



# Liberty Defense

**INNOVATIVE & REVOLUTIONARY THREAT DETECTION**

**MANAGEMENT'S DISCUSSION AND ANALYSIS  
THREE AND NINE MONTH ENDED SEPTEMBER 30, 2022**

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

*Dated: November 17, 2022*

Liberty Defense Holdings, Ltd., ("Liberty" or the "Company") has prepared this Management's Discussion and Analysis ("MD&A") as of November 17, 2022 and should be read in conjunction with the Company's interim condensed consolidated financial statements for the three and nine month ended September 30, 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.

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](http://www.libertydefense.com) and under the Company's profile at [www.sedar.com](http://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) Intangible Assets

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	104,691	57,130	-	161,821
Amortization	(24,671)	(7,456)	(403,840)	(435,967)
<b>At September 30, 2022</b>	<b>\$ 446,300</b>	<b>\$ 49,674</b>	<b>\$ 3,365,332</b>	<b>\$ 3,861,306</b>

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

#### i) HEXWAVE Technology

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

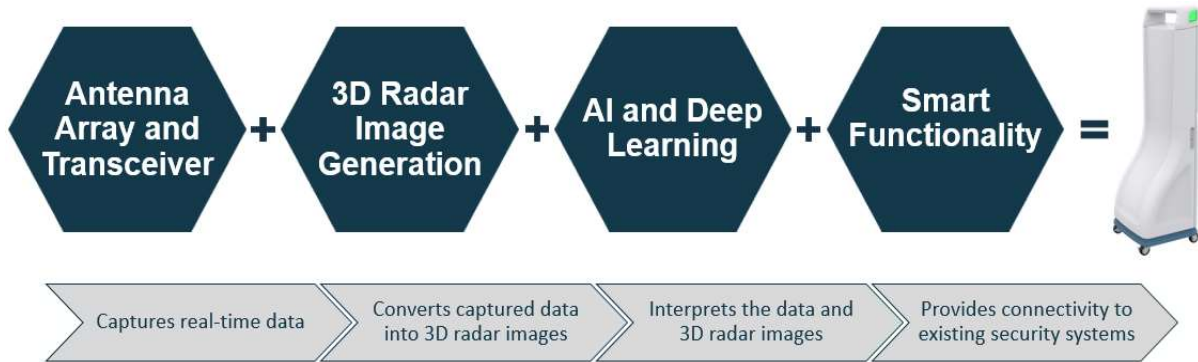
Active video rate imaging technology was developed by the Massachusetts Institute of Technology Lincoln Labs ("MIT LL") and the technology has been in development since 2014. In October 2017, a concept demonstrator (pre-prototype) of the core technology was successfully tested under environmental conditions 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 North East 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 has identified certain required changes and entered into the 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 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. AI and Deep Learning – Automatic Threat Recognition (ATR)

Automatic Threat Recognition utilizing deep learning algorithms was developed by Liberty Defense 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 10 images/sec, 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 plan will be to continuously improve threat detection performance HEXWAVE can receive over-the-air 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 November 1, 2020. 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](http://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

- Detects both indoor and outdoor locations including both overt and covert application
- 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 & AI updates
- Operationally agile (mobile and deployable across detection space)
- High throughput (over 1,000 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 USA 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 USM 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 U.S. and EU 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 Hockey League and Federation Internationale de Football Association, stadiums, and shopping malls. 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. 1 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 filing costs an annual maintenance fees as follows: 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, 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:

	<b>Amounts</b>
Year 2021 (paid on March 25, 2022)	\$ 50,000
Year 2022 (payable December 31, 2022)	50,000
Year 2023	100,000
Year 2024 and each year thereafter	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, which are payable as follows: 1) \$25,000 (paid), and 2) \$25,000 due on or before February 28, 2023. The outstanding balance of patent expense reimbursements of \$25,000 has been accrued.

### (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.

### (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.

Liberty has also established several collaboration agreements with multiple well-respected recognizable organizations across its various market verticals to participate in Beta testing HEXWAVE. These include the Port of Tampa, FL, University of Wisconsin Police Department, Greater Toronto Airport Authority, Metro Toronto Convention Center, Maryland Stadium Authority, a Hindu temple in Southeast United States, Virginia Division of Capitol Police, FC Bayern München, and Utah Attorney General, 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 Pacific Northwest National Laboratory (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 HA-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)

### (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. No research and development costs have been deferred to date.

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 nine months ended September 30, 2022, of \$8,053,083 and cash outflows from operating activities of \$5,553,262. 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 interim condensed 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 and nine months ended September 30, 2022, the Company reported a total loss and comprehensive loss of \$3,157,109 and \$8,608,342 respectively (three and nine months ended September 30, 2021 – \$3,012,091 and \$6,524,924 respectively), and basic and diluted loss per share of \$0.03 and \$0.09 respectively (three and nine months ended September 30, 2021 – \$0.04 and \$0.14 respectively). Despite the accumulated losses, Management of the Company is committed to continue with the research and development and future commercialization of its active 3D imaging technology system, HEXWAVE, along with its other different licensed technologies.

The net loss for the three and nine months ended September 30, 2022, and 2021 is comprised of the following items:

	Three months ended September 30,		Nine months ended September 30,	
	2022	2021	2022	2021
<b>Research and development:</b>				
Product development	\$ 35,142	\$ (17,755)	\$ 155,951	\$ 613,050
Technology costs	203,104	278,325	403,579	312,265
Legal fees	–	67,083	5,474	139,522
Salaries & Consulting Fees (note 18)	1,086,957	943,358	2,994,108	1,489,373
Stock-based Compensation (note 14 and 18)	93,978	91,912	186,710	155,607
Office, rent and administration	149,970	29,428	362,971	40,672
Travel and miscellaneous	79,177	31,456	259,826	31,456
Depreciation (note 6)	192,323	31,184	422,793	75,757
Amortization (note 7)	148,008	2,684	435,997	6,808
<b>General Expenses:</b>				
Consulting fees, salaries and benefits (note 18)	164,176	913,445	671,583	1,324,627
Depreciation (note 6)	–	15,492	–	19,594
Legal and professional fees	83,653	85,824	229,356	203,528
Stock-based compensation (note 14 and 18)	361,035	146,678	1,380,101	221,860
Office, rent and administration	54,299	47,419	121,823	97,032
Regulatory and shareholder information	25,154	12,938	42,857	48,019
Travel, promotion and investor relations	333,823	183,368	687,050	664,032
RTO transaction related costs and listing expense (note 4)	–	(1,528)	–	889,593
	3,010,799	2,861,311	8,360,179	6,332,795
<b>Other expense (income):</b>				
Interest income	–	189	–	(55,021)
Other income	(41,340)	–	(41,340)	–
Interest expense	13,205	344	40,922	42,378
Accretion expense (note 9)	680	571	2,075	41,181
Foreign exchange (gain) loss	(164,570)	(107,428)	(308,753)	(53,019)
	(192,025)	(106,324)	(307,096)	(24,481)
<b>Net loss for the period</b>	<b>\$ (2,818,774)</b>	<b>\$ (2,754,987)</b>	<b>\$ (8,053,083)</b>	<b>\$ (6,308,314)</b>

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 September 30, 2022, was \$1,988,659 in connection to expenses related to R&D of the Company’s licensed technologies with the purpose to mainly continue advancing its HEXWAVE technology. During the three-month period ended, the Company incurred \$1,086,957 in salaries and consulting fees that relate to software development and beta testing. Travel and miscellaneous expenses of \$79,177 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 tradeshow and investor relations, and Beta testing has occurred. During the comparative period, for the three months ended September 30, 2021, the Company incurred \$278,325 for technology costs and \$943,358 in salaries and consulting fees that relate to software development and beta testing.
- ii) During the three-month ended September 30, 2022, total general expenses in the amount of \$1,022,140 were incurred mainly in connection to consulting fees, legal and professional fees, stock-based compensation and travel promotion and investor relations. Stock based compensation expenses of \$361,035 were incurred in connection to stock options, restricted share units, and performance shares granted.

Consulting fees, salaries and benefits recorded for the three months ended September 30, 2022, decreased from \$913,445 to \$164,176 due to higher consulting fees incurred from DrawDown in the prior year, as well as the expense of consultants has moved to salaries as we have moved away from consultants to full-time employees. Also, there is a significant increase in travel promotion and investor relations recorded for the three-months ended September 30, 2021, as it went from \$183,368 to \$333,823 in the current three-months ended September 30, 2022. Travel has increased significantly as Beta Testing has started, as well as investor relations has increased with a concurrent financing taking place in October 2022.



During the three months ended September 30, 2021, the Company incurred (\$1,528) 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 September 30, 2022, the Company recorded net other income in the amount of \$(41,340) compared to net other income of \$nil incurred during the same period of the previous year. Foreign exchange (gain) and loss was recorded for the three months ended September 30, 2022 (\$164,570) compared to (\$107,428) for the three-months ended September 30, 2021. This is mainly due to a decrease in foreign exchange loss compared to the previous year due to foreign exchange rate differentials \$(21,151) for the three-months ended June 30, 2022, compared to the same period in the previous year at \$nil. 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
	\$	\$	\$	\$
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	757,311	11,567,450	(2,562,682)	(0.04)
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)
31-Dec-20	(527,519)	2,071,133	(397,233)	(0.01)

During the third quarter of 2022, the Company continued with the development of its different technologies and hired key individuals that will help the Company to support the success of the beta launch HEXWAVE product, along with the development of the product prototype for the Company's aviation checkpoint and other security solutions. During the third quarter, Beta trials began at various vendors, allowing the Company to collect crucial data in finalizing the development for production. Beta Testing will continue through the beginning of 2023. During the second quarter, the Company capitalized materials and labor costs used to produce four Beta Unit Prototypes (the "Beta Units") based on the Company's Intellectual Property in the amount of \$608,348, which are being used for demonstrations and investor conferences. During the first quarter of 2022, on March 17, 2022, the Company 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 new 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 (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 Q3 2021 gross proceeds of \$5,777,490 (CAD\$7,130,000) and in Q2 2021 with gross proceeds of \$5,535,449 (CAD\$7,130,000). Therefore, with funding in place the Company started ramping up the necessary activities to finalize the beta 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 September 30, 2022, the Company had a cash balance of \$379,273 and a working capital deficiency of (\$227,687). Current liabilities as of September 30, 2022, are in the amount of \$995,588, 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.

	<b>Nine months ended September 30,</b>	
	<b>2022</b>	<b>2021</b>
<b>Cash (used in) provided by:</b>		
<b>Operating activities:</b>		
Loss and comprehensive loss for the period	\$ (8,053,083)	\$ (6,308,314)
Items not involving cash:	2,478,356	1,070,955
Changes in non-cash working capital:	63,447	(708,460)
<b>Cash used in operating activities</b>	<b>(5,511,280)</b>	<b>(5,945,819)</b>
<b>Cash used in investing activities</b>	<b>(862,138)</b>	<b>(23,915)</b>
<b>Cash provided by financing activities</b>	<b>6,045,149</b>	<b>9,572,749</b>
<b>Effect of foreign exchange rate changes on cash</b>	<b>(634,031)</b>	<b>(132,033)</b>
<b>Increase in cash</b>	<b>(962,300)</b>	<b>3,470,982</b>
<b>Cash, beginning of the period</b>	<b>1,341,573</b>	<b>57,047</b>
<b>Cash, end of the period</b>	<b>\$ 379,273</b>	<b>\$ 3,528,029</b>

During the nine-months ended September 30, 2022, the Company used net cash in operating activities in the amount of \$5,511,280 mainly due to expenses related to research and development, salaries and consulting fees, promotional and investor relations activities. The Company incurred \$862,138 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 Prototypes. Finally, net cash was provided from financing activities in the amount of \$6,045,149 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 six-months ended September 30, 2021, the Company used net cash in operating activities in the amount of \$5,945,819 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 \$9,572,749, which mainly relates to the 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

Common share transactions for the nine-months ended September 30, 2022

- i) On March 3, 2022, a total of 123,300 share purchase warrants were exercised at CAD\$0.60 per share for total proceeds of \$58,580 (CAD\$73,980). 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 in excess with a fair value of \$41,982 (CAD\$53,019) recorded against other income.

- 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 \$0.2608 (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 \$238,733 and paid a corporate finance fee of CAD\$100,000 in 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.

#### Common share transactions for the nine-month ended September 30, 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 filing 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 September 30, 2022, the number of stock options outstanding and exercisable, adjusted for the share consolidation was:

Expiry date	Outstanding		Exercisable	
	Number of stock options	Exercise price	Remaining contractual life (years)	Number of stock options
1-May-24	50,000	CAD\$ 0.50	1.59	50,000
15-Jun-24	37,500	CAD\$ 0.50	1.71	37,500
1-Jul-24	75,000	CAD\$ 0.50	1.75	75,000
8-Jul-24	75,000	CAD\$ 0.50	1.77	75,000
31-Jul-24	50,000	CAD\$ 0.50	1.84	50,000
23-Aug-24	37,500	CAD\$ 0.50	1.90	37,500
25-Sep-24	37,500	CAD\$ 0.50	1.99	37,500
29-Sep-24	75,000	CAD\$ 0.50	2.00	75,000
Apr 9 and Jul 2, 2024	137,097	CAD\$ 4.96	1.76	137,097 <sup>1</sup>
7-Apr-26	1,615,000	CAD\$ 0.50	3.52	1,211,250
10-Jun-26	100,000	CAD\$ 0.50	3.70	62,500
28-Jul-26	125,000	CAD\$ 0.55	3.83	62,500
28-Jul-26	90,000	CAD\$ 0.65	3.83	45,000
1-Nov-26	465,000	CAD\$ 0.46	4.09	174,375
14-Jan-27	100,000	CAD\$ 0.36	4.29	25,000
26-Apr-27	1,915,000	CAD\$ 0.41	4.57	239,375
26-May-24	250,000	CAD\$ 0.50	1.65	31,250
26-May-27	175,000	CAD\$ 0.38	4.65	21,875
16-Aug-27	185,000	CAD\$ 0.29	4.88	-
	<b>5,594,597</b>			<b>2,447,722</b>

Total stock-based compensation expense as a result of options granted and vested during the three and nine months ended September 30, 2022, was \$188,927 and \$428,721 respectively (three and nine months ended September 30, 2021 – \$189,859 and \$328,736 respectively).

As at September 30, 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	1,472,155	0.38
Issued	(50,000)	0.32
<b>Outstanding, September 30, 2022</b>	<b>2,422,155</b>	<b>CAD\$ 0.39</b>

The estimated fair value of the equity settled RSUs granted as at September 30, 2022 was CAD\$562,083 (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 and nine months ended September 30, 2022, was \$98,133 and \$398,919 (three and nine months ended September 30, 2021, was \$48,731 and \$48,731).

During the nine-months ended September 30, 2022 the following transactions occurred in connection to restricted share units:

- i) On January 15, 2022, the Company granted 150,000 RSUs to an employee; these RSUs vest at 100% on January 15, 2023.
- ii) On April 25, 2022, the Company granted 408,750 RSUs to directors and officers; these RSUs vested at 100% on June 10, 2022.
- iii) On April 26, 2022, the Company granted 800,000 RSUs to directors and officers; these RSUs vest at 100% on April 26, 2024.
- iv) On May 26, 2022, the Company granted 113,405 RSUs to one of its officers; these RSUs vest 100% on May 26, 2023.
- v) On September 14, 2022, a total of 50,000 common shares of the Company were issued in connection with the settlement of RSUs with a value of \$20,894.

During the nine-months ended September 30, 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.

The outstanding number of share purchase warrants, adjusted for the share consolidation outstanding are as follows:

Expiry date	Outstanding		
	Number of warrants	Exercise price	Remaining contractual life (years)
11-Mar-23	1,098,125	CAD\$0.40	0.44
11-Mar-23	8,625,000	CAD\$0.60	0.44
17-Mar-24	2,912,734	CAD\$0.50	1.46
17-Jun-23	7,130,000	CAD\$0.75	0.71
17-Jun-23	1,056,900	CAD\$0.50	0.71
17-Mar-24	13,068,172	CAD\$0.50	1.46
17-Mar-24	1,996,363	CAD\$0.33	1.46
	<b>35,887,294</b>		

During the nine months ended September 30, 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\$0.60.
- iii) On May 29, 2022, the Company cancelled 84,986 share purchase warrants without being exercised.

During the nine months ended September 30, 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\$0.40 and can be exercised within a period of 24 months.
- 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 are based on the probability analysis and the share market price at grant date of CAD\$0.40 per share.

#### Operational Performance Shares

During the six months ended June 30, 2022 and the year ended 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 three and nine months ended September 30, 2022 the Company recorded stock based compensation in the amounts of \$55,978 (CAD\$73,046) and \$169,015 (CAD\$216,757) respectively (three and nine months ended September 30, 2021 – \$nil and \$nil respectively).

#### Capital Market Performance Shares

On July 21, 2021, the Company issued 2,193,150 from the total of 8,773,000 CMPS as the first established milestone was met. During the six months ended June 30, 2022, an additional 4,386,500 CMPS were issued as two additional 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 has estimated a probability of the number of CMPS it will issue in addition to an estimated vesting period between Jun 2021 and Sep 2022. The total estimated fair value of the CMPS is CAD\$3,509,200 and during the three and nine months ended September 30, 2022 the company recorded stock based compensation in connection to CMPS of \$111,975 (CAD\$146,115) and \$570,155 (CAD\$692,531) respectively (three and nine months ended September 30, 2021 – \$nil and \$nil respectably).

	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	(4,386,500)	0.40
<b>Outstanding, September 30, 2022</b>	<b>4,193,250</b>	<b>CAD\$ 0.40</b>

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

In March 2021, the Company undertook an offering of \$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	\$558,000	\$855,600	(\$297,600)	The asset acquisition closed on Mar 17, 2021, therefore the working capital deficiency changed from the estimated figures at Dec. 31, 2020
Estimated consolidated working capital deficiency of DrawDown as at December 31, 2020	\$1,072,000	\$1,738,000	(\$666,000)	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	\$439,250	\$423,250	\$16,000	Lower commission cost than anticipated
Agent's legal fees, expenses and disbursements	\$166,000	\$166,000	\$0	N/A
Agent's corporate finance fee	\$150,000	\$150,000	\$0	N/A
Costs to complete the reverse takeover transaction with DrawDown <sup>(1)</sup>	\$250,000	\$374,000	(\$124,000)	Additional costs related to higher than anticipated professional fees
General and administrative expenses <sup>(2)</sup>	\$1,409,000	\$1,409,000	\$0	N/A
Sales and marketing <sup>(3)</sup>	\$105,000	\$105,000	\$0	N/A
Research, development and implementation <sup>(4)</sup>	\$1,400,000	\$1,400,000	\$0	N/A
Unallocated working capital	\$1,350,750	\$279,150	\$1,071,600	Change in unallocated working capital due to increased expenditures
<b>Total</b>	<b>\$6,900,000</b>	<b>\$6,900,000</b>	<b>\$0</b>	

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 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.

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	\$553,450	\$553,450	\$0	N/A
Agent's legal fees, expenses and disbursements	\$64,000	\$94,000	(\$30,000)	Additional Agent's legal fees than expected
Research, development and implementation <sup>(1)</sup>	\$6,512,550	\$6,482,550	\$30,000	Lower research, development and implementation than anticipated
<b>Total</b>	<b>CAD\$7,130,000</b>	<b>CAD\$7,130,000</b>	<b>CAD\$0</b>	

Notes:

- (1) Such expenses were expected to 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 \$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	\$782,300	\$658,800	\$123,500	Lower cost than anticipated
Agent's legal fees, expenses and disbursements	\$73,500	\$73,500	\$0	N/A
Cash portion of Agent's corporate finance fee	\$50,000	\$50,000	\$0	N/A
Research, development, implementation and enhancement <sup>(1)</sup>	\$7,719,200	\$7,842,700	\$(123,500)	The Company has used substantially all of the proceeds
<b>Total</b>	<b>\$8,625,000</b>	<b>\$8,625,000</b>	<b>\$0</b>	

Notes:



- (1) Such expenses were expected to include costs related to funding the further enhancement and commercialization of the Company's HEXWAVE technology as well as development of the latest technology exclusively licensed to the Company for aviation checkpoints

## 5. Commitments

- i) As at September 30, 2022 and December 31, 2021, the minimum lease payments are:

	September 30, 2022	December 31, 2021
Maturity analysis - contractual undiscounted cash flows		
One year or less	\$ 168,539	\$ 160,693
Two to five years	426,433	590,859
Six and thereafter	227,473	190,409
<b>Total lease liabilities</b>	<b>\$ 822,445</b>	<b>\$ 941,961</b>
Effect of discounting	(156,160)	(194,996)
<b>Lease liabilities included in the statement of financial position</b>	<b>666,285</b>	<b>746,965</b>
Current	\$ 33,437	\$ 106,885
Non-current	\$ 632,848	\$ 640,080

As a result of the completion of the RTO and under the new management's vision, the corporate office will now be 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 not 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: \$20,701 for the next 12 months and \$12,076 for the following year.

- ii) Contract Awards

- a) Transportation Security Administration's (TSA)

On October 20, 2021, the Company received a contract award for \$500,000 from Transportation Security Administration's (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 the 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 three and nine months ended September 30, 2022 the Company received \$119,082 and \$183,610 respectively (three and nine months ended September 30, 2021 - \$nil and \$nil respectively). The Company is required to submit quarterly invoices as follows:

TSA Contract Award	Amounts
<b>Year 2022</b>	
Quarter 1 (payment received April 29, 2022)	\$64,528
Quarter 2 (payment received August 22, 2022)	119,082
Quarter 3 (invoice submitted as of October 10, 2022)	10,180
Quarter 4	20,900
<b>Year 2023</b>	
Quarter 1	116,746
Quarter 2	85,450
Quarter 3	64,857
Quarter 4	18,257
<b>Total</b>	<b>\$ 500,000</b>

The contract award of \$500,000 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.

b) Battelle (PNNL) HD-AIT Shoe Screener

On May 12, 2022, the Company received a contract award for \$212,697 from Battelle Memorial Institute, Pacific Northwest Division’s Contract. The contract award is to work hand in hand with Pacific Northwest National Labs (“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 three and nine months ended September 30, 2022 the Company received \$2,135 and \$5,821 respectively (three and nine months ended September 30, 2021 - \$nil and \$nil respectively)

The contract award of \$212,697 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.

c) Transportation Security Administration’s (TSA) HD-AIT Upgrade

On September 30, 2022, the Company received a contract award for \$1,747,905 from Transportation Security Administration’s (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 three and six months ended September 30, 2022 the Company received \$nil and \$nil respectively (three and nine months ended September 30, 2021 - \$nil and \$nil respectively). The Company is required to submit quarterly invoices as follows:

<b>TSA Contract Award HD-AIT</b>	<b>Amounts</b>
<b>Year 2023</b>	
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
<b>Year 2024</b>	
Milestone 5 (Q1 2024)	300,000
Milestone 6 (Q2 2024)	357,905
<b>Total</b>	<b>\$ 1,747,905</b>

iii) Please refer to section 1(c) MIT License Agreement Description and Commitments and Battelle Memorial Institute License Agreement Description and Commitments, of this MD&A for additional disclosure on commitments.

## 6. Off-balance Sheet Arrangements

The Company does not utilize off-balance sheet arrangements.

## 7. 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:

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 September 30,		Nine months ended September 30,	
	2022	2021	2022	2021
Short-term benefits	\$ 360,135	\$ 526,151	\$ 851,845	\$ 953,015
Share-based compensation	292,256	152,809	1,135,235	247,439
Consulting services (1)	70,540	38,960	216,255	183,272
	<b>\$ 722,932</b>	<b>\$ 717,920</b>	<b>\$ 2,203,336</b>	<b>\$ 1,383,726</b>

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

#### Related party balances:

As of September 30, 2022, the Company had a balance payable of \$15,327 to related parties (September 30, 2021 – \$145,789). 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. For the three and nine month ended period September 30, 2022, Nicole Ridgedale Communications incurred \$29,211 respectively and \$126,284 in stock-based compensation and consulting services (three and six months ended September 30, 2021 \$31,466 and \$31,466 respectively). These related party balances are unsecured, non-interest bearing and have no specific terms of settlement.

## 8. Subsequent events

- i) On October 27, 2022, the Company closed a brokered private placement for gross proceeds of 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 and cash commissions of CAD\$397,852. Each 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 costs in connection to filling and legal expenses in the amount of CAD\$168,398 and paid a corporate finance fee of \$100,000 by issuance of common shares of the Company (363,636 common shares issued at CAD\$0.275). 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 CAD\$130,625. Bill Frain, the Company’s Chief Executive Officer, subscribed for 400,000 Units for an aggregate purchase price 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.
- ii) In connection with the October 27, 2022, financing, an additional milestone was reached related to the capital market performance shares and a total of 2,193,250 common shares were released from escrow on October 28, 2022.

## 9. 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, 2021 and have remained substantially unchanged and are still applicable to the Company unless otherwise indicated.

## 10. Changes in Accounting Policies including Initial Adoption

There was no new standards effective January 1, 2022, that impacted the Company’s unaudited interim condensed consolidated financial statements.

## 11. Other requirements

Outstanding share data

Authorized: Unlimited number of common shares

Number of common shares issued and outstanding as at September 30, 2022: 95,115,820

Number of common shares issued and outstanding as at November 17, 2022: 116,839,406

Number of stock options outstanding and exercisable as at November 17, 2022:

Expiry date	Outstanding		Exercisable	
	Number of stock options	Exercise price	Remaining contractual life (years)	Number of stock options
1-May-24	50,000	CAD\$ 0.50	1.45	50,000
15-Jun-24	37,500	CAD\$ 0.50	1.58	37,500
1-Jul-24	75,000	CAD\$ 0.50	1.62	75,000
8-Jul-24	75,000	CAD\$ 0.50	1.64	75,000
31-Jul-24	50,000	CAD\$ 0.50	1.70	50,000
23-Aug-24	37,500	CAD\$ 0.50	1.77	37,500
25-Sep-24	37,500	CAD\$ 0.50	1.86	37,500
29-Sep-24	75,000	CAD\$ 0.50	1.87	75,000
Apr 9 and Jul 2, 2024	137,097	CAD\$ 4.96	1.62	137,097
7-Apr-26	1,615,000	CAD\$ 0.50	3.39	1,211,250
10-Jun-26	100,000	CAD\$ 0.50	3.56	62,500
28-Jul-26	125,000	CAD\$ 0.55	3.70	78,125
28-Jul-26	90,000	CAD\$ 0.65	3.70	56,250
1-Nov-26	465,000	CAD\$ 0.46	3.96	232,500
14-Jan-27	100,000	CAD\$ 0.36	4.16	37,500
26-Apr-27	1,915,000	CAD\$ 0.41	4.44	478,750
26-May-24	250,000	CAD\$ 0.50	1.52	31,250
26-May-27	175,000	CAD\$ 0.38	4.52	21,875
16-Aug-27	185,000	CAD\$ 0.29	4.75	23,125
	<b>5,594,597</b>			<b>2,807,722</b>

Number of share purchase warrants as at November 17, 2022:

	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	26,094,621	0.16
Cancelled	(399,502)	3.99
Exercised	(123,300)	0.60
<b>Outstanding, November 17, 2022</b>	<b>46,917,380</b>	<b>CAD\$ 0.54</b>

Number of restricted share units as at November 17, 2022:

	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	1,472,155	0.38
Issued	(50,000)	0.32
<b>Outstanding, November 17, 2022</b>	<b>2,422,155</b>	<b>CAD\$ 0.39</b>

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 performance shares as at November 17, 2022:

	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
<b>Outstanding, November 17, 2022</b>	<b>2,000,000</b>	<b>CAD\$ 0.40</b>

## 12. 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 unaudited interim condensed consolidated financial statements for the three and nine months ended September 30, 2022, and 2021, and this accompanying MD&A (together, the "Interim 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](http://www.sedar.com).