# Metamaterial Inc.

(formerly Continental Precious Minerals Inc.)

## Management Discussion & Analysis

For the year ended December 31, 2020

# Management Discussion and Analysis
# December 31, 2020

The effective date of this Management's Discussion and Analysis is April 20, 2021.

## INTRODUCTION

Management's Discussion and Analysis ["MD&A"] of the financial condition and results of the operations of Metamaterial Inc. ["META" or the "Company"] constitutes management's review of the factors that affected the Company's financial and operating performance for the year ended December 31, 2020. This MD&A has been prepared in compliance with the requirements of National Instrument 51-102 – Continuous Disclosure Obligations. This discussion should be read in conjunction with the audited consolidated financial statements of the Company for the years ended December 31, 2020 and 2019, together with the notes thereto. Results are reported in Canadian dollars, unless otherwise noted. In the opinion of management, all adjustments (which consist only of normal recurring adjustments) considered necessary for a fair presentation have been included in the MD&A. Information contained herein is presented as at April 20, 2021, unless otherwise indicated.

The Company's audited consolidated financial statements and the financial information contained in the MD&A are prepared in accordance with International Financial Reporting Standards ("IFRS").

For the purposes of preparing this MD&A, management, in conjunction with the Board of Directors, considers the materiality of information. Information is considered material if: (i) such information results in, or would reasonably be expected to result in, a significant change in the market price or value of the Company's common shares; (ii) there is a substantial likelihood that a reasonable investor would consider it important in making an investment decision; or (iii) it would significantly alter the total mix of information available to investors. Management, in conjunction with the Board of Directors, evaluates materiality with reference to all relevant circumstances, including potential market sensitivity.

Further information about the Company and its operations can be obtained from the offices of the Company, from the Company's website or on SEDAR at www.sedar.com.

## FORWARD-LOOKING STATEMENTS

This MD&A contains certain forward-looking information and forward-looking statements, as defined in applicable securities laws (collectively referred to herein as "forward-looking statements"). These statements relate to future events or the Company's future performance. All statements other than statements of historical fact are forward-looking statements. Often, but not always, forward-looking statements can be identified by the use of words such as "plans", "expects", "is expected", "budget", "scheduled", "estimates", "continues", "forecasts", "projects", "predicts", "intends", "anticipates" or "believes", or variations of, or the negatives of, such words and phrases, or statements that certain actions, events or results "may", "could", "would", "should", "might" or "will" be taken, occur or be achieved. Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause actual results to differ materially from those anticipated in such forward-looking statements. The forward-looking statements in this MD&A speak only as of the date of this MD&A or as of the date specified in such statements.

This information includes, but is not limited to, comments regarding:

- the Company's business strategy;
- the Company's strategy for protecting its intellectual property;
- the Company's ability to obtain necessary funding on favorable terms or at all;
- the Company's plan and ability to secure revenues;
- the risk of competitors entering the market;

- the Company's ability to hire and retain skilled staff;
- the ability to obtain financing to fund future expenditures and capital requirements;
- the Company's plans with respect to its new facility;
- the Company's arrangement transaction with Torchlight Energy Resources Inc. ("Torchlight"); and
- the impact of adoption of new accounting standards.

Although the Company believes that the plans, intentions and expectations reflected in this forward-looking information are reasonable, the Company cannot be certain that these plans, intentions, or expectations will be achieved. Actual results, performance, or achievements could differ materially from those contemplated, expressed or implied by the forward-looking information contained in this report. Disclosure of important factors that could cause actual results to differ materially from the Company's plans, intentions, or expectations are included in this report under the heading Risk Factors.

Forward-looking statements involve known and unknown risks, uncertainties and other factors that may cause the Company's actual results, performance or achievements to be materially different from any of its future results, performance or achievements expressed or implied by forward-looking statements. All forward-looking statements herein are qualified by this cautionary statement. Accordingly, readers should not place undue reliance on forward-looking statements. The Company undertakes no obligation to update publicly or otherwise revise any forward-looking statements whether as a result of new information or future events or otherwise, except as may be required by law. If the Company does update one or more forward-looking statements, no inference should be drawn that it will make additional updates with respect to those or other forward-looking statements, unless required by law.

## COMPANY OVERVIEW

The Company was originally incorporated on August 15, 2011 as Lamda Guard Canada Inc. The Company amended its articles of incorporation on March 27, 2013 and continued operations under the name Metamaterial Technologies Inc. through March 5, 2020. On March 28, 2013, the Company federally incorporated Lamda Guard Inc., Lamda Lux Inc., and Lamda Solar Inc., as wholly owned subsidiaries of the Company. These subsidiaries have minimal operational activity. The Company specializes in designing and producing nanocomposite transparent materials with properties not found in nature that can manipulate light, electromagnetic energy, radio waves and other forms of energy either by enhancing, absorbing or blocking them.

On September 7, 2015, the Company incorporated Metamaterial Technologies USA Inc. ["MTI USA"] as a wholly owned subsidiary and on May 25, 2016 MTI USA acquired the assets and operations of a business operating as Rolith Inc. On March 31, 2018, the Company acquired 100% of the common shares of a business operating as Medical Wireless Sensing Ltd. ["MediWise"] incorporated in the United Kingdom.

On March 5, 2020, Metamaterial Inc. (formerly known as Continental Precious Minerals Inc., "CPM") and Metamaterial Technologies Inc. ("MTI") completed a business combination by way of a three-cornered amalgamation pursuant to which MTI amalgamated with Continental Precious Minerals Subco Inc. ("CPM Subco"), a wholly owned subsidiary of CPM to become "Metacontinental Inc." (the "RTO"). The RTO was completed pursuant to the terms and conditions of an amalgamation agreement dated August 16, 2019 between CPM, MTI and CPM Subco, as amended March 4, 2020. Following completion of the RTO, Metacontinental Inc. is carrying on the business of the former MTI, as a wholly-owned subsidiary of CPM. In connection with the RTO, CPM changed its name effective March 2, 2020 from Continental Precious Minerals Inc. to Metamaterial Inc. ("META" or "Resulting Issuer"). The common shares of CPM were delisted from the TSX Venture Exchange on March 4, 2020 and were posted for trading on the Canadian Securities Exchange ("CSE") on March 9, 2020 under the symbol "MMAT". See additional information regarding the RTO in the Company's audited consolidated financial statements of the Company for the years ended December 31, 2020 and 2019.

# Management Discussion and Analysis
# December 31, 2020

## DESCRIPTION OF BUSINESS, OPERATIONAL OVERVIEW and BUSINESS OBJECTIVE

The Company has generated a portfolio of intellectual property and is now moving toward commercializing products at a performance and price point combination that has the potential to be disruptive in multiple market verticals. The Company's platform technology includes holography, lithography, and medical wireless sensing. The underlying approach that powers all of the Company's platform technologies comprises advanced materials, metamaterials and functional surfaces. These materials include structures that are patterned in ways that manipulate light, heat and electromagnetic waves in unusual ways. The Company's advanced structural design technologies and scalable manufacturing methods provide a path to broad commercial opportunities in aerospace, medical, automotive, energy and other industries.

Controlling light, electricity and heat have played key roles in technological advancements throughout history. Advances in electrical and electromagnetic technologies, wireless communications, lasers, and computers have all been made possible by challenging our understanding of how light and other types of energy naturally behave, and how it is possible to manipulate them.

Over the past 20 years, techniques for producing nanostructures have matured, resulting in a wide range of ground-breaking solutions that can control light and heat at very small scales. Some of the areas of advancement that have contributed to these techniques are photonic crystals, nanolithography, plasmonic phenomena and nanoparticle manipulation. From these advances, a new branch of material science has emerged – metamaterials. Metamaterials are composite structures, consisting of conventional materials such as metals and plastics, that are engineered by Company scientists to exhibit new or enhanced properties relating to reflection, refraction, diffraction, filtering, conductance and other properties that have the potential for multiple commercial applications.

A metamaterial typically consists of a multitude of structured unit nano-cells that are comprised of multiple individual elements. These are referred to as meta-atoms. The individual elements are usually arranged in periodic patterns that, together, can manipulate light, heat or electromagnetic waves. Development strategies for metamaterials and functional surfaces focus on structures that produce unusual and exotic electromagnetic properties by manipulating light in ways that have never been naturally possible. They gain their properties not as much from their composition as from their exactingly designed structures. The precise shape, geometry, size, orientation, and arrangement of these nanostructures affect the electromagnetic waves of light to create material properties that are not easily achievable with conventional materials.

The Company's platform technology (holography, lithography, and medical wireless sensing) is being used to develop potentially transformative and innovative products for: aerospace and defence, automotive, energy, healthcare, consumer electronics, and data transmission. The Company has many product concepts currently in different stages of development with multiple customers in diverse market verticals. The Company's business model is to co-develop innovative products or applications with industry leaders that add value. This approach enables the Company to understand market dynamics and ensure the relevance and need for the Company's products.

*Holography Technology*

Holography is a technique where collimated visible wavelength lasers are used to directly write an interference pattern inside the volume of light-sensitive material (photopolymer) in order to produce highly transparent optical filters and holographic optical elements. For some product lines that require large surface areas, this is combined with a proprietary scanning technique, where the lasers, optically or mechanically, directly write nano-patterns to cover large surface areas with nanometer accuracy.

Meta's principal products that employ holography technology are its metaAIR® laser glare protection eyewear, metaAIR laser protection films for law enforcement and metaOPTIX™ notch filters. Meta co-developed its metaAIR laser protection eyewear product with Airbus S.A.S. that has been engineered to provide laser glare protection for pilots, military and law enforcement using Meta's holography technology. metaAIR® is a holographic optical filter developed using nano-patterned designs that block and deflect specific colors or wavelengths of light. Meta launched metaAIR® with strategic and exclusive distribution partner, Satair, a wholly owned Airbus company and started producing and selling metaAIR® in April 2019. The scale-up and specification for the raw photopolymer

material used to produce the eyewear was successfully finalized in late 2019 and commercialized in 2020. Meta launched its laser protection films for law enforcement use in late 2020. These films are designed to be applied to face shields and helmet visors providing the wearer with the same type of laser eye protection afforded to pilots by metaAIR glasses while preserving peripheral vision critical to law enforcement duties. metaOPTIX™ notch filters are optical filters that selectively reject a portion of the spectrum, while transmitting all other wavelengths. They are used in applications where it is necessary to block light from a laser, as in machine vision applications and in confocal or multi-photon microscopy, laser-based fluorescence instrumentation, or other life science applications. metaOPTIX notch filters were commercially launched by the Company in November 2020.

Meta has additional products in development that utilize its proprietary holography technology. Included in the metaOPTIX™ family of products are holographic optical elements ("HOEs"). HOEs are a core component in the display of augmented reality smart glasses products, as well as (in their larger version) in Heads-Up Displays ("HUDs"), in automobiles and aircraft.

The Company operates its holographic division from Dartmouth, Nova Scotia, Canada. For year ended December 31, 2020, the Company recorded development revenue of $1,091,452 (2019 – $835,107) from its holography technology and $2,615 (2019 – $31,426) from product sales of its metaAIR eyewear.

*Lithography Technology*

In order to meet the performance, fabrication-speed, and/or cost criteria required for many potential applications that require large area and low cost nanopatterning, the Company has developed a new nanolithography method called "Rolling Mask" lithography (registered trademark RML®), which combines the best features of photolithography, soft lithography and roll-to-plate/roll-to-roll printing capability technologies. Rolling Mask Lithography utilizes a proprietary UV light exposure method where a master pattern is provided in the form of a cylindrical mask. These master patterns are designed by the Company and over the years they have become part of a growing library of patterns, enriching the intellectual property ("IP") of the Company. The nanostructured pattern on the mask is then rolled over a flat surface area writing a nano-pattern into the volume of a light-sensitive material (a photoresist), creating patterned grooves, metal is then evaporated and fills the patterned grooves. The excess metal is then removed by a known post-process called lift-off. The result is an invisible conductive metal mesh-patterned surface (registered trademark NanoWeb®) that can be fabricated onto any glass or plastic transparent surface in order to offer high transparency, high conductivity and low haze smart materials.

The Company's current principal prototype product in lithography technology is its transparent conductive film, NanoWeb®. The lithography division operates out of the Company's wholly owned U.S. subsidiary, which can produce meter-long samples of NanoWeb®, at a small volumes scale, for industry customers/partners.

There are six NanoWeb®-enabled products and applications that are currently in early stages of development including NanoWeb® for Transparent EMI Shielding, NanoWeb® for Transparent Antennas, NanoWeb® for 5G signal enhancement, NanoWeb for Touch Screen Sensors, NanoWeb® for Solar cells and NanoWeb® for Transparent Heating to de-ice and de-fog. More details of these products and applications can be found in META's CSE filings and on META's website at www.metamaterial.com.

Throughout 2020, the Company has been ordering and upgrading its equipment at its California facility to efficiently supply NanoWeb® samples in larger volumes. The Company has entered into a collaboration agreement with Crossover Solutions Inc. to commercialize the NanoWeb®-enabled products and applications for the automotive industry and with ADI Technologies to help secure contracts with the US Department of Defense.

For the year ended December 31, 2020, the Company recorded development revenue of $413,623 (2019 – $323,712) from its lithography technology.

*Wireless Sensing Technology*

Wireless Sensing is the ability to cancel reflections (anti-reflection) from the skin to increase the Signal-to-Noise-Ratio ("SNR") transmitted through body tissue to enable better medical diagnostics. This breakthrough wireless sensing technology is made using proprietary patterned designs, printed on metal-dielectric structures on flexible substrates that act as anti-reflection (impedance-matching) coatings when placed over the human skin in combination with medical diagnostic modalities, such as MRI, ultrasound systems, non-invasive glucometers etc. For example, as a medical imaging application, the Company is developing metaSURFACE™ (also known as RadiWise™) an innovation which allows up to 40 times more energy to be transmitted through the human tissue, instead of being reflected. The benefit is increased diagnostic speed and imaging accuracy leading to patient throughput increases for healthcare providers. The metaSURFACE™ device consists of proprietary non-ferrous metallic and dielectric layers that are exactingly designed to interact (resonate) with radio waves allowing the waves to "see-through the skin".

The Company is developing wireless sensing applications from its London, UK office and advancing the wireless sensing technology with Innovate UK grants.

For the year ended December 31, 2020, the Company recorded development revenue of Nil (2019 – $4,813) from its wireless sensing technology.

### OVERALL PERFORMANCE, INDUSTRY TRENDS AND ECONOMICS FACTORS

*Business combinations*

On March 5, 2020, Metamaterial Inc. ("META") (formerly known as Continental Precious Minerals Inc., "CPM") and the Company completed a business combination by way of a three-cornered amalgamation pursuant to which the Company amalgamated with Continental Precious Minerals Subco Inc. ("CPM Subco"), a wholly owned subsidiary of META to become "Metacontinental Inc." (the "RTO"). In connection with the RTO, CPM changed its name effective March 2, 2020 from Continental Precious Minerals Inc. to Metamaterial Inc. The RTO was completed pursuant to the terms and conditions of an amalgamation agreement dated August 16, 2019 between CPM, the Company and CPM Subco, as amended March 4, 2020. Following completion of the RTO, Metacontinental Inc. will carry-on the business of the former Company, as a wholly-owned subsidiary of META. The common shares of CPM were delisted from the NEX board of the TSX Venture Exchange on March 4, 2020 and were posted for trading on the Canadian Securities Exchange ("CSE") on March 9, 2020 under the trading symbol "MMAT".

On December 14, 2020, the Company executed an Arrangement Agreement with Torchlight Energy Resources, Inc. The agreement calls for Torchlight and Metamaterial to be combined such that at closing, the former equity holders of Torchlight would own approximately 25% of the combined company with the former equity holders of Metamaterial owning the remaining approximately 75% of the combined company. Prior to closing, Torchlight must raise gross proceeds of at least $10 million through the issuance of common stock or securities convertible into or exercisable for common stock, less USD $1 million of loans Torchlight has made to Metamaterial. The closing of the transaction is subject to the satisfaction or waiver of customary closing conditions, including approvals by NASDAQ and the Canadian Securities Exchange ("CSE"), Canadian court approval, and approval by the shareholders of both companies. Many of the closing conditions, including the capital raise and Canadian court approval have been met at the date of this filing, however, there can be no assurances that the Transaction will be consummated.

*Operations*

On August 31, 2020, the Company signed a ten-year lease commencing January 1, 2021 for an approximately 53,000 square foot facility, which will host the Company's holography and lithography R&D labs and manufacturing operations. Commencing in September 2021, the Company will pay monthly basic rent of CAD $28,708 and additional rent for its proportionate share of operating costs and property taxes of CAD $24,910 per month, subject to periodic adjustments. In conjunction with signing the lease, the Company has entered into a loan agreement with the landlord in the amount of $500,000 to fund leasehold improvements. The loan carries an interest rate of 5% per annum and is repayable in equal monthly blended payments of principal and interest over a period of seven years.

During the year, the Company signed a three-year supply deal with Covestro Deutschland AG, which will provide early access to new photo-sensitive holographic film materials, the building block of META's holographic product. This agreement will not only allow early access to Covestro's R&D library of photopolymer films but will also accelerate META's product development and speed of innovation. Target markets include photonics/optical filters and holographic optical elements, diffusers, laser eye protection, optical combiners, and AR (augmented reality) applications.

During the year, the Company entered into a non-binding letter of intent and, subsequent to year-end executed an agreement totaling US$800,000 for the acquisition of specialized lens casting production equipment and intellectual property, including more than 70 patents, from the liquidator, Canton Zug in Switzerland. The assets were previously owned by Interglass Technology AG (Switzerland).

The Company also entered into a cooperation framework agreement with Covestro Deutschland AG. Under the agreement, Covestro is obligated to provide EUR 800,000 to the Company in exchange for a license to the Interglass patents and certain support services. This will enable the Company to invest and expand its capabilities in design, development, and manufacturing of metaFUSION™ products for smart eyewear in augmented reality and other advanced applications. This highly integrated solution combines embedded metamaterial and functional film elements with precision cast corrective lenses, which are required by over 50% of potential users in the market.

*Management update*

On June 2, 2020, the Company announced the hiring of Mr. Keith Abriel as Interim CFO and Mr. Mark Gosine as Corporate Secretary to replace the Company's CFO and Corporate Secretary, Mr. Mayank Mahajan. In connection with their hiring, the Board of Directors, in accordance with the Company's ESOP, granted options to each to purchase 100,000 shares of the common stock of the Company at a purchase price of CAD $0.62 per share. A portion of the options are subject to certain vesting conditions, in accordance with the Plan.

On December 14, 2020, the Company announced the hiring of Mr. Kenneth L. Rice Jr. as CFO and EVP. Mr. Rice will replace the Company's Interim CFO, Keith Abriel and, assuming the transaction described above is closed, he will be named CFO of the combined company. In connection with his hiring, the Board of Directors, in accordance with the Company's ESOP, granted options to Mr. Rice to purchase 300,000 shares of the common stock of the Company at a purchase price of CAD $0.62 per share. The newly granted options are fully vested as of the grant date.

On December 17, 2020, the Company announced the hiring of Dr. Jonathan Waldern as Chief Technical Officer. In connection with his hiring, the Board of Directors, in accordance with the Company's ESOP, granted options to Dr. Waldern to purchase 1,115,000 shares of the common stock of the Company at a purchase price of CAD $0.62 per share to vest evenly over a 4-year period.

*Financing activities*

During the year, the Company was able to secure financing of $12,745,161 to fund ongoing and future operations as follows:

- $875,612 in January 2020 for subscriptions of 515,067 units, comprised of 515,067 common shares and 515,067 of the Company's warrants as part of a private placement.
- $950,000 in January 2020 for unsecured convertible debentures in favour of existing equity investors, out of which $500,000 was held in trust, which was released to the Company on April 3, 2020 upon closing of BDC financing.
- $4,174,979 in March 2020 as part of a three-cornered amalgamation pursuant to which the Company amalgamated with Continental Precious Minerals Subco Inc. ("CPM Subco"), a wholly owned subsidiary of META to become "Metacontinental Inc." (the "RTO").
- $5,000,000 in April 2020 for a secured convertible debenture in favour of BDC Capital Inc.
- $500,000 in November 2020 for an unsecured convertible promissory note as part of a commitment letter with a shareholder of the Company, where the shareholder agreed to provide up to $5,500,000 in debt financing (the "Bridge Loan") to fund META's continued operations while the Company works toward completion of the Proposed Transaction with Torchlight.

- $1,304,570 in September and December 2020 for two unsecured convertible promissory notes issued to Torchlight Energy Resources in the amount of USD $500,000 each. If the above referenced Arrangement Agreement is terminated, Torchlight has the right to convert the principal and accrued interest into common shares of the Company.

In addition, on February 26, 2020, The Company was able to convert promissory notes of $5,948,003 into 3,498,825 common shares of MTI.

Subsequent to December 31, 2020, the Company was able to raise additional financing of $18,086,000 to fund ongoing and future operations as follows:

- $5,000,000 in January and February 2021 for unsecured convertible promissory notes as part of the above mentioned 'Bridge Loan'.
- $12,696,000 in February 2021 for unsecured convertible promissory notes issued to Torchlight in the amount of US $10,000,000. If the above referenced Arrangement Agreement is terminated, Torchlight has the right to convert the principal and accrued interest into common shares of the Company.
- $390,000 in January and March 2021 under a contribution agreement with ACOA for funding from the Regional Relief and Recovery Fund ("RRRF") under ACOA's Regional Economic Growth Through Innovation - Business Scale-up and Productivity stream.

In addition, the Company converted a total of $13,463,521 of financial liabilities into common shares of the Company as follows:

- The outstanding principal and accrued interest of $5,526,082 of the above mentioned 'Bridge Loan' was converted in February 2021 at $0.50 per share into 11,052,164 common shares of the Company.
- The outstanding principal and accrued interest of $1,936,984 of unsecured convertible debentures was converted in February 2021 at $0.70 per share into 2,767,120 common shares of the Company.
- The outstanding principal and accrued interest of $5,370,776 of the above mentioned secured convertible debenture owed to BDC Capital. Was, in accordance with the terms of the debenture, automatically converted on March 3, 2021 at $0.70 per share into 7,672,537 common shares of the Company.
- The outstanding principal and accrued interest of $261,735 owed to Fundo Capital de Risco Empreender Mais – Caixa Capital ("Caixa") was converted in March 2021 at $3.87 per share into 67,597 common shares of the Company.
- An amount of $367,944 owed to Lamda Guard Technologies Ltd. ("LGTL") was converted in March 2021 at $4.51 per share into 81,584 common shares of the Company.

See the "subsequent events" section of this MD&A.

### Research and product development

As at the date of the MD&A, META has 6 registered trademarks, 58 patents granted in 22 patent families and 44 patents pending. The Company believes that its combination of patents and additional IP that is being held confidential by way of multiple Trade Secrets provides the Company with an important competitive advantage, marketing benefits, and licensing revenue opportunities. In addition, the Company acquired specialized lens casting production equipment and intellectual property, including more than 70 patents, from Interglass Technology AG (Switzerland).

### COVID-19 IMPACT

During March 2020, the COVID-19 outbreak was declared a pandemic by the World Health Organization. This has resulted in governments worldwide enacting emergency measures to combat the spread of the virus. In response to this, the Company's management implemented a Work-From-Home policy for management and non-engineering employees in all three locations for the remaining period of the year. Engineering staff in all three locations continued to work on given tasks and are following strict safety guidelines. Currently, most employees are back to the workplace. Although the Company's supply chain has slowed down, the Company is currently able to maintain inventory of long lead items and is working with its suppliers to optimize future supply orders. Alameda County in the State of California, where the Company's wholly owned subsidiary operates, went on lockdown and it has been declared a "major disaster" area. Although there was some improvement over the summer, the county went back to purple tier 1 (substantial spread of virus) since October 12, 2020 and these restrictions had not been lifted by year-end 2020.

COVID-19 has impacted the Company's 2020 sales of its metaAIR® laser protection eyewear product. Worldwide restrictions on travel are significantly impacting the airline industry and purchasing of metaAIR eyewear was not the primary focus of airlines post COVID-19, however, the Company is pursuing sales in adjacent markets such as consumer, military and law enforcement. The situation is dynamic and the ultimate duration and magnitude of the impact on the economy and the financial effect on our business is not known at this time.

## SELECTED ANNUAL INFORMATION

The following table sets out selected consolidated financial information for the Company for the last three fiscal years, prepared in accordance with IFRS.

| | 2020 ($) | 2019 ($) | 2018 ($) |
|---|---|---|---|
| Total revenue | 1,507,690 | 1,195,058 | 1,585,191 |
| Cost of goods sold | 4,409 | 12,138 | — |
| Total expenses | 21,565,359 | 12,385,542 | 6,696,432 |
| Net loss | (19,806,340) | (11,083,258) | (5,106,655) |
| Comprehensive loss for the year | (19,512,180) | (10,836,260) | (5,106,655) |
| Total assets | 13,020,757 | 11,947,746 | 13,172,715 |
| Non-current financial liabilities [1] | 6,958,748 | 4,707,744 | 5,560,199 |
| Deficit | (52,088,351) | (32,282,011) | (21,198,755) |
| Dividends declared - common shares | Nil | Nil | Nil |
| Loss from continuing operations – per share (basic and diluted) [2] | (0.27) | (1.14) | (0.56) |

[1] The non-current financial liabilities exclude deferred revenue, deferred government assistance, and deferred tax liability from total long-term liabilities.

[2] Calculated based on the weighted average number of the Company's issued and outstanding common shares during respective years. The diluted loss per share does not include the effect of the Company's preferred shares, the Company's deferred share units ("DSUs"), the Company's options, and the Company's warrants as they are anti-dilutive.

### Results of Operations for the years ended December 31, 2020 and 2019

The Company recorded a net loss for the year ended December 31, 2020 of $19,806,340, or $0.27 per share as compared to a net loss of $11,083,258 or $1.14 per share for the year ended December 31, 2019. The increase in the loss of $8,723,082 in the years ended December 31, 2020 as compared to December 31, 2019 is primarily due to:

- a $312,632 increase in revenue;
- a $2,296,176 increase in consulting and professional fees;
- a $321,104 increase in share-base compensation expenses;
- a $1,992,769 increase in finance costs and decrease in finance income;
- a $527,109 decrease in other income and increase in amortization of deferred government assistance;
- a $686,330 decrease in research and development cost, and travel and entertainment expenses;
- a $53,918 net increase in depreciation and amortization and impairment, investor relations, and salaries and benefits;
- a $1,104,791 net increase in realized and unrealized loss on FVTPL and derivative liabilities and realized and unrealized foreign exchange losses;
- a $3,570,281 net increase in other expenses as further explained below.

*$312,632 increase in revenue;*

The major revenue stream for year ending December 31, 2020 was Development revenue of $1,505,075 compared to 2019 of $1,163,632 with an increase of 29%. During year ended December 31, 2020, the Company recognized revenues from various customers, including but not limited to Elbit Systems, Lockheed Martin, The Boeing Company, which collectively account for the increase.

On April 13, 2017, the Company entered into an Offset Project Agreement ("OPA") with Lockheed Martin Aeronautics Corporation ("LM Aero") for research and development ("R&D") and commercialization of MetaSOLAR technology for $4,150,000 USD. During the year ended December 31, 2020, the Company recognized $705,137 in development revenue related to these distribution rights.

On September 18, 2018, the Company signed an exclusive distribution agreement with Satair A/S for a term of 10 years and received $1,299,700 as distribution fees. During the year ended December 31, 2020, the Company recognized $131,678 in development revenue related to these distribution rights.

Product sales for the year ended December 31, 2020 were $2,615 (2019 - $31,426) as sales of the Company's metaAIR laser protection eyewear have been negatively impacted by COVID-19.

*$2,296,176 increase in consulting and professional fees;*

This increase is primarily due to $1,815,644 increase in legal, consulting and auditing fees as a result of the RTO and the public listing process on CSE which had begun to be incurred during August 2019 until April 2020 as well as the arrangement transaction with Torchlight later in 2020. The Company expects the increased professional fees to continue as the company advances toward closing the transaction with Torchlight and listing on NASDAQ.

The remaining $480,532 increase is due to increase in accounting, marketing and technical consulting.

*$321,104 increase in share-base compensation expenses;*

This increase was due to the issuance of 4,575,000 stock options, excluding forfeitures, to directors and senior management upon completion of the RTO in March 2020, 2,089,000 options to senior executives and consultants hired by the Company during 2020, and 600,000 options to other employees in Q4 2020. This was offset by a decrease in share-based compensation expense for options issued before 2020 due to using the graded vesting attribution method in accounting for stock option expenses.

*$1,992,769 increase in finance costs and decrease in finance income;*

This increase is primarily due to:

- Increase in Interest and bank charges of $579,277 mainly as a result of the issuance of promissory notes and debentures of $7,754,570 during 2020.
- Increase in non-cash interest accretion of $422,761 due to the increase in 2020 in interest accretion relating to the UK finance lease, ACOA loans and funding obligation as well as interest accretion relating to US finance leases recognized in Q4 2020.
- $959,350 change in the interest-free component of the long-term debt mainly due to significant proceeds received in 2019 from ACOA as well as changes to the estimated repayment schedule resulting in a total change during 2020.

*$527,109 decrease in other income and increase in amortization of deferred government assistance;*

The decrease in other income is due to recognition of $530,960 in 2019 as fair value of interest-free component on the proceeds received under the funding obligation agreement and the increase is due to $3,851 increase in the amortization of deferred government assistance.

*$686,330 decrease in research and development cost, and travel and entertainment expenses;*

The decrease in research and development of $271,899 as a result of decreased lab time and materials consumption due to the operational impact of COVID-19. In addition, the decrease of travel and entertainment expenses by $414,431 is due to expenses incurred in 2019 as part of the private placement in late 2019 and in preparation of the private placement in January 2020 as well as the RTO. Travel bans and restrictions on gatherings due to ongoing COVID-19 pandemic have also attributed to significantly lower travel cost in 2020 in spite of the continuous efforts in raising capital and the arrangement transaction with Torchlight.

*$53,918 net increase in depreciation and amortization and impairment, investor relations, and salaries and benefits;*

This increase is primarily due to:

- $337,865 decrease in depreciation and amortization comprising of an increase of $75,219 due to additions net of $411,562 SDTC grant that was recognized from deferred revenue into depreciation and amortization.
- $81,942 decrease in impairment expense mainly due to impairment expense recognized in 2019.
- $123,560 increase in investor relations as a result of the CSE listing.
- $350,165 increase in salaries and benefits due to bonuses and new hires in 2020 as part of the company's operations expansion as well as reduction in UK grants.

*$1,104,791 net increase in realized and unrealized loss on FVTPL and derivative liabilities and realized and unrealized foreign exchange losses;*

This increase is primarily due to:

- $1,055,684 increase in unrealized loss on FVTPL liabilities of mainly due to the increase in the stock price and the decrease in the discount rate between the initial recognition date of the FVTPL liabilities and December 31, 2020 (remeasurement date).
- $128,653 realized loss on derivative liability recognized in 2020 due to conversion of secured promissory notes as part of the RTO.
- $79,546 decrease in realized and unrealized foreign exchange losses due to fluctuations in global currencies as a result of COVID-19, especially relating to the US Dollar.

*$3,570,281 net increase in other expenses;*

This increase is primarily due to:

- Listing expenses of $3,370,249 recognized as a result of the RTO and subsequent CSE fees of $12,000 in 2020.
- Increase in other expenses by $234,496 net of decrease in technology license fees by $36,205 and rent and utilities by $10,259.

## SELECTED QUARTERLY RESULTS

The following table sets out selected quarterly information and highlights for the last eight quarters:

| | 12/31/20 | 09/30/20 Restated | 06/30/20 | 03/31/20 | 12/31/19 | 9/30/19 | 6/30/19 | 3/31/19 |
|---|---|---|---|---|---|---|---|---|
| Product Sales | — | — | — | 2,615 | 20,113 | 627 | 10,686 | — |
| Development revenue | 357,373 | 263,014 | 289,728 | 594,960 | 499,554 | 215,873 | 257,243 | 190,962 |
| Cost of goods sold | 208 | 1,240 | 1,840 | 1,121 | 7,870 | 245 | 4,023 | — |
| **Gross Profit** | 357,165 | 261,774 | 287,888 | 596,454 | 511,797 | 216,255 | 263,906 | 190,962 |
| **Expenses (income)** | | | | | | | | |
| Salaries and benefits | 931,304 | 363,053 | 897,546 | 1,199,037 | 811,007 | 719,602 | 782,610 | 727,556 |
| Depreciation, amortization and impairment | 337,228 | 786,736 | 842,998 | 878,902 | 990,070 | 838,360 | 747,492 | 689,749 |
| Consulting | 751,015 | 306,770 | 142,218 | 216,959 | 225,309 | 97,091 | 122,555 | 103,967 |
| Investor relations | 42,917 | 42,752 | 49,321 | 19,506 | 30,936 | — | — | — |
| Research and development | 132,307 | 159,143 | 106,669 | 118,458 | 263,639 | 215,128 | 154,081 | 155,628 |
| Professional fees | 1,125,731 | 305,876 | 571,373 | 271,574 | 301,911 | 357,856 | 132,864 | 53,787 |
| Finance income [1] | (6,769) | 21,213 | (32,396) | (16,350) | (187,534) | (236) | (208,922) | (425,684) |
| Finance costs [1] | 921,311 | 502,281 | 454,865 | 263,674 | 448,923 | 262,755 | 220,497 | 5,260 |
| Share-based compensation | 539,418 | 538,806 | 503,803 | 450,028 | 451,908 | 676,460 | 282,745 | 299,839 |
| Other expenses [1,2] | 292,357 | 335,069 | 303,423 | 3,692,546 | 408,130 | 343,393 | 375,645 | 340,378 |
| Realized/Unrealized loss (gain) on FVTPL liabilities | 2,701,707 | 453,054 | (901,642) | (206,606) | 480,179 | 145,977 | (5,073) | 241,093 |
| Realized/Unrealized foreign currency exchange loss (gain) | 463,087 | 244,570 | 420,021 | (788,819) | 150,492 | (100,346) | 191,431 | 176,828 |
| Amortization of deferred government assistance [1] | (45,672) | (45,671) | (45,671) | (45,671) | (45,671) | (45,671) | (45,671) | (41,821) |
| Other income | — | — | - | — | (530,960) | — | — | — |
| Income tax (recovery) expense | (107,788) | (44,161) | (39,360) | (64,429) | 8,951 | (44,901) | (53,139) | (30,275) |
| Net loss for the quarter | **(7,720,988)** | **(3,707,717)** | **(2,985,280)** | **(5,392,355)** | **(3,295,493)** | **(3,249,213)** | **(2,433,209)** | **(2,105,343)** |
| Loss per share – basic and diluted [3] | (0.10) | (0.04) | (0.04) | (0.12) | (0.31) | (0.33) | (0.25) | (0.22) |

[1] Certain reclassifications have been made to previous quarters to enhance comparability with the current quarter as follows:

- Government assistance has been reclassed under finance income, finance costs and amortization of deferred government assistance.
- Non-cash interest accretion has been reclassed under finance costs.
- Interest and bank charges and interest income have been reclassed from other expenses into finance costs and finance income respectively.

[2] Other expenses include travel and entertainment, listing expenses, stock exchange fees, rent and utilities, technology license fees, subscriptions and licenses, office supplies, postage and shipping, insurance, repair and maintenance, janitorial services, telephone, training, and IT support.

[3] Calculated based on the weighted average number of the Company's issued and outstanding common shares during respective quarters. The diluted loss per share does not include the effect of the Company's preferred shares, the Company's deferred share units, the Company's options, and the Company's warrants as they are anti- dilutive.

**Results of Operations for the three months ended December 31, 2020 and 2019**

The Company recorded a net loss for the three months ended December 31, 2020 of $7,720,988, or $0.10 per share as compared to a net loss of $3,295,493 or $0.34 per share for the three months ended December 31, 2019. The increase in the loss of $4,425,495 in the three months ended December 31, 2020 as compared to December 31, 2019 is primarily due to:

- a $162,294 decrease in revenue;
- a $1,349,526 increase in consulting and professional fees;
- a $87,510 increase in share-base compensation expenses;
- a $653,153 increase in finance costs and decrease in finance income;
- a $530,960 decrease in other income;
- a $329,629 decrease in research and development cost, and travel and entertainment expenses;
- a $520,564 net decrease in depreciation and amortization and impairment, investor relations, and salaries and benefits;
- a $2,534,103 increase in unrealized loss on FVTPL and derivative liabilities and realized and unrealized foreign exchange losses;
- a $82,524 net increase in other expenses as further explained below.

*$162,294 decrease in revenue;*

The major revenue stream for three months ending December 31, 2020 was Development revenue of $357,373 compared to 2019 of $499,554 with a decrease of 28%. During three months ended December 31, 2020, the Company recognized revenues from various customers, included but not limited to Lockheed Martin and Satair A/S Creal SA, ThermoFicher Scientific, Sofwerx and CORNES Technologies Ltd..

On April 13, 2017, the Company entered into an Offset Project Agreement ("OPA") with Lockheed Martin Aeronautics Corporation ("LM Aero") for research and development ("R&D") and commercialization of MetaSOLAR technology for $4,150,000 USD. During the three months ended December 31, 2020, the Company recognized $176,284 in development revenue related to these distribution rights.

On September 18, 2018, the Company signed an exclusive distribution agreement with Satair A/S for a term of 10 years and received $1,299,700 as distribution fees. During the three months ended December 31, 2020, the Company recognized $31,830 in development revenue related to these distribution rights.

Product sales for the three months ended December 31, 2020 were Nil (2019 - $20,113) as sales of the Company's metaAIR laser protection eyewear have been negatively impacted by COVID-19.

*$1,349,526 increase in consulting and professional fees;*

This increase is primarily due to $1,121,457 increase in legal, consulting and auditing fees as a result of the arrangement transaction with Torchlight in 2020. The Company expects the increased professional fees to continue as the company advances toward closing the transaction with Torchlight and listing on NASDAQ.

This remaining $228,069 increase is due to increase in accounting, marketing and technical consulting.

*$87,510 increase in share-base compensation expenses;*

This increase was due to the issuance of 1,889,000 stock options to senior executives and consultants hired by the Company during Q4 2020, and 600,000 options to other employee in Q4 2020. This was offset by decrease in share-based compensation expense for options issued before 2020 due to using graded vesting attribution method in the accounting of stock options.

*$653,153 increase in finance costs and decrease in finance income;*

This increase is primarily due to:

- $130,630 increase in interest and bank charges mainly as a result of the issuance of promissory notes and debentures of $7,754,570 during 2020.
- $151,491 increase in non-cash interest accretion due to the increase in Q4 2020 in interest accretion relating to the UK finance lease, ACOA loans and funding obligation as well as interest accretion relating to US finance leases recognized in Q4 2020

*$530,960 decrease in other income;*

This decrease is mainly due to recognition of $530,960 in 2019 as fair value of interest-free component on the proceeds received under the funding obligation agreement.

*$329,629 decrease in research and development cost, and travel and entertainment expenses;*

The decrease in research and development of $131,332 as a result of decreased lab time and materials consumption due to the operational impact of COVID-19. In addition, the decrease of travel and entertainment expenses by $198,297 is due to expenses incurred in Q4 2019 as part of the private placement in late 2019 and in preparation of a private placement in January 2020 as well as the RTO. Travel bans and restrictions on gatherings due to ongoing COVID-19 pandemic has also attributed to significantly lower travel cost in 2020 in spite of the continuous efforts in raising capital and the arrangement transaction with Torchlight.

*$520,564 net decrease in depreciation and amortization and impairment, investor relations, and salaries and benefits;*

This decrease is primarily due to:

- $570,900 decrease in depreciation and amortization comprising of an decrease of $159,318 due to fully depreciated assets in 2020 in addition to $411,562 SDTC grant that was recognized from deferred revenue into depreciation and amortization during Q4 2020.
- $81,942 decrease in impairment expense mainly due to impairment expense recognized in 2019.

- $11,981 increase in investor relations as a result of the CSE listing.
- $120,297 increase in salaries and benefits due to new hires in Q4 2020 as part of the company's operations expansion as well as reduction in UK grants.

*$2,534,103 increase in unrealized loss on FVTPL and derivative liabilities and realized and unrealized foreign exchange losses;*

This increase is primarily due to:

- $2,221,528 increase in unrealized loss on FVTPL liabilities of mainly due to the increase in the stock price and the decrease in the discount price between the initial recognition date of the FVTPL liabilities and December 31, 2020 (remeasurement date).
- $312,575 increase in realized and unrealized foreign exchange losses due to fluctuations in global currencies as a result of COVID-19, especially relating to the US Dollar.

*$82,524 net increase in other expenses as further explained below;*

This increase is primarily due to subscriptions and licenses net of other expenses.

## LIQUIDITY AND CAPITAL RESOURCES

Continued operations of the Company are dependent on the Company's ability to complete equity and/or debt financings and generate profitable operations in the future. During the year ending December 31, 2020, the Company has not generated significant revenue, and has incurred a net loss of $19,806,340 and negative cash flow from operations of $9,802,829 and has an accumulated deficit of $52,088,351 as at December 31, 2020.

During the year ended December 31, 2020, the Company raised equity of $875,612, completed the RTO, received META's cash and cash equivalents of $4,174,979 and converted promissory notes of $5,948,003 into common shares. Further and pursuant to the RTO, the Company raised gross proceeds of $5,000,000 through the issuance of secured convertible debentures and $950,000 through the issuance of unsecured convertible debentures. The Company entered into an Arrangement Agreement with Torchlight Energy Resources Inc., a NASDAQ listed entity, for a business combination. Torchlight is required to deliver gross proceeds of at least US $10 million through the issuance of new debt or common shares coincident with the closing of the transaction and to be otherwise debt free or only liable for indebtedness secured solely by its oil and gas assets. Through December 31, 2020, Torchlight provided US $1,000,000 of financing to the Company through the issuance of unsecured convertible promissory notes, which reduces the required amount to be raised for the closing of the transaction. The Company also obtained a commitment letter (the "Bridge Loan") for $5,500,000 in debt financing, of which $500,000 has been drawn.

As at December 31, 2020, the Company had cash of $1,776,983, as compared to $528,691 as at December 31, 2019. As at December 31, 2020, the Company has working capital deficit of $12,500,291 defined as current assets less current liabilities, compared to a working capital deficit of $9,554,203 as at December 31, 2019. The total increase in the working capital deficit of $2,946,088 during the year is primarily a result of securing the abovementioned funds of $12,745,161 during the year offset by cash used in operating activities of $9,802,829. The Company is also in breach of a debt covenant with BDC Capital Inc. for convertible secured debentures and has reclassified the balance as at December 31, 2020 of $7,060,493 into current liabilities. Subsequent to December 31, 2020, the secured debentures were converted into equity as outlined below.

Subsequent to December 31, 2020, the Company received the remaining balance of $5,000,000 under the bridge loan. Torchlight was successful in raising additional equity funds and consequently has provided US $10,000,000 of financing to the Company through the issuance of an unsecured convertible promissory note. Furthermore, the Company converted unsecured convertible promissory notes issued pursuant to the Bridge Loan of $5,526,082, unsecured convertible debentures of $1,936,984, long-term debt of $261,735, and due to related parties of $367,944 into common shares as well as forced conversion of secured convertible debentures of $5,370,776 into common shares.

As of the date of this MD&A, the Company holds cash and cash equivalents of approximately $16 million, has a current monthly burn rate, excluding cost of sales, of approximately $900,000, which has increased as a result of incremental costs associated with the Proposed Transaction with Torchlight, and has committed capital expenditures of approximately $2.5 million. Additionally, as of the date of this MD&A and giving consideration to the secured and available but not yet drawn debt facilities discussed herein, the Company's cash runway is approximately 14 months, assuming no product sales. Management and the Board are closely monitoring the Company's sales, capital expenditures and monthly burn rate so as to ensure that the Company has sufficient working capital to execute its strategic business plan. Appropriate adjustments to capital expenditures and the monthly burn rate will be made if necessary. Concurrent with focusing on generating sales, management is advancing applications that have been submitted for government grants and or loans, as well as exploring raising additional equity in the capital markets and pursuing debt financings. There are no assurances that any of the aforementioned sources of cash will be available to the Company on acceptable terms, or at all.

The Company continues to generate revenues from a combination of engineering services and new product sales. Growth in future revenues is dependent on developing and commercializing additional products, further development of on-going collaborations, strategic partnerships or other transactions with third parties, and merger and acquisition opportunities. Management estimates that the Company's working capital is sufficient to fund its operations into the 2nd quarter of 2022. There is no certainty that the Company will ultimately achieve profitable operations, become cash flow positive, or raise additional debt and/or equity capital.

In accordance with certain of the ACOA loan agreements, the Company is required to maintain a minimum in equity throughout the term of the loan. However, on November 14, 2019, ACOA waived this requirement for June 30, 2019 and for each period thereafter until the loans are fully repaid.

Liquidity risk is the risk that the Company will not meet its financial obligations as they become due after use of currently available cash. The Company has a planning and budgeting process to monitor operating cash requirements, including amounts projected for capital expenditures, which are adjusted as input variables change. These variables include, but are not limited to, the ability of the Company to generate revenue from current and prospective customers, general and administrative requirements of the Company and the availability of equity or debt capital and government funding. As these variables change, it may necessitate the need for the Company to issue equity or obtain debt financing.

Although the Company is currently pursuing financing alternatives, there can be no assurance that additional future financings will be available on acceptable terms or at all. If the Company is unable to obtain additional financing when required, the Company may have to substantially reduce or eliminate planned expenditures. The risk is that the Company's availability of future financings or future profitability cannot be assured. The Company expects to record losses until such time as it further commercializes its products and secures additional customers. These factors indicate the existence of a material uncertainty that may cast significant doubt on the Company's ability to continue as a going concern.

## COMMITMENTS AND CONTIGENCIES

On December 8, 2016, the Company entered into a cooperation agreement with a large aircraft manufacturer to co-develop laser protection filters for space and aeronautical civil and military applications, metaAIR, and support the setup of manufacturing facilities for product certification and development. The cooperation agreement includes financial support provided to the Company in the form of non-recurring engineering costs of up to $4,000,000 USD to be released upon agreement of technical milestones in exchange for a royalty fee due by the Company on gross profit after sales and distribution costs. The total royalty fee to be paid may be adjusted based on the timing of the Company's sales and the amount ultimately paid to the Company by large aircraft manufacturer to support the development. During the year ended December 31, 2020, the Company has accrued royalties of $136 (2019 – $1,570) in cost of goods sold in the consolidated statements of loss and comprehensive loss with this agreement.

During the year, the Company has entered into a non-binding letter of intent for the acquisition of specialized lens casting production equipment and intellectual property, including more than 70 patents, from Canton Zug in Switzerland previously owned by Interglass Technology AG (Switzerland) for US$800,000.

## Management Discussion and Analysis
## December 31, 2020

The Company has also entered into a cooperation framework agreement with Covestro Deutschland AG. Under the agreement, Covestro is obligated to provide EUR 800,000 of proceeds to the Company in exchange for a license to the Interglass patents and certain support services.

In August 31, 2020, the Company signed a ten-year lease commencing January 1, 2021, for approximately 53,000 square foot facility, which will host the Company's holography and lithography R&D labs and manufacturing operations. Commencing in September 2021, the Company will pay monthly basic rent of CAD $28,708 and additional rent for its proportionate share of operating costs and property taxes of CAD $24,910 per month, subject to periodic adjustments. In conjunction with signing the lease, the Company entered into a loan agreement with the landlord in the amount of $500,000 to fund leasehold improvements. The loan carries an interest rate of 5% per annum and is repayable in equal monthly blended payments of principal and interest over a period of seven years. At December 31, 2020, the full amount of the $500,000 remains undrawn and available.

During the year, the Company signed a three-year supply deal with Covestro Deutschland AG, which will provide early access to new photo-sensitive holographic film materials, the building block of META's holographic product. This agreement will not only allow early access to Covestro's R&D library of photopolymer films but will also accelerate META's product development and speed of innovation. Target markets include photonics/optical filters and holographic optical elements, diffusers, laser eye protection, optical combiners, and AR (augmented reality) applications.

During 2018, the Company arranged a guarantee/standby letter of credit with RBC in favour of Satair A/S for US $500,000 in relation to an advance payment received (note 21). In the event the Company fails to deliver the product as per the contract or refuse to accept the return of the product as per the buyback clause of the contract or fails to repay the advance payment in accordance with the conditions of the agreement signed with Satair on September 18, 2018, Satair shall draw from the letter of credit with RBC. Borrowings from the letter of credit with RBC are repayable on demand. The letter of credit from RBC is secured by a performance security guarantee cover issued by Export Development of Canada. Further, this guarantee/standby letter of credit expires on October 5, 2021. As at December 31, 2020, no amount has been drawn from the letter of credit with RBC.

During 2017, the Company has set up an irrevocable standby letter of credit with RBC in favour of LM Aero for US$4,150,000 in relation to Offset Project Agreement ("OPA") (note 21). In the event the Company fails to meet the obligations under the OPA, LM Aero shall draw from the letter of credit with RBC. Borrowings from the letter of credit with RBC are repayable on demand. The letter of credit from RBC is secured by a performance security guarantee cover issued by Export Development of Canada. Further, LM Aero issues a certificate of reduction of the letter of credit on an annual basis over the next five years. The performance obligations for the milestone are satisfied through-out the period and the Company records development revenue in an amount equal to the certificate of reduction evenly throughout the period. Further, after the issuance of the certificate of reduction, the letter of credit with RBC will decrease for the corresponding amount. As at December 31, 2020, the letter of credit with RBC has been reduced in accordance with the agreement and no amounts have been drawn by LM Aero.

As at December 31, 2020, the Company has the following contractual obligations (based on principal repayments for debt items):

| | Long-term debt | Trade payables | Due to related party | Unsecured convertible promissory notes | Secured convertible debentures | Unsecured convertible debentures | Leases (1) | Total |
|---|---|---|---|---|---|---|---|---|
| | $ | $ | $ | $ | $ | $ | $ | $ |
| 2021 | **369,921** | **3,743,783** | **312,528** | **—** | **—** | **—** | **214,472** | **4,640,704** |
| 2022 | **890,429** | **—** | **—** | **1,804,570** | **—** | **—** | **643,416** | **3,338,415** |
| 2023 | **1,223,041** | **—** | **—** | **—** | **—** | **—** | **643,416** | **1,866,457** |
| 2024 | **2,079,945** | **—** | **—** | **—** | **5,000,000** | **—** | **643,416** | **7,723,361** |
| 2025 | **621,183** | **—** | **—** | **—** | **—** | **1,700,000** | **643,416** | **2,964,599** |
| Thereafter | **1,290,181** | **—** | **—** | **—** | **—** | **—** | **3,646,024** | **4,936,205** |
| | **6,474,700** | **3,743,783** | **312,528** | **1,804,570** | **5,000,000** | **1,700,000** | **6,434,160** | **25,469,741** |

(1) On March 12, 2021, the Company entered into a letter of intent with Rank Incorporated and Page Property Management (the "Landlord") to amend the lease agreement for its Highfield facility (the "Highfield Facility"), located in Dartmouth, Nova Scotia and thus expanding the space by about 15,000 square feet, to approximately 68,000 square feet. In addition to holography and lithography R&D labs and the next phase of META's development of roll-to-roll processes, the expanded space will include a new customer center for training and technology transfer.

In exchange for the Landlord's agreement to expand the rentable square footage in the Company's lease at Highfield Park Drive, their further agreement to reduce the annual rent for the 10-year term of the lease by $2,699,250, and their agreement to provide the Company with $500,000 in cash for on-going tenant improvements, the Landlord agreed to subscribe to 990,480 common shares of the Company at $3.23 per common share, representing a 15% discount to the closing price of the common shares on the Canadian Securities Exchange on March 11, 2021.

## OFF-BALANCE SHEET ARRANGEMENTS

The Company has no other off-balance sheet arrangements.

## PROPOSED TRANSACTIONS

Please see the discussion of the Company's Proposed Transaction with Torchlight in the Overall Performance, Industry Trends and Economic Factors section of this MD&A.

## SIGNIFICANT TRANSACTIONS

See the "Overall Performance, Industry Trends and Economic Factors" section of this MD&A.

## SECURITIES

The Company's outstanding securities as of December 31, 2020 and as of April 20, 2021 are as follows:

| **Description of Security**[1] | **Number Of Shares Outstanding as of December 31, 2020** [1] | **Number Of Shares Outstanding as of the date of the MD&A** |
|---|---|---|
| Common shares | 83,557,679 [2] | 105,528,460[2,4,5,6,7&8] |
| Stock options ("ESOP") | 13,226,936 [2] | 13,170,069 [2&4] |
| DSUs | 1,872,750 [2] | 1,872,750 [2] |
| Warrants | 1,651,352 [2&3] | 1,606,855 [2,3&4] |
| Broker warrants | 52,861 [2&3] | 19,619 [2,3&4] |
| Unsecured convertible debentures | 2,724,261 [5] | — |
| Unsecured convertible promissory notes | 3,896,377 [6] | 7,458,837 [6] |
| Secured convertible debenture | 7,568,703 [7] | — |
| **TOTAL Shares Issued & Outstanding Fully Diluted** | **114,590,918** | **129,656,590** |

[1] The Company's audited consolidated financial statements provide a detailed breakdown of all securities transactions that occurred during the year ended December 31, 2020.

[2] Pursuant to the RTO, CPM agreed to acquire all of the issued and outstanding the Company's common shares and Class A-1 Preferred Share in exchange for CPM common shares on the basis of 2.75 CPM common shares for each of the Company common share and 4.125 CPM common shares for each of the Company's Class A-2 Preferred Share. Options issued to employees, directors, and consultants, DSUs issued to directors and each outstanding warrant were also converted as per the agreed exchange rate of 2.75:1 upon completion of the RTO.

[3] For every warrant, warrant holders shall have the right to purchase one META common share for $0.90 and for every broker warrant, broker warrant holders shall have the right to purchase one META common share for $0.62.

[4] Subsequent to December 31, 2020, 96,867 stock options, 44,497 warrants and 33,242 broker warrants were exercised.

[5] Unsecured convertible debentures of $1,700,000 principal, plus $206,983 interest, are convertible at a value of $0.70 per META common share. Subsequent to December 31, 2020, the total debentures balance of $1,936,984 was converted to 2,767,120 META common shares.

[6] Unsecured convertible promissory note of $500,000 principal, plus $3,507 interest is convertible at a value of $0.50 per META common share. Subsequent to December 31, 2020, the Company received additional $5,000,000 under the same conditions and the total balance of $5,526,082, including interest was converted to 11,052,164 META common shares.

In addition, unsecured convertible promissory notes of US$511,111 and US$501,613 principal and interest, are convertible at a value of C$0.35 and C$0.62 respectively per META common share. Subsequent to December 31, 2020, the Company received additional US$10,000,000 convertible at a value of C$2.80.

[7] Secured convertible debenture of $5,000,000, plus $298,082 paid in kind interest, is convertible at $0.70 per META common share. Subsequent to December 31, 2020, the total balance of $5,370,776, including interest was converted to 7,672,537 META common shares.

[8] Subsequent to December 31, 2020, the Company converted $261,735 of principal and accrued interest of long term debt at $3.87 per share into 67,597 common shares and CAD$367,944 due to related party at $4.51 per share into 81,584 common shares.

## TRANSACTIONS WITH RELATED PARTIES

Related party transactions impacting the accompanying consolidated financial statements for the year ended December 31, 2020 are summarized below:

- The Consulting fees includes $176,946 (2019 – $186,982) to directors of the Company related to advisory services provided.
- Technology license fees of $14,602 (2019 - $50,807) to Lamda Guard Technologies Ltd ("LGTL"), a shareholder of the Company, to allow the use of certain patents to the Company as per an exclusive technology license agreement ("License Agreement").
- Reimbursement of rent and utilities from LGTL to MediWise of $46,554 (2019- $41,153) for using a portion of MediWise's premises in the UK.
- As at December 31, 2020, the Company had a balance of $312,528 (December 31, 2019 - $345,033) due to LGTL that is unsecured and repayable in full on demand.

## RISKS AND UNCERTAINTIES

*Current Cash Flow*

As of the date of this MD&A and including the impact of the funding discussed in the "Overall Performance, Industry Trends and Economic Factors" section of this MD&A, Management estimates that the Company's working capital is sufficient to fund its operations into the 2nd quarter of 2022, depending on the capital spend. In order to fund operations after that period, the Company will need to be generating additional revenue or secure additional capital to fund its operations. Should future funds not be made available to the Company or made available on terms that are commercially reasonable, the Company would be unable to meet its financial obligations and may have cash flow issues that could materially and adversely affect the Company's business, operations, financial condition and results of operations. These factors indicate the existence of a material uncertainty that may cast significant doubt about the Company's ability to continue as a going concern.

*Additional Financing and its impact on existing shareholders*

With the unforeseen delay in sales, in order to execute on its business plan, the Company will likely require additional funding by way of equity, debt or government grants/loans. If additional funds are raised through further issuances of equity or convertible debt securities, existing shareholders could suffer significant dilution. Any debt financing secured in the future could involve restrictive covenants relating to capital raising activities and other financial and operational matters, which may make it more difficult for the Company to obtain additional capital and to pursue business opportunities, including potential acquisitions.

*Limited Operating History*

The Company has a limited operating history, which can make it difficult for investors to evaluate the Company's operations and prospects and may increase the risks associated with investment in the Company.

The Company is expected to be subject to many of the risks common to early-stage enterprises for the foreseeable future, including challenges related to laws, regulations, licensing, integrating and retaining qualified employees; making effective use of limited resources; achieving market acceptance of existing and future products; competing against companies with greater financial and technical resources; acquiring and retaining customers; and developing new solutions.

*Holography Market-Aviation Industry*

The Company launched its first product, a laser protection eyewear, named metaAIR®, in March 2019, with a primary focus on the aviation market. The product offers unique performance and benefits over the competition and is the only industry-approved solution to date. The Company has co-developed this product with Airbus through a strategic partnership. Airbus further extended its support by introducing the Company to Satair, an Airbus owned company, which became the global distribution partner for metaAIR® to the aviation market. Since 2016, Airbus and Satair invested a total of USD $2,000,000 for the product development and exclusive distribution rights. Since the launch of metaAIR in March 2019, the Company has sold fifty units to its distributor Satair. The Company is currently in the process of increasing its marketing and sales capacity.

Despite the Company's close collaboration with the Airbus Group, with the impact of COVID-19 there can be no assurance that the aviation market will accept the metaAIR® product at the expected market penetration rates and a slower than forecasted market acceptance may have a material adverse effect on the Holography laser protection related products and the Company's financial position. The Company is pursuing ancillary markets outside of the Aviation Industry for its metaAIR laser protection eyewear such as in law enforcement and defense.

*Lithography Product and Market-Automotive*

The Lithography related products have not yet reached the required technical maturity and are expected to be launched in two to three years' time after a successful product development completion. Despite the Company's close collaboration with two automotive partners, there can be no assurance that the automotive market will accept the NanoWeb® product at the expected market penetration rates and a slower than forecasted market acceptance may have a material adverse effect on the Lithography de-icing related products and the Company's financial position.

*Change in Laws, Regulations and Guidelines*

The current and proposed operations of the Company are subject to a variety of laws, regulations and guidelines relating to production, the conduct of operations, transportation, storage, health and safety, medical device regulation and the protection of the environment. These laws and regulations are broad in scope and subject to evolving interpretations, which could require the Company to incur substantial costs associated with compliance or alter certain aspects of its business plan. In addition, violations of these laws, or allegations of such violations, could disrupt certain aspects of the Company's business plan and result in a material adverse effect on certain aspects of its planned operations.

The Company launched a new product metaAIR® in March 2019 to provide laser glare protection to pilots in the airline industry. Currently, metaAIR® is not subject to any Federal Aviation Administration regulations, however, metaAIR® may become subject to evolving regulation by governmental authorities as metaAIR market evolves

further.

*New Facility and Permits for Lithography Production*

The Company's plans to scale its lithography production in Canada is dependent on obtaining adequate additional funding. The Company has announced plans to move into a larger facility suitable to host the Holography and Lithography production scale up as the current facility in Canada does not have enough space or capability for a production line for Lithography. Lithography is a wet chemistry process which requires specific approvals from the local government to allow use of certain chemicals and their disposal.

Any delay in setting up the facility and receiving permits may impact launch and/or development of related products, and also may have a material adverse effect on the Lithography and Holography related products and consequently on the Company's financial position.

*Raw Material Source*

The Company purchases its holographic raw materials from a tier 1 German manufacturer, which is a single source supplier. Disruption in supply from this supplier may cause a material adverse effect on the Holography related products.

*Intellectual Property*

The success of the Company will depend, in part, on the ability of the Company to maintain and enhance intellectual property and trade secret protection over various existing and potential proprietary techniques and products. The Company may be vulnerable to competitors who develop competing technology, whether independently or as a result of acquiring access to the proprietary products and trade secrets. In addition, effective future patent, copyright, trademark, and trade secret protection may be unavailable or limited in certain foreign countries and may be unenforceable under the laws of certain jurisdictions.

*Research and Market Development*

Although the Company, itself and through its investments, is committed to researching and developing new markets and products and improving existing products, there can be no assurances that such research and market development activities will prove profitable or that the resulting markets and/or products, if any, will be commercially viable or successfully produced and marketed. A failure in the demand for products to materialize as a result of competition, technological change or other factors could have a material adverse effect on the business, results of operations and financial condition of the companies in which the Company has or will invest in, and consequently, on the Company.

*Costs of Maintaining a Public Listing*

As a public company, there are costs associated with legal, accounting, and other expenses related to regulatory compliance. Securities legislation and the rules and policies of the CSE require listed companies to, among other things, adopt corporate governance and related practices, and to continuously prepare and disclose material information, all of which add to a company's legal and financial compliance costs. The Company may also elect to devote greater resources than it otherwise would have on communication and other activities typically considered important by publicly traded companies.

*Product Liability Claims*

The Company's wireless sensing technology to enhance MRI imaging and non-invasive Glucowise™ monitoring is under development. The Company has performed many experiments on animals and humans and will continue to perform additional experiments as needed to continue the development of the related products.

Any product liability claims or regulatory action against the Company related to wireless sensing products could have a material adverse effect on this business segment of the Company and/or on the Company.

*Reliance on Management*

The success of the Company is dependent upon the ability, expertise, judgment, discretion, and good faith of its

senior management. Any loss of the services of such individuals could have a material adverse effect on the Company's business, operating results, or financial condition.

*Currency Fluctuations*

The Company's revenues and expenses are denominated in Canadian dollars, US dollars, and British Pounds, and therefore are exposed to significant currency exchange fluctuations. Recent events in the global financial markets have been coupled with increased volatility in the currency markets. Fluctuations in the exchange rate between the US dollar, the Canadian dollar and the British pound may have a material adverse effect on the Company's business, financial condition, and operating results. The Company may, in the future, establish a program to hedge a portion of its foreign currency exposure with the objective of minimizing the impact of adverse foreign currency exchange movements. However, even if the Company develops a hedging program, there can be no assurance that it will effectively mitigate currency risks.

*Resale of Shares*

There can be no assurance that, an active and liquid market for the Company's common shares will develop or be maintained and an investor may find it difficult to resell any securities of the Company. In addition, there can be no assurance that the publicly traded price of the Company's common shares (META's common shares) will be high enough to create a positive return for investors. Further, there can be no assurance that META's common shares will be sufficiently liquid so as to permit investors to sell their position in META without adversely affecting the stock price. In such event, the probability of resale of META's common shares would be diminished.

*Price Volatility of Publicly Traded Securities*

In recent years, the securities markets in the United States and Canada have experienced a high level of price and volume volatility, and the market prices of securities of many companies have experienced wide fluctuations in price which have not necessarily been related to the operating performance, underlying asset values or prospects of such companies. There can be no assurance that continuing fluctuations in price will not occur. It may be anticipated that any quoted market for META's common shares will be subject to market trends generally, notwithstanding any potential success of the Company in creating revenues, cash flows or earnings. The value of META's common shares will be affected by such volatility.

*Dividends*

The Company has not paid dividends in the past, and the Company does not anticipate paying any dividends in the foreseeable future. Dividends paid by the Company would be subject to tax and, potentially, withholdings.

*Insurance Coverage*

The Company will require insurance coverage for a number of risks. Although the management of the Company believes that the events and amounts of liability covered by its insurance policies will be reasonable, taking into account the risks relevant to its business, and the fact that agreements with users contain limitations of liability, there can be no assurance that such coverage will be available or sufficient to cover claims to which the Company may become subject. If insurance coverage is unavailable or insufficient to cover any such claims, the Company's financial resources, results of operations and prospects could be adversely affected.

*Litigation*

The Company may become party to litigation from time to time in the ordinary course of business which could adversely affect its business. Should any litigation in which the Company becomes involved be determined against the Company, such a decision could adversely affect the Company's ability to continue operating and the market price for the common shares and could use significant resources. Even if the Company is involved in litigation and wins, litigation can redirect significant resources.

*Conflicts of Interest*

Certain of the Company's directors and officers are, and may continue to be, involved in other business ventures through their direct and indirect participation in corporations, partnerships, joint ventures, etc. that may become

potential competitors of the technologies, products and services the Company intends to provide. Situations may arise in connection with potential acquisitions or opportunities where the other interests of these directors and officers conflict with or diverge from the Company's interests. In accordance with applicable corporate law, directors who have a material interest in or who are a party to a material contract or a proposed material contract with the Company are required, subject to certain exceptions, to disclose that interest and generally abstain from voting on any resolution to approve the contract. In addition, the directors and officers are required to act honestly and in good faith with a view to the Company's best interests. However, in conflict of interest situations, the Company's directors and officers may owe the same duty to another company and will need to balance their competing interests with their duties to the Company. Circumstances (including with respect to future corporate opportunities) may arise that may be resolved in a manner that is unfavorable to the Company.

## CRITICAL ACCOUNTING POLICIES AND ESTIMATES

The preparation of the consolidated financial statements in accordance with IFRS requires management to make certain estimates, judgments and assumptions that affect the reported amounts of assets and liabilities at the date of the consolidated financial statements and reported amounts of revenues and expenses during reporting . Actual results could differ materially from those estimates and would impact future results of operations and cash flows. For more information about the Company's accounting policies and estimates, please refer to note 2 and 3 of the audited consolidated financial statements of Metamaterial Inc. for the year ended December 31, 2020. The Company has identified certain accounting policies that it believes are most critical in understanding the judgments that are involved in producing the consolidated financial statements and the estimates made that could impact results of the operations, which are discussed below.

### *Critical accounting policies*

*Government grants and assistance*

Government grants are recognized at their fair value in the period when there is reasonable assurance that the conditions attaching to the grant will be met and that the grant will be received. Grants are recognized as income over the periods necessary to match them with the related costs that they are intended to compensate. When the grant relates to an asset, it is recognized as income over the useful life of the depreciable asset by way of a government assistance.

The Company also receives interest-free repayable loans from the Atlantic Canada Opportunities Agency ("ACOA"), a government agency. The benefit of the loan at a below-market rate of interest is treated as a government grant, measured as the difference between proceeds received and the fair value of the loan based on prevailing market interest rates. The fair value of the components, being the loan and the government grant, must be calculated initially in order to allocate the proceeds to the components. The valuation is complex, as there is no active trading market for these items and is based on unobservable inputs.

*Financial Instruments*

Financial assets and financial liabilities are recognized when the Company becomes a party to the contractual provisions of a financial instrument. Financial assets and financial liabilities are initially measured at fair value. Financial assets are classified into one of the following specified categories: amortized cost, or fair value through profit or loss ("FVTPL"). Transaction costs that are directly attributable to the acquisition or issue of financial assets and financial liabilities (other than financial assets and financial liabilities classified as FVTPL) are added to, or deducted from, the fair value of the financial assets or financial liabilities, as appropriate, on initial recognition. Transaction costs directly attributable to the acquisition of financial assets or financial liabilities classified as FVTPL are recognized immediately in the audited statement of loss and comprehensive loss.

The Company's financial instruments are classified and subsequently measured as follows:

| Financial asset/liability | Classification and measurement |
|---|---|
| Cash and cash equivalents | Amortized cost |
| Grants receivable | Amortized cost |
| Other receivables | Amortized cost |
| Trade payables | Other financial liabilities at amortized cost |
| Due to related party | Other financial liabilities at amortized cost |
| Derivative liability | Fair value through profit and loss |
| Funding obligation | Amortized cost |
| Secured convertible promissory notes | Amortized cost |
| Unsecured convertible promissory notes | Fair value through profit and loss |
| Secured convertible debentures | Fair value through profit and loss |
| Unsecured convertible debentures | Fair value through profit and loss |
| Lease liabilities | Amortized cost |
| Long-term debt | Loans and borrowings at amortized cost |

*Financial Assets*

Subsequent to initial recognition, financial assets classified as loans and receivables are measured at amortized cost using the effective interest method.

*Financial Liabilities*

Financial liabilities are classified as and are measured at either amortized cost subsequent to initial measurement at fair value or, as noted in the above chart, at FVTPL.

***Critical accounting estimates***

*Share-based payments and Warrants*

The Company makes certain estimates and assumptions when calculating the estimated fair values of stock options granted and warrants issued. The significant assumptions used include estimates of expected life, expected volatility, expected dividend yield and expected risk-free rate of return. Changes in these assumptions may result in a material change to the expense recorded for grants of stock options and the issuance of warrants.

*Valuation of financial liabilities at fair value through profit or loss*

The convertible debt instruments contain embedded derivatives. The Company accounts for these financial liabilities at fair value thought profit or loss. This requires determination of the most appropriate valuation model and the most appropriate inputs to the valuation model including the probability of conversion, and discount rate to be used.

*Impairment of non-financial assets*

Assessment of impairment triggers are based on management's judgement of whether there are sufficient internal and external factors that would indicate an asset or cash generating unit ["CGU'] is impaired, or any indicators of impairment reversal. The determination of the Company's CGUs is also based on management's judgement and is an assessment of the smallest group of assets that generate cash inflows independently of other assets.

The Company's estimate of the recoverable amount for the purpose of impairment testing requires management to make assumptions regarding future cash flows before taxes. Future cash flows are estimated based on budgets and a terminal value calculated by discounting the final year in perpetuity. The future cash flows are then discounted to their present value using an appropriate discount rate.

*Income Taxes*

The Company is subject to income tax in various jurisdictions. Significant judgement is required to determine the consolidated tax provision. The tax rates and tax laws used to compute income tax are those that are enacted or substantively enacted at the reporting date in the countries where the Company operates and generates taxable income.

***New accounting standards and interpretations issued and adopted***

The following amended IFRS pronouncements were adopted effective January 1, 2020 and had no impact to the Company's financial statements:

*IAS 1 – Presentation of Financial Statements and IAS 8 – Accounting Policies, Changes in Estimates and Errors*

On October 31, 2018, the IASB issued amendments to IAS 1 Presentation of Financial Statements and IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors. These amendments clarify the definition of 'material' and aligns the definition used within the IFRS Standards. The effective date of the amendment is for annual periods beginning on or after January 1, 2020 and is to be applied prospectively.

*IFRS 3 – Business Combinations*

On October 22, 2018 the IASB issued an amendment to IFRS 3 Business Combinations to narrow the definition of a business and introduce a screening test, which eliminates the requirement for a detailed assessment of the definition, when met. The effective date of the amendment is for annual periods beginning on or after January 1, 2020 and is to be applied prospectively.

***New accounting standards and interpretations not yet adopted***

The IASB issued the following standards that have not been applied in preparing these consolidated financial statements as their effective dates fall within annual periods beginning subsequent to the current reporting period.

*Classification of Liabilities as Current or Non-current (Amendments to IAS 1)*

On January 23, 2020, the IASB issued amendments to IAS 1 Presentation of Financial Statements, to clarify the classification of liabilities as current or non-current. On July 15, 2020 the IASB issued an amendment to defer the effective date by one year. The amendments removed the requirement for a right to defer settlement or roll over of a liability for at least twelve months to be unconditional. Instead such a right must have substance and exist at the end of the reporting period. The amendments are effective for annual periods beginning on or after January 1, 2023. Early adoption is permitted.

The application of this amendment is not expected to have a material impact to the Company.

*Property, Plant and Equipment — Proceeds before Intended Use (Amendments to IAS 16)*

On May 14, 2020, the IASB issued Property, Plant and Equipment — Proceeds before Intended Use (Amendments to IAS 16). The amendments clarify that proceeds from selling items before the related item of Property, Plant and Equipment is available for use should be recognised in profit or loss, together with the cost of producing those items. The amendments are effective for annual periods beginning on or after January 1, 2022. Early adoption is permitted.

The application of this amendment is not expected to have a material impact to the Company.

*Onerous Contracts – Cost of Fulfilling a Contract (Amendments to IAS 37)*

On May 14, 2020, the IASB issued Onerous Contracts – Cost of Fulfilling a Contract (Amendments to IAS 37). This amendment clarifies which costs are included as a cost of fulfilling a contract when determining whether a contract is onerous. The amendments are effective for annual periods beginning on or after January 1, 2022 and apply to

contracts existing at the date when the amendments are first applied. Early adoption is permitted.

The application of this amendment is not expected to have a material impact to the Company.

There are no other standards, interpretations or amendments to existing standards that are not yet effective that are expected to have a material impact on the consolidated financial statements of the Company.

## SUBSEQUENT EVENTS

On January 4, 2021 and January 27, 2021, the Company received two more tranches of the 'Bridge Loan' of $500,000 each. On February 11, 2021, the remainder of the 'Bridge Loan' of $4,000,000 was received. On February 16, 2021, the total 'Bridge Loan' of $5,526,082 of principal and accrued interest was converted at $0.50 per share into 11,052,164 shares of the Company, in accordance with the terms of the bridge financing announced on December 20, 2020.

On January 14, 2021, the Company entered into a cash use agreement with an entity related to a shareholder where the Company is allowed access to cash in the amount of $1,000,000 in order to obtain a letter of credit of EUR 600,000 in connection with the acquisition of certain assets previously owned by Interglass Technology AG (note 25).

On February 16, 2021, the Company converted $1,936,984 of principal and accrued interest of convertible debentures at $0.70 per share into 2,767,120 common shares of the Company in accordance with the terms of their debt instruments.

On February 18, 2021, as per the 'Arrangement Agreement' between Torchlight Energy Resources Inc. and the Company, Torchlight loaned US$10,000,000 as unsecured convertible promissory note bearing interest at 8% per annum, repayable in full on February 18, 2022. If the Arrangement Agreement is terminated or expires without the completion of the Arrangement, Torchlight will have the right to convert all or any portion of the principal amount and any accrued but unpaid interest under the Promissory Note into the common shares of META (the "Common Shares") at a conversion price of C$2.80 per Common Share (subject to adjustment as described in the Promissory Note). Further, if the Arrangement is not completed, META will be obligated to repay to Torchlight the total unpaid balance of the principal and interest under the Promissory Note, to the extent not converted into Common Shares, on the Maturity Date.

On March 2, 2021, the Company forced conversion of the 10% senior secured convertible debentures due on October 31, 2024 held by BDC Capital Inc.("BDC"). The terms of the debenture issued to BDC enable the Company to force conversion of the principal and accrued interest on the debenture to common shares of the Company so long as the market performance of the Company's shares meets the specific metrics described in the debenture. In particular, the common shares of the Company are required to have traded on the CSE at a volume-weighted average price of greater than 100% of the Conversion Price of $1.40 per share defined in the debenture instrument for a period of 20 consecutive trading days with a minimum daily volume of at least 100,000 common shares. These conditions were met on March 2, 2021. In accordance with the terms of the certificate representing the debentures, the Company required mandatory conversion of $5,370,776 of principal and accrued interest at the specified price of $0.70 per share into 7,672,537 common shares of the Company, representing approximately 7% of the total outstanding shares. All security interests held by BDC on assets of the Company will be immediately discharged.

On March 12, 2021, the Company converted an amount of $261,735 owed to Fundo Capital de Risco Empreender Mais – Caixa Capital ("Caixa") into common shares of the Company at price per share of $3.87. A total of 67,597 common shares were issued to Caixa pursuant to this transaction.

On March 12, 2021, the Company held its annual general and special meeting where the special resolution (the "Arrangement Resolution") relating to the proposed plan of arrangement between Torchlight Energy Resources, Inc. ("Torchlight") and META (the "Business Combination Transaction") was approved.

On March 12, 2021, the Company entered into a letter of intent with Rank Incorporated and Page Property Management (the "Landlord") to amend the lease agreement for its Highfield facility (the "Highfield Facility"), located in Dartmouth, Nova Scotia and thus expanding the space by about 15,000 square feet, to approximately 68,000

square feet. In addition to holography and lithography R&D labs and the next phase of META's development of roll-to-roll processes, the expanded space will include a new customer center for training and technology transfer.

In exchange for the Landlord's agreement to expand the rentable square footage in the Company's lease at Highfield Park Drive, their further agreement to reduce the annual rent for the 10-year term of the lease by $2,699,250, and their agreement to provide the Company with $500,000 in cash for on-going tenant improvements, the Landlord agreed to subscribe to 990,480 common shares of the Company at $3.23 per common share, representing a 15% discount to the closing price of the common shares on the Canadian Securities Exchange on March 11, 2021.

On March 16, 2021, the Company converted an amount of $367,944 owing to its creditor Lamda Guard Technologies Ltd. ("LGTL") into 81,584 shares of the common shares of the Company for a price per share of $4.51. The purchase price of $4.51 per share represents a 10% premium to the $4.10 closing price of META shares on the CSE at the close on March 12, 2021.

Subsequent to December 31, 2020, 96,867 stock options, 44,497 warrants and 33,242 broker warrants were exercised.

## FURTHER INFORMATION

**Additional information relating to Metamaterial Inc. is also available on the SEDAR website www.sedar.com and in the Press Release section of the Company's website www.metamaterial.com**