of December 21, 2018 ("CRADA"), such agreements providing LDT with an exclusive licence for patents, design assets and MIT LL technical expertise related to active three-dimensional imaging technology that are the core technology behind the HEXWAVE product.

The obligations under the Technology Transfer Agreement and the CRADA have now been completed. Liberty may consider extending the CRADA (and therefore changing its scope) if it determines that additional MIT LL technical expertise related to active three-dimensional imaging technology is required. Pursuant to the License Agreement, LDT has been granted the exclusive rights to MIT's patent in "multistatic sparse array topology for FFT-based field imaging" (MIT Case No. l 8409L) (the "Patent"), which is being utilized in the development and application of the HEXWAVE product. The License Agreement is to be in effect until the expiration of the Patent, which is 14 years (December 2035). In granting LDT such patent rights, the Company shall pay MIT in addition to patent filling costs an annual maintenance fees the following: 1) $20,000 for 2019 (paid); $50,000 for 2020 (paid); $60,000 for 2021 (paid); $100,000 for 2022 (paid); $200,000 for 2023 and $350,000 for 2024 and thereafter; and 2) a royalty of 5.7% of all future net sales of the Company. The Company shall also be required to achieve certain milestones.

iii) Battelle Memorial Institute License Agreement Description and Commitments

On March 22, 2021, the Company, through its wholly owned subsidiary DrawDown Detection, Inc. has entered into an agreement ("Battelle License Agreement") with Battelle Memorial Institute ("Battelle"), which operates the Pacific Northwest National Laboratory ("PNNL"), to license the millimeter wave-based, High-Definition Advanced Imaging Technology (HD-AIT) body scanner and shoe scanner technologies. The agreement, as amended from time to time, provides the Company with a three-year exclusive license for the certain patents which will convert to a non-exclusive license for the remaining life of the patents. The agreement also provides the Company with non-exclusive license for certain patents for life.

As consideration for the Battelle License Agreement, the Company paid $30,000 upon signing and $30,000 six months after.

Under the Battelle License Agreement, the Company shall pay a five percent royalty on net sales and a twenty-five percent in all sublicensing revenues if permitted. The Company is also required to pay a minimum royalty amount as follows, unless the agreement is terminated:

		Amounts
Year 2021 (paid)	$	50,000
Year 2022		50,000
Year 2023		100,000
Year 2024 and each year after		200,000

The Company is obligated to achieve certain milestones in the next twelve to thirty-six months and reimburse Battelle for ongoing patenting expenses, as well as past patenting expenses in the total amount of $50,000, from which $25,000 has been paid and the balance remains payable.

(Expressed in U.S. dollars)

The continuity of the intangible assets is as follows:

	MIT licenses	Battelle license	Intellectual property	Total
Balance, December 31, 2020	$ -	$ -	$ -	$ -
Additions RTO transaction (note 4)	183,682	-	3,769,172	3,952,854
Additions	202,497	-	-	202,497
Amortization	(19,899)	-	-	(19,899)
Balance, December 31, 2021	$ 366,280	$ -	$ 3,769,172	$ 4,135,452
Additions	108,134	73,964	-	182,098
Amortization	(33,189)	(14,534)	(539,364)	(587,087)
At December 31, 2022	**$ 441,225**	**$ 59,430**	**$ 3,229,808**	**$ 3,730,463**

Intangible assets included as MIT and Battelle licenses include payments in connection to reimbursement of global patent filing costs and annual maintenance fees. Additionally, intellectual property asset was generated through the RTO transaction.

(c) DKL License Agreement Description

On October 11, 2018, the Company through its wholly owned subsidiary DrawDown Technologies, Inc ("DDT") entered into a license agreement ("the Licensing Agreement DKL") with DKL International, Inc ("DKL"), as amended on February 6, 2020, for the commercial development of DKL's passive detection techniques and products that detect smokeless gunpowder from a standoff distance (the "Detection Technology").

On March 23, 2021, DrawDown paid to DKL $70,000, which satisfied the payment of previously approved research and development costs of DKL for work performed until December 31, 2020.

On April 19, 2021, the Company gave notice of termination of the License Agreement DKL. Such notice of termination served as formal notice that the Licensing Agreement DKL was terminated in full effective six months following the date of this notice. Upon the effective date of the termination, the parties to the Licensing Agreement DKL will have no further rights and/or obligations pursuant thereto. In order to settle any and all outstanding amounts owed to DKL under the Licensing Agreement the Company paid $125,000 to DKL paid in the year ended December 31, 2021.

(d) Recent Developments

From inception, Liberty set itself an aggressive product development timeline by pursuing a concurrent engineering and development approach and prior to its financial constraints had managed to deliver upon this timeline.

As scheduled, Liberty performed several beta prototype trials of HEXWAVE with multiple well-respected organizations across its various market verticals. These include, University of Wisconsin Police Department, Greater Toronto Airport Authority, a major US airline for employee screening, a major US airport for employee screening, North Carolina State Legislature, Maryland Stadium Authority, a Hindu temple in Southeast United States, among others.

In addition to advancing HEXWAVE and the market for it, Liberty achieved several significant corporate milestones which include:

- Closing of oversubscribed public offering for total gross proceeds of CAD$8.6 million (March 2022)
- Received a $212,697 contract award from PNNL for High Definition – Advanced Imaging Technology (HA-AIT) Retrofit Kits
- Liberty Defense welcomed Virginia Buckingham to the board of advisors (May 2022)
- Liberty Defense was granted the HD-AIT Wideband Kit and Upgrade Kit grants $1.75M (September 2022)
- Closing of oversubscribed public offering for total gross proceeds of CAD$5.1 million (October 2022)
- Liberty Defense received the "ASTORS" Homeland Security Award (November 2022)
- Liberty Defense announced the sale of its first HEXWAVE system (January 2023)

(Expressed in U.S. dollars)

- Liberty Defense announced letter of intent form the Greater Toronto Airports to acquire the HEXWAVE for use in airport security programs (February 2023)
- Closing of a private placement for total gross proceeds of CAD$1.3M (April 2023)

(e) Outlook and Going Concern

Expenditure in research and development activities undertaken with the prospect of gaining new scientific or technological knowledge and understanding is recognized in the statement of loss as an expense when incurred.

The Company's expenditures in development activities where research results are used in planning and designing the production of new or substantially improved products and processes are recognized under intangible assets if the product or process is technically and commercially feasible, if there is an intention and ability to complete the project and then use or sell it and expect economic benefits from the project, if the company has sufficient resources to complete development and if it is able to measure reliably the cost during development. The recognized research and development expenditures incurred are recognized in the statement of loss as an expense when incurred.

The Company incurred in a total loss during the year ended December 31, 2022, of $12,159,414 and cash outflows from operating activities of $8,855,940. In order to fully commercialize HEXWAVE, the Company will require additional funds to achieve its development timeline and bring HEXWAVE to market. The Company has certain committed development milestones over the next twelve months and based on the Company's current forecasted operational and development spend, the Company will require additional funds to meet these milestones. While the Company has been successful in arranging financing in the past, the success of such initiatives cannot be assured. This material uncertainty casts significant doubt upon the Company's ability to continue as a going concern.

In March 2020, the World Health Organization declared coronavirus COVID-19 a global pandemic. This contagious disease outbreak, which has continued to spread, and any related adverse public health developments, has adversely affected workforces, economies, and financial markets globally, potentially leading to an economic downturn. It is not possible for the Company to predict the duration or magnitude of the adverse results of the outbreak and its effects on the Company's business or ability to raise funds.

The application of the going concern concept is dependent upon the Company's ability to generate future profitable operations and receive continued financial support from its creditors and shareholders. These consolidated financial statements do not give effect to any adjustments that might be required should the Company be unable to continue as a going concern.

Management plans to continue to pursue equity and/or debt financing to support operations. There can be no assurance that these financing efforts will be successful. Failure to maintain the support of creditors and obtain additional external financing will cause the Company to curtail operations and the Company's ability to continue as a going concern will be impaired. The outcome of these matters cannot be predicted at this time.

2) Results of Operations

Certain comparatives in prior periods may have been revised to conform to the current presentation.

During the three months ended and year ended December 31, 2022, the Company reported a total loss and comprehensive loss of $3,670,331 and $12,278,673 respectively (three months and year ended December 31, 2021 – $6,057,781 and $12,582,705 respectively), and basic and diluted loss per share of $0.04 and $0.13 respectively (three months and year ended December 31, 2021 – $0.10 and $0.25 respectively). Despite the accumulated losses, Management of the Company is confident in the future commercialization of its main technology HEXWAVE and to move forward the research and development of its active 3D imaging technology system, along with other different potential technologies under review.

The net loss for the three months and year ended December 31, 2022, and 2021 is comprised of the following items:

	Three months ended December 31, 2022	2021	Year ended December 31, 2022	2021
Research and development:				
Product development	126,790	(214,120)	$ 282,741	$ 398,930
Technology costs	17,914	200,792	421,493	513,057
Legal fees	-	20,269	5,474	159,791
Salaries and consulting fees (note 20)	1,859,892	1,658,761	4,854,000	3,148,134
Stock-based compensation (note 15 and 20)	50,331	120,133	237,041	275,740
Office, rent and administration	191,989	31,467	554,960	72,139
Travel and miscellaneous	24,005	75,887	283,831	107,343
Depreciation (note 7)	114,223	54,495	537,016	130,252
Amortization (note 8)	151,090	13,091	587,087	19,899
General Expenses:				
Salaries and consulting fees (note 20)	345,704	(751,246)	1,017,287	573,381
Depreciation (note 7)	–	(5,924)	–	13,670
Legal and professional fees	248,811	494,948	478,168	698,476
Stock-based compensation (note 15 and 20)	369,705	2,405,440	1,749,805	2,627,300
Office, rent and administration	75,768	111,004	197,591	208,036
Regulatory and shareholder information	67,505	3,620	110,362	51,639
Travel, promotion and investor relations	170,924	108,393	857,974	772,425
RTO transaction related costs and listing expense (note 4)	–	1,656,898	–	2,546,491
	3,814,651	5,983,908	12,174,830	12,316,703
Other (income) expense:				
Interest income	–	87	–	(54,934)
Other income and expenses	(1,653)	–	(42,993)	–
Interest expense	12,681	5,652	53,603	48,030
Accretion expense (note 10)	651	638	2,726	41,819
Foreign exchange (gain) loss	280,001	90,950	(28,752)	37,931
	291,680	97,327	(15,416)	72,846
Net loss for the year	**$ (4,106,331)**	**$ (6,081,235)**	**$ (12,159,414)**	**$ (12,389,549)**

Significant variances affecting the total loss for the period are discussed as follows:

On March 17, 2021, the Company undertook a reverse takeover transaction with DrawDown Detection, Inc., as a result all comparative figures include the transaction of DrawDown and Liberty from March 17, 2021 onwards.

i) Research and development ("R&D") expenses for the three months ended and year ended December 31, 2022, was $2,536,234 and $7,763,643 in connection to expenses related to R&D of the Company's licensed technologies with the purpose to mainly continue moving forward its active 3D imaging technology system, along with other different potential technologies under review. It is important to mention that starting February 2022 the Company started depreciating the HEXWAVE as part of the intangible assets since it was determined by management that the technology was functioning and ready for commercialization. Also, in comparison with previous years the Company also capitalized during the current year $584,859 as property and equipment in connection to all materials and labour incurred in the beta prototype units built in house, which are currently being used in real world environments to continue collecting data to improve the HEXWAVE technology and to promote its commercialization phase. During the year ended, the Company incurred $4,854,000 in salaries and consulting fees that relate to software development and advancing the technologies under review such as HD-AIT. Travel and miscellaneous expenses of $283,831 were incurred as higher travel to and from our Atlanta and Boston office has increased with the growth of the team, as well as travel for tradeshows and investor relations. It also includes stock-based compensation in the amount of $237,041 in connection to stock options granted to directors, officers, employees, and consultants. During the comparative period, year ended December 31, 2021, the Company incurred $513,057 in technology costs, $107,343 for travel and miscellaneous expenses, $275,740 in stock-based compensation, and $3,148,134 in salaries and consulting fees that relate to software development and general R&D activities in connection to activities undertaken with the prospect of gaining new scientific or technical knowledge and understanding.

ii) During the three-month ended and year ended December 31, 2022, total general expenses in the amount of $1,278,417 and $4,411,187 were incurred mainly in connection to consulting fees, salaries and payroll related benefits, legal and professional fees, stock-based compensation and travel promotion and investor relations. Stock based compensation expenses of $1,749,805 were incurred in connection to stock options, restricted share units, and performance shares granted.

(Expressed in U.S. dollars)

Consulting fees, salaries and benefits recorded for the year ended December 31, 2022, increased from $573,381 to $1,017,287 as the comparative period recorded a recovery of $751,246 which relates to a large reclass from consulting fees, salaries and benefits to stock-based compensation as the performance shares needed to be recognized as stock-based compensation expense. Also, there is an increase in travel promotion and investor relations recorded for the year ended December 31, 2022, as it went from $722,425 to $857,974 in the year. Travel has increased significantly as beta prototype testing activities started, as well as investor relations has increased with a concurrent financing taking place in March and October 2022. During the three months and year ended December 31, 2021, the Company incurred $1,656,898 and $2,546,491 in connection to the RTO transaction related costs and listing expense related to the takeover transaction with DrawDown which closed on March 17, 2021. During the current period the balance is $nil.

iii) During the three months ended and year ended December 31, 2022, the Company recorded net other income in the amount of $291,680 and $(15,416) compared to net income of $97,327 and $72,846 incurred during the same period of the previous year. Foreign exchange (gain) and loss was recorded for the three months ended and year ended December 31, 2022, $280,001 and $(28,752) compared to $90,950 and $37,931 for the three month ended and year ended December 31, 2021. The decrease in foreign exchange loss compared to the previous year is due to foreign exchange rate differentials. The Company's functional currency is the Canadian dollar and holding financial assets and liabilities in other currencies, mainly the U.S. dollar, produces foreign exchange gains or losses.

3. Summary of Quarterly Results

Three months ended	Working capital (deficiency)	Total assets	Total loss and comprehensive income loss	Loss per share
	$	$	$	$
31-Dec-22	(133,516)	6,234,038	(3,670,331)	(0.03)
30-Sep-22	(227,687)	5,687,328	(3,157,109)	(0.03)
30-Jun-22	2,089,380	8,275,896	(2,818,554)	(0.03)
31-Mar-22	4,587,293	10,254,900	(2,632,679)	(0.04)
31-Dec-21	675,182	6,499,942	(6,057,781)	(0.10)
30-Sep-21	3,444,825	13,651,601	(3,012,091)	(0.04)
30-Jun-21	5,193,209	14,857,621	(2,518,392)	(0.05)
31-Mar-21	2,297,814	11,897,154	(994,441)	(0.05)

During the year ended December 31, 2022, the Company continued with the research and development of its different licensed technologies and hired additional key individuals that will help the Company to support the success of the beta prototype launch HEXWAVE product, along with the development of the product prototype for the Company's aviation checkpoint program and other security solutions. During the fourth quarter of 2022, a brokered private placement for gross proceeds of $3,745,817 (CAD$5,140,218) was closed, allowing the Company to continue moving towards commercialization in 2023. HEXWAVE beta prototype testing continued in 2022, and materials were purchased for HEXWAVE beta prototypes, as well as material to start the development of its next generation NPI 0.5 prototypes in early 2023. During the third quarter, Beta prototype trials began at various vendors locations, allowing the Company to collect crucial data to improve the HEXWAVE and be able to move into mass production in early 2023. Beta prototype testing will continue through the beginning of 2023. Starting during the second quarter of 2022, the Company capitalized materials and labor costs used to produce four beta unit prototypes (the "Beta Units"), which were capitalized as intellectual property in the amount of $584,859, which are being used for demonstrations promotion and investor conferences. During the first quarter of 2022, the Company also closed a brokered private placement for gross proceeds of $6,816,237 (CAD$8,624,994).

During the year ended December 31, 2021, the Company continued the research and development of its technology for the HEXWAVE. In March 2021 the Company undertook a reverse takeover ("RTO") transaction with DrawDown. Additionally, as part of accounting for the RTO, the company recorded intangible assets in the amount of $3,952,854

(Expressed in U.S. dollars)

(MIT Licenses $183,682 & HEXWAVE technology $3,769,172) and had RTO transaction costs of $298,667 and listing expense of $2,546,491 recorded during the year ended December 31, 2021. With the development and growth of this technology, the team has grown and new headquarters in Boston, MA. Additionally, the Company closed two brokered private placements: one in Q2 2021 for gross proceeds of $5,777,490 (CAD$7,130,000) and in Q1 2021 with gross proceeds of $5,535,449 (CAD$6,900,000). Therefore, with funding in place the Company started ramping up the necessary activities to finalize the beta prototype testing of its HEXWAVE technology and prepare the Company for manufacturing and commercialization. Additionally, the Company added more personnel to the different areas of the Company to start developing policies and procedures that will help the Company in its next phase of growth.

4. Liquidity and Capital Transactions Resources

(a) Liquidity

As of December 31, 2022, the Company had a cash balance of $677,473 and a working capital deficiency of $(133,516). Current liabilities as of December 31, 2022, are in the amount of $1,628,657, which have been incurred in connection to continuing the development of the Company's licensed technologies and keeping the licenses and the Company's public registry in good standing.

	Twelve months ended December 31, 2022	2021
Cash (used in) provided by:		
Operating activities:		
Loss and comprehensive loss for the year	$ (12,159,414)	$ (12,389,549)
Items not involving cash:	3,204,491	5,593,539
Changes in non-cash working capital:	98,983	(410,503)
Cash used in operating activities	(8,855,940)	(7,206,513)
Cash used in investing activities	(925,479)	(571,828)
Cash provided by financing activities	9,301,640	9,267,914
Effect of foreign exchange rate changes on cash	(184,321)	(205,047)
Increase in cash	(664,100)	1,284,526
Cash, beginning of the year	1,341,573	57,047
Cash, end of the year	**$ 677,473**	**$ 1,341,573**

During the year ended December 31, 2022, the Company used net cash in operating activities in the amount of $8,855,940 mainly due to expenses related to research and development, salaries and consulting fees, promotional and investor relations activities. The Company incurred $925,479 in investing activities which relates to additions to intangible assets from the MIT & PNNL Patent and additions to the property and equipment in regard to office equipment and the Beta Units and NPI 0.5 prototypes. Finally, net cash was provided from financing activities in the amount of $9,301,639 which mainly relates to proceeds from the issuance of common shares and warrants exercised.

The Company has not issued dividends to date and has no plans to pay dividends in the foreseeable future.

In comparison, during the year ended December 31, 2021, the Company used net cash in operating activities in the amount of $7,206,513 mainly due to the expenses related to research and development, salaries and consulting fees, promotional and investor relations activities, and RTO transaction costs. The Company was also provided with net cash in financing activities in the amount of $9,267,914, which mainly relates to proceeds from the issuance of common shares less loan payments and cash advanced to Liberty in connection with the RTO transaction.

(b) Capital Transactions and Resources

(Expressed in U.S. dollars)

Common share transactions for the year ended December 31, 2022

i) On March 3, 2022, a total of 123,300 share purchase warrants were exercised at CAD$0.40 per share for total proceeds of $39,101 (CAD$49,320). The fair value of the exercised warrants was $21,479 (CAD$27,126) and was transferred from the equity reserves and recorded against share capital. Also, an additional 123,300 common shares were issued for total proceeds of $19,479 (CAD$24,600).

ii) On March 17, 2022, the Company closed a brokered private placement for gross proceeds of $6,816,237 (CAD$8,624,994). The Company issued 26,136,345 units (each a “Unit”) of the Company at a price of CAD$0.33 per Unit. Each Unit comprised of one common share and one-half share purchase warrant. Each warrant entitles the holder thereof to purchase one additional common share of the Company at a price of CAD$0.50 within a period of 24 months. The Company issued the agents 1,996,363 warrants (“broker warrants”) with a fair value of $312,816 and paid cash commission of $520,642. Each broker warrant will be exercisable to purchase one common share for a period of 24 months at an exercise price of CAD$0.33. Additionally, the Company also incurred cash costs in connection to filling and legal expenses in the amount of $274,581 and paid a corporate finance fee of CAD$100,000 with common shares of the Company (303,030 common shares issued with a fair value of $79,029). All securities issued under the private placement are subject to a hold period expiring four months and one day after the closing date of the private placement.

iii) On May 25, 2022, the Company released from escrow a total of 4,386,500 common shares in connection to capital performance shares’ milestones reached. The estimated fair value of these capital performance shares was $1,377,886 (CAD$1,754,600) which was transferred from equity reserves.

iv) On September 14, 2022, a total of 50,000 common shares were issued in connection with the settlement of restricted shares units. The estimated fair value of these instruments was $20,894 (CAD$27,500) which was transferred from equity reserves.

v) On October 27, 2022, the Company closed a brokered private placement for gross proceeds of $3,745,817 (CAD$5,140,218). The Company issued 18,691,700 units (each a “Unit”) of the Company at a price of CAD$0.275 per Unit. Each Unit comprised of one common share and one-half share purchase warrant. Each warrant entitles the holder thereof to purchase one additional common share of the Company at a price of CAD$0.50 within a period 60 months. The Company paid the agents 1,446,736 broker warrants with a fair value of $150,348 and cash commissions of $289,926. Each whole broker warrant will be exercisable to purchase one common share for a period of 60 months at an exercise price of CAD$0.275. Additionally, the Company also incurred in other cash issuing costs such as filling, legal and other in the amount of $190,792 and paid a corporate finance fee of CAD$100,000 by issuance of common shares of the Company (363,636 common shares issued with a fair value of $72,873). Concurrent with the brokered private placement, the Company also completed a private placement offering of 475,000 Units of the Company under the same terms and conditions at the price of $0.275 for gross proceeds of $95,120 (CAD$130,625). Bill Frain, the Company’s Chief Executive Officer, subscribed for 400,000 Units for an aggregate amount of CAD$110,000. Mr. Frain is a related party of the Company. Additionally, all securities issued under these financings are subject to a hold period expiring four months and one day after the closing date.

   Additionally, the Company allocated a residual value of $384,101 to the investor warrants issues on this private placement.

vi) On October 28, 2022, the Company released from escrow a total of 2,193,250 common shares in connection to the capital market performance shares’ milestone reached. The estimated fair value of these capital performance shares was $639,312 (CAD$877,300) which was transferred from equity reserves.

Common share transactions for the year ended December 31, 2021

i) On March 17, 2021, Liberty completed a share consolidation equivalent to 6.2 old common shares to 1 new common share and DrawDown also completed a share consolidation of two old common shares for one new common share in connection to the completion of the RTO transaction. All common shares and per share data presented in the Company's consolidated financial statements have been retroactively adjusted to reflect the share consolidation unless otherwise noted.

ii) As part of the RTO transaction on March 12, 2021, the Company closed a financing with a total of 17,250,000 subscription receipts for one Unit (the "March Unit") at a price of $0.3209 (CAD$0.40) per Unit for total proceeds of $5,535,499 (CAD$6,900,000). Each March Unit is comprised of one common share and one-half of one purchase warrant (each whole warrant, a "March Warrant"). Each whole purchase March Warrant entitles the holder thereof to purchase one common share at CAD$0.60 per common share for a period of two years. The Company issued 1,098,125 compensation warrants to the agents (the "Compensation March Warrants"). Each Compensation March Warrant entitles the agents to acquire one common share of the Company at a price of CAD$0.40 per common share within 24 months with a fair value of $197,832. The Company also incurred a cash commission and other filling and legal expenses of $597,800 (CAD$739,250).

iii) A total of 10,733,792 common shares were issued upon completion of the RTO transaction on March 17, 2021, with a fair value of $3,444,458. Also, the convertible debentures issued in connection to the RTO transaction (Note 4 and 10) were converted into DrawDown Units and immediately exchanged for Liberty shares on a one for one basis along with the warrants and finder's warrants. Each DrawDown Unit is comprised of one common share and one-half of one purchase warrant (each whole warrant, a "CD Warrant"). Each whole purchase CD Warrant entitles the holder thereof to purchase one common share at CAD$0.50 per common share for a period of two years. A total of 5,825,467 common shares were issued with a fair value of $1,495,507 in connection with the convertible debentures.

    Also, as part of the convertible debentures' transaction, the Company issued a total of 208,286 finder's warrants at a price of CAD$0.40 per share for a period of 24 months with an estimated fair value of $31,884.

iv) On June 17, 2021, the Company closed a brokered private placement of 14,260,000 units ("Units") at a price of $0.4052 (CAD$0.50) per Unit for gross proceeds of $5,777,490 (CAD$7,130,000). Each Unit consists of one common share of the Company and one-half of one common share purchase warrant (each whole warrant, a "Warrant "). Each Warrant entitles the holder thereof to acquire one additional common share of the Company at a price of CAD$0.75 per Common Share within 24 months. The Company paid to the agent a cash commission of $448,464 (CAD$553,450) and issued to the agent 1,106,900 non-transferable compensation warrants (the "Compensation Warrants"). Each Compensation Warrant entitles the Agent to acquire one common share of the Company at a price of CAD$0.50 per common share within 24 months with a fair value of $237,386. The Company also incurred $76,391 (CAD$94,380) in legal and filling fees.

v) On July 15, 2021, the Company issued 50,000 common shares for gross proceeds of $19,885 in connection with warrants exercised. The fair value of these warrants exercised was $10,723 and was transferred from the equity reserves and recorded against share capital.

vi) On July 21, 2021, the Company issued 2,193,250 capital markets performance shares (Note 14 (d)) to certain employees and a consultant of the Company at a fair value of $691,986.

Other sources of funds:

Other sources of funds potentially available to the Company are through the exercise of outstanding stock options, and share purchase warrants with the following terms:

As at December 31, 2022, the number of stock options outstanding and exercisable, adjusted for the share consolidation was:

	Outstanding		Exercisable	
Expiry date	Number of stock options	Exercise price	Remaining contractual life (years)	Number of stock options
1-May-24	50,000	CAD$ 0.50	1.33	50,000
15-Jun-24	37,500	CAD$ 0.50	1.46	37,500
1-Jul-24	75,000	CAD$ 0.50	1.50	75,000
8-Jul-24	75,000	CAD$ 0.50	1.52	75,000
31-Jul-24	50,000	CAD$ 0.50	1.58	50,000
23-Aug-24	37,500	CAD$ 0.50	1.65	37,500
25-Sep-24	37,500	CAD$ 0.50	1.74	37,500
29-Sep-24	75,000	CAD$ 0.50	1.75	75,000
Apr 9 and Jul 2, 2024	137,097	CAD$ 4.96	1.50	137,097
7-Apr-26	1,615,000	CAD$ 0.50	3.27	1,413,125
10-Jun-26	100,000	CAD$ 0.50	3.44	75,000
28-Jul-26	125,000	CAD$ 0.55	3.58	78,125
28-Jul-26	90,000	CAD$ 0.65	3.58	56,250
1-Nov-26	465,000	CAD$ 0.46	3.84	232,500
14-Jan-27	100,000	CAD$ 0.36	4.04	37,500
26-Apr-27	1,915,000	CAD$ 0.41	4.32	478,750
26-May-24	250,000	CAD$ 0.50	1.40	62,500
26-May-27	175,000	CAD$ 0.38	4.40	43,750
16-Aug-27	185,000	CAD$ 0.29	4.63	23,125
21-Nov-27	60,000	CAD$ 0.22	4.89	-
	5,654,597			**3,075,222**

Total stock-based compensation expense as a result of options granted and vested during the three months ended and year ended December 31, 2022, was $129,835 (CAD$176,901) and $558,556 (CAD$731,093) respectively (three months ended and year ended December 31, 2021 – $191,178 and $519,914 respectively).

As at December 31, 2022, the number of restricted share units ("RSU") outstanding and exercisable are as follows:

	Number of equity settled restricted share units	Weighted average price
Outstanding, December 31, 2020	-	CAD$ -
Granted	1,000,000	0.58
Outstanding, December 31, 2021	1,000,000	CAD$ 0.58
Granted	1,522,155	0.45
Issued	(50,000)	0.32
Outstanding, December 31, 2022	**2,472,155**	**CAD$ 0.50**

The estimated fair value of the equity settled RSUs granted during the year ended December 31, 2022, was CAD$691,394 (December 31, 2021: CAD$580,000) and will be recognized as an expense over the vesting period of the RSUs. The fair value of the equity settled RSUs as at the grant date was determined with reference to the market value of the common shares of the Company at the grant date.

Total stock-based compensation expense as a result of RSUs grants during the three months and year ended December 31, 2022, was $87,968 and $486,888 (three months and year ended December 31, 2021, was $62,974 and $111,705).

During the year ended December 31, 2022, the following transactions occurred in connection to restricted share units**:**

i) On January 14, 2022, the Company granted 150,000 RSUs to an ex-employee; this RSUs shall be settled with common shares of the Company, are restricted until January 15, 2027, and vest at 100% on January 14, 2023.

ii) On April 25, 2022, the Company granted 408,750 RSUs to directors, officers, and consultants; these RSUs shall be settled with common shares of the Company, are restricted until April 26, 2027, and vested at 100% on June 10, 2022.

(Expressed in U.S. dollars)

iii) On April 26, 2022, the Company granted 800,000 RSUs to directors and officers; these RSUs shall be settled with common shares of the Company, are restricted until April 26, 2027, and vest at 100% on April 26, 2024.

iv) On May 26, 2022, the Company granted 113,405 RSUs to an officer of the Company; these RSUs shall be settled with common shares of the Company, are restricted until May 27, 2027, and these RSUs vest 100% on May 26, 2023.

vi) On November 21, 2022, the Company granted 50,000 RSUs to a consultant; these RSUs shall be settled with common shares of the Company, are restricted until November 21, 2027, and these RSUs vest 100% on November 21, 2023.

During the year ended December 31, 2021, the following transactions occurred in connection to restricted share units**:**

i) On April 7, 2021, the Company granted 1,000,000 RSUs to directors, officers, and an employee; these instruments shall be settled with common shares of the Company and vest at 100% on April 7, 2024.

As at December 31, 2022 the outstanding number of share purchase warrants, adjusted for the share consolidation outstanding are as follows:

	Outstanding		
Expiry date	**Number of warrants**	**Exercise price**	**Remaining contractual life (years)**
11-Mar-23	1,098,125	CAD$0.40	0.19
11-Mar-23	8,625,000	CAD$0.60	0.19
17-Mar-24	2,912,734	CAD$0.50	1.21
17-Jun-23	7,130,000	CAD$0.75	0.46
17-Jun-23	1,056,900	CAD$0.50	0.46
17-Mar-24	13,068,172	CAD$0.50	1.21
17-Mar-24	1,996,363	CAD$0.33	1.21
27-Oct-27	1,446,736	CAD$0.28	4.82
27-Oct-27	9,345,850	CAD$0.50	4.82
27-Oct-27	237,500	CAD$0.50	4.82
	46,917,380		

During the year ended December 31, 2022, the following transactions occurred in connection to warrants:

i) On January 9, 2022, the Company cancelled 314,516 share purchase warrants without being exercised.

ii) On March 3, 2022, a total of 123,300 purchase warrants were exercised at a price of CAD$0.40.

iii) On March 17, 2022, as part of the brokered private placement the Company issued a total of 15,064,535 shares purchase warrants at an exercise between CAD$0.33 and CAD$0.50.

iv) On May 29, 2022, the Company cancelled 84,986 share purchase warrants without being exercised.

v) On October 27, 2022, as part of the brokered private placement the Company issued a total of 11,030,086 shares purchase warrants at an exercise between CAD$0.28 and CAD$0.50.

During the year ended December 31, 2021, the following transactions occurred in connection to warrants:

i) As part of the completion of the RTO transaction and the concurrent financing, the Company, on March 12, 2021, issued 2,912,734 share purchase warrants as a result of converting all outstanding convertible debentures. These instruments had an exercise price of CAD$0.50 and can be exercised within a period of 24 months.

(Expressed in U.S. dollars)

ii) As part of the RTO transaction, the Company acquired 1,738,166 share purchase warrants with a weighted average exercise price of CAD$6.48. Subsequently, on April 3, 2021, a total of 1,423,650 with an exercise price of CAD$6.82 were cancelled without being exercised. Due to the short expiry period of these instruments and its high exercise price, management did not recognize any fair value associated to the share purchase warrants at the date of the acquisition.

(c) Performance Shares

On March 17, 2021, Liberty deposited into escrow, and held in escrow, Operational Performance Shares ("OPS") and Capital Market Performance Shares ("CMPS") for certain directors, officers, and consultants of the Company upon the Company achieving certain performance milestones. Once these milestones were achieved the shares would be released. These performance shares included 2,000,000 of OPS and 8,773,000 of CMPS. In order to fair value these performance shares, management has run a probability analysis to estimate the number of shares the Company would be issued and its vesting period. Therefore, the fair value of these performance shares is based on the probability analysis and the share market price at grant date of CAD$0.40 per share.

Operational Performance Shares

During the years ended December 31, 2022, and December 31, 2021, none of the 2,000,000 OPS have been issued as neither of the two milestones have been met. The estimated fair value of the OPS is CAD$800,000 with an estimated vesting period between March 2023 and September 2023. During the year ended December 31, 2022, the Company recorded stock-based compensation in connection to OPS in the amounts of $222,652 (CAD$289,803) (December 31, 2021, – $183,368 (CAD$229,461)).

Capital Market Performance Shares

During the year ended December 31, 2021, the Company issued 2,193,250 from the total of 8,773,000 CMPS as one of the established milestones was met. During the year ended December 31, 2022, an additional 6,579,750 CMPS were issued as the final three milestones were met. The Company set a total of four milestones with an equal number of CMPS to be issued when the Company achieves such milestones. The Company estimated a probability of the number of CMPS it will issue in addition to an estimated vesting period between June 2021, and September 2022. The total estimated fair value of the CMPS was CAD$3,509,200 and during the year ended December 31, 2022 the Company recorded stock based compensation in connection to CMPS in the amount of $718,750 (CAD$896,276) (December 31, 2021, – $2,088,053 (CAD$2,612,924)).

	Number of equity settled performance share units	Weighted average price
Outstanding, December 31, 2020	-	CAD$ -
Granted	10,773,000	0.40
Released from escrow	(2,193,250)	0.40
Outstanding, December 31, 2021	8,579,750	CAD$ 0.40
Released from escrow	(6,579,750)	0.40
Outstanding, December 31, 2022	**2,000,000**	**CAD$ 0.40**

(d) Reconciliation of Use of Proceeds from March 2021 Unit Offering

In March 2021, the Company undertook an offering of $5,535,499 (CAD$6,900,000) of subscription receipts. The following table sets out a comparison of how the Company used the proceeds during the nine-month period following the closing date in March 2021, an explanation of variances and the impact of variances on the ability of the Company to achieve its business objectives and milestones.

Intended Use of Proceeds of March 2021 Subscription Receipt Offering		**Actual Use of Proceeds from March 2021 Subscription Receipt Offering**	**(Over)/under expenditure**	**Explanation of Variance and impact on business objectives**
Estimated consolidated working capital deficiency of the Company as at December 31, 2020	$477,653	$686,402	($238,749)	The asset acquisition closed on Mar 17, 2021, therefore the working capital deficiency changed

(Expressed in U.S. dollars)

Intended Use of Proceeds of March 2021 Subscription Receipt Offering		Actual Use of Proceeds from March 2021 Subscription Receipt Offering	(Over)/under expenditure	Explanation of Variance and impact on business objectives
				from the estimated figures at Dec. 31, 2020
Estimated consolidated working capital deficiency of DrawDown as at December 31, 2020	$860,008	$1,394,304	($534,296)	The asset acquisition closed on Mar 17, 2021, therefore the working capital deficiency changed from the estimated figures at Dec 31, 2020
Agent's cash commission	$352,387	$339,551	$12,836	Lower commission cost than anticipated
Agent's legal fees, expenses and disbursements	$133,173	$133,173	$0	N/A
Agent's corporate finance fee	$120,337	$120,337	$0	N/A
Costs to the complete the reverse takeover transaction with DrawDown(1)	$200,562	$300,040	($99,478)	Additional costs related to higher than anticipated professional fees
General and administrative expenses(2)	$1,130,365	$1,130,365	$0	N/A
Sales and marketing(3)	$84,236	$84,236	$0	N/A
Research, development and implementation(4)	$1,123,145	$1,123,145	$0	N/A
Unallocated working capital	$1,083,634	$223,947	$859,687	Change in unallocated working capital due to increased expenditures
Total	**$5,535,499**	**$5,535,499**	**$0**	

Notes:

(1) Such expenses were expected to include, among other things, legal, audit, advisory regulatory and other expenses related to completion of the DrawDown reverse takeover transaction not yet paid as of March 2021, as well as interest payments pursuant to DrawDown's prior bridge financing.

(2) Such expenses were expected to include, among other things, CEO and CTO salaries, CFO professional fees, compensation to supporting staff, office and administration costs of approximately $1,159,000 and corporate insurance combined with public company regulatory costs, including legal and audit costs, transfer agent fees, and costs of shareholder communications, of approximately $250,000.

(3) Such expenses were expected to include compensation for consultants, advertising, and other promotional expenditures.

(4) Such expenses were expected to include costs and expenses in connection to the continuation of the DrawDown's technology for approximately $75,000 and Liberty's technology for approximately $1,325,000.

(e) Reconciliation of Use of Proceeds from June 2021 Unit Offering

In June 2021, the Company undertook an offering of $5,777,490 (CAD$7,130,000) of units. The following table sets out a comparison of how the Company used the proceeds during the year ended following the closing date in June 2021, an explanation of variances and the impact of variances on the ability of the Company to achieve its business objectives and milestones.

(Expressed in U.S. dollars)

Intended Use of Proceeds of June 2021 Unit Offering		Actual Use of Proceeds from June 2021 Unit Offering	(Over)/under expenditure	Explanation of Variance and impact on business objectives
Agent's cash commission	$448,464	$448,464	$0	N/A
Agent's legal fees, expenses and disbursements	$76,391	$76,391	$0	N/A
Research, development and implementation(1)	$5,252,635	$5,252,635	$0	N/A
Total	**$5,777,490**	**$5,777,490**	**$0**	

Notes:

(1) Such expenses include costs related to the research, development and implementation of the Company's technology that was licensed from the Pacific Northwest National Laboratory as well as further development of the Company's HEXWAVE technology.

(f) Reconciliation of Use of Proceeds from March 2022 Unit Offering

In March 2022, the Company undertook an offering of approximately $6,816,237 (CAD$8,625,000) of units. The following table sets out a comparison of how the Company used the proceeds during the seven-month period following the closing date in March 2022, an explanation of variances and the impact of variances on the ability of the Company to achieve its business objectives and milestones.

Intended Use of Proceeds of March 2022 Unit Offering		Actual Use of Proceeds from March 2022 Unit Offering	(Over)/under expenditure	Explanation of Variance and impact on business objectives
Agent's cash commission	$618,243	$520,642	$97,601	Lower cost than anticipated
Agent's legal fees, expenses and disbursements	$58,086	$58,086	$0	N/A
Cash portion of Agent's corporate finance fee	$39,514	$39,514	$0	N/A
Research, development, implementation and enhancement(1)	$6,100,394	$6,197,995	$(97,601)	The Company has used substantially all of the proceeds
Total	**$6,816,237**	**$6,816,237**	**$0**	

Notes:

(1) Such expenses include costs related to funding the further enhancement, development and testing to get ready for future commercialization of the Company's HEXWAVE technology as well as further development of the latest technologies exclusively licensed to the Company for aviation checkpoints.

(g) Reconciliation of Use of Proceeds from October 2022 Unit Offering

In October 2022, the Company undertook an offering of approximately $3,745,817 (CAD$5,140,218) of units. The following table sets out a comparison of how the Company used the proceeds during the three-month period following the closing date in October 2022, an explanation of variances and the impact of variances on the ability of the Company to achieve its business objectives and milestones.

(Expressed in U.S. dollars)

Intended Use of Proceeds of October 2022 Unit Offering		**Actual Use of Proceeds from October 2022 Unit Offering**	**(Over)/under expenditure**	**Explanation of Variance and impact on business objectives**
Agent's cash commission	$289,926	$289,926	$0	N/A
Agent's legal fees, expenses and disbursements	$86,280	$86,280	$0	N/A
Cash portion of Agent's corporate finance fee	$36,436	$36,436	$0	N/A
Research, development, implementation and enhancement(1)	$3,333,175	$2,655,702	$677,473	The Company will use substantially all of the proceeds
Total	**$3,745,817**	**$3,068,344**	**$677,473**	

Notes:

(2) Such expenses include costs related to funding the further enhancement, development and testing to achieve future commercialization of the Company's HEXWAVE technology as well as development of the latest technologies exclusively licensed to the Company for aviation checkpoints.

5. Commitments

i) As at December 31, 2022 and December 31, 2021, the minimum lease payments are:

	December 31, 2022	**December 31, 2021**
Maturity analysis - contractual undiscounted cash flows		
One year or less	$ 161,707	$ 160,693
Two to five years	579,947	590,859
Six and thereafter	38,881	190,409
Total lease liabilities	$ 780,535	$ 941,961
Effect of discounting	(142,229)	(194,996)
Lease liabilities included in the statement of financial position	638,306	746,965
Current	$ 123,911	$ 106,885
Non-current	$ 514,395	$ 640,080

As a result of the completion of the RTO and under the new management's vision, the corporate office is now located in Boston, MA. As a result, the Company subleased until the expiry of the headlease (April 2024) the office space located in Vancouver, BC., as it was no longer required. The Company fair valued the lease receivable by present valuing the expected lease receivable payments over the life of the lease. The Company used an interest rate of 5.55%, the interest rate implicit in the lease. Minimum undiscounted sublease payments receivable are: $21,786 for the next 12 months and $7,262 for the following year.

On December 28, 2022, the Company entered into a new office lease agreement in Atlanta, GA for a period of thirty-six months whereby an initial right-of-use asset will be recognized on the commencement date of February 1, 2023. As at December 31, 2022, the Company has approximately $67,635 in lease commitments relating to this lease.

On November 7, 2022, the Company leased additional office space within its current Boston location. The term of the additional lease is sixty-three months whereby an initial right-of-use asset will be recognized on the commencement date of February 1, 2023. As at December 31, 2022, the Company has approximately $456,792 in lease commitments relating to this lease.

(Expressed in U.S. dollars)

6. Contract Awards

During the year ended December 31, 2022, the Company recognized total revenue of $49,134 recorded in other income. Future revenues in connection with these contracts will be recognized as performance obligations are met. It is estimated that future revenues will be recognized under the same basis following these timelines:

	Year ended December 31,	
Contract Award Revenue	**2023**	**2024**
Battelle Contract Award	163,563	-
TSA Contract Award HD-AIT	1,090,000	657,905
Total estimated revenues	**$ 1,253,563**	**$ 657,905**

i) Battelle (PNNL) HD-AIT Shoe Screener

On May 12, 2022, the Company received a contract award for $212,697 from Battelle, Pacific Northwest Division's Contract. The contract award is to work hand in hand with PNNL to develop the High Definition – Advanced Imaging Technology ("HD-AIT") Retrofit Kits. With developing the HD-AIT Retrofit Kits, the Battelle Memorial License and patent will be utilized in the HD-AIT technology development. During the year ended December 31, 2022, as part of the contract award the Company received $35,194 and had a receivable of $13,940 (December 31, 2021, – $nil). As part of the terms of the contract award the Company is required to submit monthly invoices as follows:

Battelle HD-AIT Shoe Scanner	**Amounts**
Year 2022	
Award payments received	$ 35,194
Award payments receivable	13,940
Year 2023	
Janaury	20,000
February	30,000
March	22,604
April	22,453
May	25,474
June	25,474
July	17,557
Total	**$ 212,697**

The remaining $163,562 contract award has not been recognized as a receivable as the timing of the receipt of these funds is not virtually certain. The Company will only recognize the asset when receipt is virtually certain.

ii) Transportation Security Administration's (TSA) HD-AIT Upgrade

On September 30, 2022, the Company received a contract award for $1,747,905 from TSA for the High Definitions – Advanced Imaging Technology (HD-AIT) Wide Band Upgrade Kit. The contract award is to develop a series of millimeter-wave imaging system prototypes to advance and upgrade the current state-of-the-art imaging technology for the current passenger security screening applications. The project will be performed over a period of eighteen months, and invoices will be issued once the milestones are reached based on the agreed upon timeline. During the year ended December 31, 2022, the Company received $nil (December 31, 2021, – $nil). The Company is required to submit quarterly invoices as follows:

(Expressed in U.S. dollars)

TSA HD-AIT Upgrade		Amounts
Year 2023		
Milestone 1 (Q1 2023)	$	240,000
Milestone 2 (Q2 2023)		250,000
Milestone 3 (Q3 2023)		250,000
Milestone 4a (Q4 2023)		175,000
Milestone 4b (Q4 2023)		175,000
Year 2024		
Milestone 5 (Q1 2024)		300,000
Milestone 6 (Q2 2024)		357,905
Total	**$**	**1,747,905**

7. Collaboration Agreements

i) Transportation Security Administration's (TSA) On-Person Screening Capability Program

On October 20, 2021, the Company received a contract award for $500,000 from TSA as part of the TSA On-Person Screening Capability Program. The contract award is for the demonstration and evaluation of the Company's HEXWAVE technology and its expanded capabilities for screening aviation workers to enhance detection and throughput performance. In order for the Company to draw down on this award, Liberty is required to have its HEXWAVE technology working at certain locations to collect and share data with TSA on identified threats to further develop algorithms to improve the recognition of threats with desire probability of detection. During the year ended December 31, 2022, the Company received $193,790 in connection with this award and had a receivable of $33,313 which have been recorded as a reduction of related costs (December 31, 2021, – $nil). As part of the terms of the contract award the Company is required to submit quarterly invoices as follows:

TSA On-Person Screening Capability Program Contract Award		Amounts
Year 2022		
Quarter 1 (payment received)	$	64,528
Quarter 2 (payment received)		119,082
Quarter 3 (payment received)		10,180
Quarter 4 (payment receivable)		33,313
Year 2023		
Quarter 1		116,746
Quarter 2		85,450
Quarter 3		64,857
Quarter 4		5,844
Total	**$**	**500,000**

The remaining amount of $272,897 from the contract award has not been recognized as a receivable as the timing of the receipt of these funds is not virtually certain. The Company will only recognize the asset when receipt is virtually certain.

ii) Please refer to section 1 (b) ii) for additional information regarding description and commitments of MIT License Agreement and Battelle License Agreement.

8. Off-balance Sheet Arrangements

The Company does not utilize off-balance sheet arrangements.

9. Transactions Between Related Parties

The Company's related parties consist of the Company's directors, officers and companies associated with them including 1214852 B.C. LTD., a company where Omar Garcia, the Chief Financial Officer is a shareholder and Nicole Ridgedale Communications a direct family member of one of the directors.

Compensation of key management personnel:

(Expressed in U.S. dollars)

Key management personnel include members of the Board, the Chief Executive Officer, Chief Financial Officer, Chief Technology Officer, and Chief Operating Officer. The net aggregate compensation paid, or payable and related party transactions are shown as follows:

		Three months ended December 31,				Year ended December 31,		
		2022		2021		2022		2021
Short-term benefits	$	415,737	$	309,911	$	1,267,582	$	1,262,926
Share-based compensation		345,638		2,482,129		1,508,108		2,729,567
Consulting services (1)		(36,861)		292,415		101,422		475,687
	$	**724,514**	**$**	**3,084,455**	**$**	**2,877,111**	**$**	**4,468,180**

(1) Includes fees paid or payable to 1214852 B.C. LTD

Related party balances:

As of December 31, 2022, the Company had a balance payable of $275,773 to related parties (December 31, 2021, – $235,040). This payable balance includes accounts payable and accrued liabilities relating to consulting services from directors, officers or their related companies, included in compensation of key management personnel. These related party balances are unsecured, non-interest bearing and have no specific terms of settlement.

During the year ended December 31, 2022, the Company received working capital loans (Note 9) in the amount of $438,117 (year ended December 31, 2021 - $394,384) from directors, officers or their related parties. During the years ended December 31, 2022, and 2021, all of these working capital loans were paid in full and the outstanding balance at December 31, 2022 is $nil, (December 31, 2021 - $nil).

During the year ended December 31, 2022, Nicole Ridgedale Communications incurred $140,498 in stock-based compensation and consulting services (December 31, 2021, - $44,962). These related party balances are unsecured, non-interest bearing and have no specific terms of settlement.

10. Subsequent event

On April 14, 2023, the Company closed the first tranche of a non-brokered private placement for gross proceeds of CAD$1,341,212. The Company issued 6,707,061 units (each a "Unit") of the Company at a price of CAD$0.20 per Unit. Each Unit comprised of one common share and one-half share purchase warrant. Each warrant entitles the holder thereof to purchase one additional common share of the Company at a price of CAD$0.30 within a period of 24 months. The Company paid the agents 215,250 broker warrants. Each broker warrant will be exercisable to purchase one common share for a period of 24 months at an exercise price of CAD$0.30. All securities issued under the private placement are subject to a hold period expiring four months and one day after the closing date of the private placement.

11. Critical Accounting Estimates

Full disclosure of the Company's accounting policies and significant accounting estimates and judgments in accordance with IFRS can be found in note 2 and 3 of its audited consolidated financial statements as at December 31, 2022 and have remained substantially unchanged and are still applicable to the Company unless otherwise indicated.

12. Changes in Accounting Policies including Initial Adoption

There was no new standards effective January 1, 2022, that impacted the Company's audited consolidated financial statements.

13. Financial Instruments

As of December 31, 2022, the Company's financial instruments comprise cash, amounts receivables, and accounts payable and accrued liabilities, none of which are valued at fair value. The fair values of cash, amounts receivables, and accounts payable and accrued liabilities approximate their carrying values due to their short-term maturity. The carrying amount of the CEBA loan approximates fair value as it is discounted using a market rate of interest.

(Expressed in U.S. dollars)

The Company's financial instruments are exposed to certain financial risks including, credit risk, liquidity risk, foreign currency risks, equity price risk and capital risk management. Details of each risk are laid out in the notes to the Company's audited consolidated financial statements as at December 31, 2022. Details of each risk are summarized below:

a) Liquidity risk

Liquidity risk is the risk that the Company will not be able to meet its financial obligations as they fall due. The Company manages liquidity risk through the management of its capital structure. To mitigate this risk, the Company has a planning and budgeting process in place to determine the funds required to support its ongoing operations and capital expenditures. The Company ensures that sufficient funds are raised from equity offerings or debt financings to meet its operating requirements, after considering existing cash balances, expected exercise of share purchase warrants, and stock options. The Company's ability to continue as a going concern involves significant judgements and estimates while determining forecasted cashflows and is dependent on the Company's ability to obtain financing (Note 1). As at December 31, 2022, the Company had cash of $677,473 (December 31, 2021 - $1,341,573) to settle current liabilities of $1,628,657 (December 31, 2021 - $891,862). Most of the Company's financial liabilities have contractual maturities of 30 days or less and are subject to normal trade terms.

b) Credit risk

Credit risk is the risk of an unexpected loss if a customer or third party to a financial instrument fails to meet its contractual obligations. The Company's cash are held through large Canadian, international, and foreign national financial institutions. The Company mitigates this risk by transacting only with reputable financial institutions. The carrying amount of financial assets recorded in the financial statements represents the Company's maximum exposure to credit risk. The Company believes it is not exposed to significant credit risk.

c) Market risk

Market risk is the risk of loss that may arise from changes in market factors such as interest rates and foreign exchange rates.

i. Interest rate risk

Interest rate risk is 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 is exposed to varying interest rates on cash. The Company has no amounts receivable or debt bearing variable interest rate.

ii. Foreign currency risk

The Company is exposed to currency risk by having balances and transactions in currencies that are different from its functional currency. The Company operates in foreign jurisdictions, which uses the U.S. dollar. The Company does not use derivative instruments to reduce upward, and downward risk associated with foreign currency fluctuations.

		Amounts US dollars
Financial assets denominated in foreign currencies	$	620,114
Financial liabilities denominated in foreign currencies		(499,678)
Net exposure	**$**	**120,436**

A 10% change in the U.S. dollar exchange rate relative to the Canadian dollar would change the Company's profit or loss by $12,044.

d) Price risk

(Expressed in U.S. dollars)

The Company is exposed to price risk with respect to equity prices. Equity price risk is defined as the potential adverse impact on the Company's earnings due to movements in individual equity prices or general movements in the level of the stock market. The Company closely monitors individual equity movements, and the stock market to determine the appropriate course of action to be taken by the Company.

Capital Risk Management

The Company manages common shares and share purchase warrants as capital. The Company's objectives when managing capital are to safeguard the Company's ability to continue as a going concern in order to pursue the development of its products and to maintain a flexible capital structure which optimizes the costs of capital at an acceptable risk.

The Company manages its capital structure and makes adjustments to it in light of changes in economic conditions and the risk characteristics of the underlying assets. To maintain or adjust the capital structure, the Company may attempt to issue new shares, issue debt, acquire or dispose of assets, or adjust the amount of cash on hand.

In order to facilitate the management of its capital requirements, the Company prepares expenditure budgets that are updated as necessary depending on various factors, including successful capital deployment and general industry conditions.

The Company expects its current capital resources will be sufficient to carry its operations, and product development plans for the foreseeable future. The Company is not subject to externally imposed capital requirements.

There has been no change to the Company's approach to capital management during the year ended December 31, 2022, and 2021.

14. Other requirements

Outstanding share data

Authorized: Unlimited number of common shares

Number of common shares issued and outstanding as at December 31, 2022: 116,839,406

Number of common shares issued and outstanding as at April 24, 2023: 123,545,467

Number of stock options outstanding and exercisable as at April 24, 2023:

	Outstanding			Exercisable
Expiry date	Number of stock options	Exercise price	Remaining contractual life (years)	Number of stock options
1-May-24	50,000	CAD$ 0.50	1.03	50,000
15-Jun-24	37,500	CAD$ 0.50	1.16	37,500
1-Jul-24	75,000	CAD$ 0.50	1.20	75,000
8-Jul-24	75,000	CAD$ 0.50	1.22	75,000
31-Jul-24	50,000	CAD$ 0.50	1.28	50,000
23-Aug-24	37,500	CAD$ 0.50	1.35	37,500
25-Sep-24	37,500	CAD$ 0.50	1.44	37,500
29-Sep-24	75,000	CAD$ 0.50	1.45	75,000
Apr 9 and Jul 2, 2024	137,097	CAD$ 4.96	1.20	137,097
7-Apr-26	1,615,000	CAD$ 0.50	2.97	1,615,000
10-Jun-26	100,000	CAD$ 0.50	3.14	87,500
28-Jul-26	125,000	CAD$ 0.55	3.27	109,375
28-Jul-26	90,000	CAD$ 0.65	3.27	78,750
1-Nov-26	465,000	CAD$ 0.46	3.54	290,625
14-Jan-27	100,000	CAD$ 0.36	3.74	62,500
26-Apr-27	1,915,000	CAD$ 0.41	4.02	718,125
26-May-24	250,000	CAD$ 0.50	1.10	93,750
26-May-27	175,000	CAD$ 0.38	4.10	65,625
16-Aug-27	185,000	CAD$ 0.29	4.33	46,250
21-Nov-27	60,000	CAD$ 0.22	4.59	7,500
	5,654,597			**3,749,597**

Number of share purchase warrants as at April 24, 2023:

	Warrants outstanding	Exercise Price
Outstanding, December 31, 2020	208,286	CAD$ 0.40
RTO transaction	1,738,166	6.48
Issued	20,872,759	0.62
Cancelled	(1,423,650)	6.82
Exercised	(50,000)	0.50
Outstanding, December 31, 2021	21,345,561	CAD$ 0.68
Issued	29,662,901	0.45
Cancelled	(10,123,126)	0.71
Exercised	(123,300)	0.30
Outstanding, April 24, 2023	40,762,036	**CAD$ 0.51**

Number of restricted share units as at April 24,2023:

	Number of equity settled restricted share units	Weighted average market price
Outstanding, December 31, 2020	-	CAD$ -
Granted	1,000,000	0.58
Outstanding, December 31, 2021	1,000,000	CAD$ 0.58
Granted	1,522,155	0.45
Issued	(50,000)	0.32
Outstanding, April 24, 2023	**2,472,155**	**CAD$ 0.50**

There are 408,750 restricted share units that are exercisable. The remaining share units are not exercisable since they vest in 2023 and 2024.

Number of CMPS as at April 24, 2023:

(Expressed in U.S. dollars)

	Number of equity settled performance share units	Weighted average price
Outstanding, December 31, 2020	-	CAD$ -
Granted	10,773,000	0.40
Released from escrow	(2,193,250)	0.40
Outstanding, December 31, 2021	8,579,750	CAD$ 0.40
Released from escrow	(6,579,750)	0.40
Outstanding, April 24, 2023	**2,000,000**	**CAD$ 0.40**

15. Disclosure Controls and Procedures and Internal Controls over Financial Reporting

Disclosure controls and procedures are intended to provide reasonable assurance that information required to be disclosed is recorded, processed, summarized, and reported within the time periods specified by securities regulations and that the information required to be disclosed is accumulated and communicated to management. Internal controls over financial reporting are intended to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with IFRS. In connection with National Instrument 52-109 (Certificate of Disclosure in Issuer's Annual and Interim Filings) ("NI 52-109"), the Chief Executive Officer and Chief Financial Officer of the Company have filed a Venture Issuer Basic Certificate with respect to the financial information contained in the audited consolidated financial statements for the years ended December 31, 2022, and 2021, and this accompanying MD&A (together, the "Annual Filings").

In contrast to the full certificate under NI 52-109, the Venture Issuer Basic Certificate does not include representations relating to the establishment and maintenance of disclosure controls and procedures and internal control over financial reporting, as defined in NI 52-109. For further information, the reader should refer to the Venture Issuer Basic Certificates filed by the Company on SEDAR at www.sedar.com.

(Expressed in U.S. dollars)