

**GRAPHENE 3D LAB INC.**  
**Management Discussion and Analysis**  
**For the six months ended November 30, 2016**

*This Management Discussion and Analysis of Graphene 3D Lab Inc. (the “Company” or “Graphene 3D”) provides analysis of the Company’s financial results for the six months ended November 30, 2016 and 2015. The following information should be read in conjunction with the condensed interim consolidated financial statements and the notes thereto for the six months ended November 30, 2016, which are prepared in accordance with International Financial Reporting Standards. All amounts are expressed in US dollars unless otherwise noted. Canadian dollars are indicated by the symbol “C\$”. This Management Discussion and Analysis should also be read in conjunction with the audited financial statements of Graphene 3D Lab Inc. and the accompanying notes for the year ended May 31, 2016, which were also prepared in accordance with IFRS.*

*This discussion contains forward-looking statements and information that are based on the beliefs of management and reflect the Company’s current expectations. When used in this Discussion, the words “estimate”, “project”, “belief”, “anticipate”, “intend”, “expect”, “plan”, “predict”, “may” or “should” and the negative of these words or such variations thereon or comparable terminology are intended to identify forward-looking statements and information. Such statements and information reflect the current view of the Company with respect to risks and uncertainties that may cause actual results to differ materially from those contemplated in those forward-looking statements and information.*

*By their nature, forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the Company’s actual results, performance or achievements, or other future events, to be materially different from any future results, performance or achievements expressed or implied by such forward-looking statements. Such factors include, among others, the following risks: risks associated with the marketing and sale of securities, the need for additional financing, reliance on key personnel, the potential for conflicts of interest among certain officers or directors with certain other projects, and the volatility of the Company’s common share price and volume. Forward-looking statements are made based on management’s beliefs, estimates and opinions on the date that statements are made and the Company undertakes no obligation to update forward-looking statements if these beliefs, estimates and opinions or other circumstances should change. Investors are cautioned against attributing undue certainty to forward-looking statements.*

*There are a number of important factors that could cause the Company’s actual results to differ materially from those indicated or implied by forward-looking statements and information. Such factors include, among others, risks related to Graphene 3D’s proposed business such as failure of the business strategy, stable supply prices, demand and market prices for 3D printing products, and government regulation; risks related to Graphene 3D’s operations, such as additional financing requirements and access to capital, reliance on key and qualified personnel, insurance, competition, intellectual property and reliable supply chains; risks related to Graphene 3D and its business generally such as potential exposure to tax under Canadian and US income tax laws, laws and regulations relating to cross-border mergers and acquisitions, infringement of intellectual property rights, product liability, environmental protection, currency exchange rates and conflicts of interest.*

*The Company cautions that the foregoing list of material factors is not exhaustive. When relying on the Company’s forward-looking statements and information to make decisions, investors and others should carefully consider the foregoing factors and other uncertainties and potential events. The Company has assumed a certain progression, which may not be realized. It has also assumed that the material factors referred to in the previous paragraph will not cause such forward-looking statements and information to differ materially from actual results or events. However, the list of these factors is not exhaustive and is subject to change and there can be no assurance that such assumptions will reflect the actual outcome of such items or factors. While the Company may elect to, it does not undertake to update this information at any particular time.*

### **1.1 Date of Report**

This report is prepared as of January 30, 2017.

## **1.2 Company Overview**

Graphene 3D Lab Inc. (the “Company” or “Graphene 3D”), formerly MatNic Resources Inc. (“MatNic”) was incorporated pursuant to the British Columbia Business Corporations Act on January 17, 2011. On August 8, 2014, the Company acquired Graphene 3D Lab (U.S.) Inc. (“Graphene 3D U.S.”) through a reverse acquisition/takeover transaction (“Transaction”). Graphene 3D U.S. was incorporated on September 3, 2013 in the State of Delaware, U.S.A. The founders of the corporation include Daniel Stolyarov, Ph.D, Co-CEO and Elena Polyakova, Ph.D, Co-CEO. Founding team members have many years’ worth of combined experience in 3D printing, material production, R&D, and the commercialization of new materials.

In association with the Transaction, MatNic changed its name to Graphene 3D Lab Inc. and concurrent with the closing of the transaction, the Company effected a change in directors, management and business. On August 11, 2014 the Company’s common shares resumed trading on the TSX Venture Exchange (“TSX-V”) under the symbol “GGG.” On October 7, 2014, the Company began trading on OTCQB, the venture marketplace for entrepreneurial and development stage companies operated by OTC Markets Group, under the symbol “GPHBF”.

On August 12, 2015, the Company entered a Share Exchange Agreement (“SEA”) to acquire all of the issued and outstanding shares of Graphene Laboratories Inc. (“GLI”). This transaction was reviewed and accepted for filing by the TSX Venture Exchange and closed on December 8, 2015. Graphene Laboratories now operates as a wholly-owned subsidiary of Graphene 3D.

## **1.3 Nature of Business**

Graphene 3D is in the business of developing, manufacturing, and marketing proprietary polymer nanocomposite graphene-based materials for a number of industries including the aerospace and automotive industries, manufacturers of medical prosthetics and the military as well as the various types materials for 3D printing, such as fused filament fabrication. Graphene 3D currently has seven (7) US patent applications pending for its technology.

The Company also holds a provisional patent relating to the manufacture and processing of graphene. Graphene is a novel material with a variety of outstanding properties. It is currently available in the market at various grades, with performance characteristics such as mechanical strength, and conductivity improving with fewer atomic layers. Graphene Laboratories patented manufacturing process provides proof of concept to allow for a low-energy, chemical-free manufacture designed to achieve high-grade graphene material at a projected industry leading low cost. The Company has begun planning on a two-phased development program to advance this manufacturing process from bench-top prototype to a large-scale manufacturing operation.

Graphene Laboratories is a leader in manufacturing and retailing of graphene and advanced materials, and owns Graphene Supermarket ([www.graphene-supermarket.com](http://www.graphene-supermarket.com)), a leading supplier of such products to customers around the globe. The Company’s client list is comprised of more than 10,000 customers worldwide, including nearly every Fortune 500 tech company and major research university. Some notable clients are: NASA, Ford Motor Co., GE, Apple, Xerox, Samsung, Harvard University, IBM and Stanford University. The addition of GLI’s business and graphene product lines will complement and expand the Company’s existing business of research, development and production of polymer nanocomposite graphene-based filaments for fused filament fabrication in 3D printers.

The Company is also rapidly moving from principally a research and development focus to creating a variety of revenue models. The Company has established a revenue channel with its functional 3D filaments and is now expanding its revenue opportunities as a leading graphene manufacturer. The acquisition of Graphene Laboratories allows the Company to work with advanced material polymers to expand into markets beyond the 3D printing sector.

The Company’s facility is located in Calverton, NY and is equipped with material processing and analytical equipment. Additional information on Graphene 3D is located at [www.graphene3dlab.com](http://www.graphene3dlab.com).

## **R&D Materials**

Graphene 3D is a world leader in the development, manufacturing and marketing of graphene and other 2D crystals as well as composites based on these nanomaterials. These diverse materials have a wide spectrum of commercial, research and military applications.

## **Materials for 3D Printing**

The 3D printing division of the Company offers a portfolio of specialty fused filament fabrication filaments. These materials can be purchased through multiple distribution networks worldwide or directly online at [www.blackmagic3D.com](http://www.blackmagic3D.com).

The Company invested heavily into production equipment in 2015 to establish a fully operational production line which allowed the Company to bring to market the first 3D printable conductive graphene filament. The Company's manufacturing capabilities of specialty filaments were best demonstrated with the release of the Ferro-Magnetic and Nylon filaments. Graphene's expectations for the upcoming months include introducing several new filaments with innovative properties that will meet the needs of its growing customer base.

## **Industrial Materials Division**

The Company's recently created Industrial Materials Division develops high volume graphene-infused polymers targeted for automotive, robotics, drone, aerospace, and military industries. The new division called for the installation of a state of the art ThermoFisher "Process 11" twin-screw extruder. This specialized equipment proved to be a vital step in developing formulations for advanced composite materials by increasing the quality while reducing the duration of each production run. The twin-screw extruder provides the means to evolve new proprietary recipes for advanced composite materials that can enhance new or existing products' properties by making them lighter, stronger, and more flexible than their current commercial rivals.

Graphene 3D's competitive edge can largely be attributed to the intertwining of all three business lines. The acquisition of Graphene Laboratories was a focal point for the 2016 fiscal year, helping to diversify the offerings of the Company as well as creating an operating synergy. Furthermore, the wealth of knowledge displayed by the Company's personnel combined with the production capabilities allowed for the continuation of innovative and commercialized products.

## **Industrial scale graphene production**

As a materials company, Graphene 3D is committed to manufacturing products with significant added value. To achieve high volume production of composites, it is essential to have a solid supply of high quality graphene material. In the last two years, the company has developed a unique approach to produce graphene nanoplatelets based on separating the graphene platelets from natural graphite feedstock. The Company anticipates an increased demand for its graphene composite materials used in 3D printing as well as other various applications. To meet this demand, the Company will need to scale its production of graphene nanoplatelets. The Company's proprietary graphene production method could be fully automated and run continuously. Upon the completion of the production facility upgrades, the Company anticipates that it will be capable of producing several kilograms of graphene on a daily basis. This advancement would allow for Graphene 3D to have full control of the supply chain with its offerings being as vast as basic materials to final graphene enabled products.

## **Graphene Manufacturing Process Patent**

The Company filed a non-provisional patent pertaining to the preparation and separation of atomic layers of graphene. This technological breakthrough represents a new, energy and chemically efficient process to manufacture, sort and classify graphene nanoparticles resulting in the potential for large scale production of high grade graphene. This patent relates to graphene nanoplatelets (GNP). Specifically the patent covers a new, energy efficient, not chemically invasive, process that significantly lowers the cost of preparing and separating high quality, few atomic layer thick GNP. The application claims priority to provisional application No. 62/058,313, filed on October 1, 2014.

The business implications associated with this filing are significant and near term. The extraordinary qualities of graphene have positioned it as one of the most sought after materials in research and development since its discovery in 2004. However, up to now, the high-cost of quality material has generally restricted its use to R&D labs. The Company is changing that and looks forward to offering these benefits to the client base and to others who will now utilize graphene in mainstream manufacturing. To date, the manufacturing of graphene has been restricted to manual intensive, high-energy, toxic chemical processes to allow for the production of the highest quality graphene. The Graphene 3D patent intends a low-cost, low-energy, primarily automated, toxic free method of producing and classifying the highest purity graphene nanoplatelets.

The Company has produced a bench-top working prototype of this manufacturing and classification technology. Over the next 12-18 months, and subject to financing, the Company intends to manufacture and put in place a scaled-up operation.

The Company expects the unique combination of high-quality, low-cost graphene will significantly impact the commercial marketplace, and will allow an ever widening variety of manufacturers to consider incorporating the extraordinary qualities of graphene in wide range of materials from batteries to consumer electronics to plastics.

#### **1.4 Highlights for the Six Months Ended November 30, 2016 and the Period Subsequent to January 30, 2017**

##### **Collaborative Projects**

###### *Toner Plastics Inc.*

In August 2016, the Company signed an MOU with Toner Plastics Inc. (“Toner Plastics”) which will call for joint research, development, and production of specialty 3D printing filaments. As subject to the final agreement, Graphene 3D will develop formulations for the specialty filaments while conducting tests and quality control measurements. The Company will also provide its extensive knowledge in marketing the specialty 3D printing filaments. Toner Plastics will be involved in the manufacturing and packaging of the specialty 3D printing filaments. These products will be distributed by both companies including the e-commerce web store, [www.blackmagic3D.com](http://www.blackmagic3D.com), operated by Graphene 3D. According to the terms of the MoU, Graphene 3D is entitled to a royalty payment for filaments manufactured using the formulations developed by the Company.

##### **Corporate Developments**

In July 2016, the Company introduced a new single-layer graphene oxide material to its product line – “ORG-GO”. This new material can be easily dissolved in a variety of organic solvents and can achieve ultrahigh concentrations with thermal stability. The introduction of this material allows for the effective dispersion of graphene materials in resins and solvents traditionally used in large-scale manufacturing.

In October 2016, the Company introduced a newly developed filament to its product line – “Conductive Flexible TPU Filament”. This new filament for 3D printing is both electrically conductive and flexible. It is ideal for applications involving flexible sensors, electromagnetic/radiofrequency shielding, flexible conductive traces and electrodes to be used in wearable electronics.

In October 2016, the Company also developed “G6-Impact<sup>TM</sup>”, a graphene composite material intended for users in the automotive, robotics, drone, aerospace industries and military sectors. The Company has filed a provisional patent application covering methods of production and formulation as well as the potential applications of the G6-Impact<sup>TM</sup> material. G6-Impact<sup>TM</sup> will be released both in the form of a filament suitable for 3D printing and in the pellet form for injection molding or thermoforming.

In November 2016, the Company entered into an MOU with Stony Brook University to collaborate with the University’s divisions of Center for Integrated Electrical Energy Systems (“CIEES”) and Center for Advanced Technology in Sensors. Graphene 3D will supply advanced carbon nano-composites materials to CIEES needed to manufacture and test lithium-ion electrical batteries. The Company will also have access to the CIEES facilities to perform structural and chemical analysis for quality assurance measurements. The MOU will be in effect for an initial term of one year with the possibility of an extension.

##### **Management Team Changes**

In July 2016, Mr. Robert Randall resigned from his role as CFO of Graphene 3D. The Company then appointed Mr. Robert Scott to the management team as the new Chief Financial Officer and Mr. Jeffrey Dare to the vacant Corporate Secretary position.

As a CPA, CA, and CFA charterholder, Robert Scott brings more than 20 years of professional experience in corporate finance, accounting and merchant/commercial banking. Mr. Scott earned his CFA in 2001, his CA designation in 1998 and has a B.Sc. from the University of British Columbia. He is a Founder and President of Corex Management Inc., a private company that provides accounting, administration, and corporate compliance services to both privately held and publicly traded companies. Mr. Scott has a strong track record of running cost effective operations as he has served on the management teams and boards of numerous publicly traded Canadian companies. Mr. Scott has also listed several companies on the TSX Venture Exchange, gaining extensive IPO, RTO, regulatory and reporting experience. He currently

serves as the CFO of Riverside Resources Inc. (TSXV: RRI) and Nickel One Resources Inc. (TSXV: NNN) as well as being a board member of Genesis Metals Corp. (TSXV: GIS) and Mongolia Growth Group Ltd (TSXV: YAK).

Jeffrey Dare has over 8 years of professional experience with respect to managing external reporting and corporate compliance for TSX Venture Exchange listed issuers. He currently serves as the Corporate Secretary for Riverside Resources Inc. (TSX-V: RRI), Kivalliq Energy Corporation (TSX-V: KIV), Nickel One Resources Inc. (TSX-V: NNN), Bluestone Resources Inc. (TSX-V: BSR), and Corex Management Inc., a private administration company. At Corex Management Inc. he also advises numerous private companies that span through different industries and jurisdictions. Mr. Dare works closely with external partners and service providers in the areas of legal, compliance, transfer agency, audit, banking and insurance. Mr. Dare earned a BA from Simon Fraser University and has completed the Canadian Securities Course.

## **Financial Update**

On July 11, 2016, the Company closed a non-brokered private placement financing issuing 3,766,600 units at a price of C\$0.16 per unit for gross proceeds of \$459,097 (C\$602,656). Each unit consists of one common share and one non-transferable common share purchase warrant. Each warrant entitles the holder to purchase one additional common share at a price of C\$0.25 until July 11, 2018. In connection with the private placement financing the Company incurred share issue costs of \$15,998.

On August 4, 2016, the Company granted 690,000 stock options to directors, employees and consultants of the Company exercisable at C\$0.21 per share for a period of five years from the date of grant and vested immediately.

In September 2016, the Company closed a non-brokered private placement financing issuing 3,293,750 units at C\$0.16 per unit for gross proceeds of \$400,614 (C\$527,000). Each unit consists of one common share and one non-transferable common share purchase warrant. Each warrant is exercisable into one common share for a period of two years from closing at a price of C\$0.25 per share. In aggregate, the financing was subject to the following finders' fees: \$21,663 of cash commission and 178,063 finders' warrants exercisable at C\$0.25 for a period of two years.

On September 13, 2016, 200,000 stock options were granted to an officer of the Company exercisable at C\$0.21 per share for 5 years expiring September 13, 2021. The options vested on November 24, 2016.

During the six months ended November 30, 2016, 150,000 warrants were exercised for \$7,927 (C\$10,500).

As at November 30, 2016, the Company has 56,620,804 (May 31, 2016 – 49,410,454) issued and outstanding common shares of which 10,175,667 (May 31, 2016 – 12,833,576) are subject to escrow agreements.

## **Subsequent Events**

In December 2016, an additional 60,000 common shares were released from escrow.

In January 2017, 610,000 share purchase warrants expired unexercised.

Subsequent to period end, 350,000 warrants were exercised for gross proceeds of \$18,521 (C\$24,500).

### **1.5 Acquisition of Graphene Laboratories Inc.**

On December 8, 2015, the Company closed a non-arm's length share exchange agreement (the "SEA") to acquire all of the issued and outstanding shares of Graphene Laboratories Inc. GLI is incorporated under the laws of the Commonwealth of Massachusetts, U.S.A, and is controlled and managed by Co-Chief Executive Officers of the Company.

As part of the GLI acquisition, the Company acquired certain intellectual property, including a provisional patent relating to technology enabling cost efficient industrial scale manufacture and processing of graphene. The Company intends to develop this technology over the next few years. For more information, please refer to Note 3 in the accompanying financial statements.

## 1.6 Results of Operations

### Three months ended November 30, 2016 compared with the three months ended November 30, 2015

The Company's net loss for the three months ended November 30, 2016 totaled \$360,832 (2015 - \$466,653) or \$0.006 (2015 - \$0.011) per share.

Revenues and cost of goods sold increased compared to the previous comparative period as a result of increased operations and revenues generated from GLI which was acquired by Graphene 3D in December 2015.

Total operating expenses for the three months ended November 30, 2016 was \$420,565 (2015 - \$453,164). Expenses with significant changes from the previous comparative period are as follows:

- Salaries and benefits of \$94,511 (2015 - \$63,301) increased compared to the prior comparative period due to the inclusion of GLI salaries subsequent to the acquisition in December 2015.
- Professional fees of \$65,324 (2015 - \$94,757) decreased due to increased fees in the prior comparative period relating to the engagement of business advisory services and valuation services associated with the GLI acquisition.
- Marketing and investor relations of \$25,258 (2015 - \$63,427) decreased because Management took more conservative approach toward investor relation services.
- Office and administrative expenses of \$72,296 (2015 - \$35,367) includes rent, communication, insurance and other general office costs. As a result of the acquisition of GLI and expansion of operations, office and administrative expenses increased from the prior comparative period.
- Depreciation expense of \$28,825 (2015 - \$16,035) increased due to equipment acquired since the prior period.

### Six months ended November 30, 2016 compared with the six months ended November 30, 2015

The Company's net loss for the six months ended November 30, 2016 totaled \$477,992 (2015 - \$1,122,244) or \$0.009 (2015 - \$0.026) per share.

Revenues and cost of goods sold increased compared to the previous comparative period as a result of increased operations and revenues generated from GLI which was acquired by Graphene 3D in December 2015.

Total operating expenses for the six months ended November 30, 2016 was \$689,153 (2015 - \$1,100,723). Expenses with significant changes from the previous comparative period are as follows:

- Share-based compensation recovery of \$108,413 (2015 - expense \$237,981) was due to the cancellation and forfeiture of unvested options which resulted in a recovery.
- Professional fees of \$139,731 (2015 - \$182,587) decreased due to increased fees in the prior comparative period relating to the engagement of business advisory services and valuation services associated with the GLI acquisition.
- Marketing and investor relations of \$87,893 (2015 - \$121,639) decreased due increased fees in the prior comparative period relating to the engagement of promotional services associated with the GLI acquisition.
- Office and administrative expenses of \$144,846 (2015 - \$92,422) includes rent, communication, insurance and other general office costs. As a result of the acquisition of GLI and expansion of operations, office and administrative expenses increased from the prior comparative period.
- Depreciation expense of \$57,651 (2015 - \$32,070) increased due to equipment acquired since the prior period.

Research and development expenditures are summarized as follows:

|                                                    | Quarter<br>ended<br>Nov 30,<br>2016<br>\$ | Quarter<br>ended<br>Aug 31,<br>2016<br>\$ | Quarter<br>ended<br>May 31,<br>2016<br>\$ | Quarter<br>ended<br>Feb 29,<br>2016<br>\$ | Quarter<br>ended<br>Nov 30,<br>2015<br>\$ | Quarter<br>ended<br>Aug 31,<br>2015<br>\$ | Quarter<br>ended<br>May 31,<br>2015<br>\$ | Quarter<br>ended<br>Feb 28,<br>2015<br>\$ |
|----------------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
| Research personnel                                 | 74,621                                    | 37,678                                    | 31,381                                    | 38,201                                    | 73,525                                    | 50,176                                    | 102,890                                   | 41,573                                    |
| Research and development<br>equipment and supplies | 11,968                                    | 13,364                                    | 28,606                                    | 26,895                                    | 51,849                                    | 22,430                                    | 26,177                                    | 47,643                                    |
| Patent registration expense                        | 500                                       | 6,971                                     | 1,789                                     | 7,564                                     | -                                         | 8,398                                     | 5,380                                     | 9,732                                     |
| Total research and<br>development expenses         | 87,089                                    | 58,013                                    | 61,776                                    | 72,660                                    | 125,374                                   | 81,004                                    | 134,447                                   | 98,948                                    |

In the final quarter of fiscal 2015, the Company expanded its research and development activities with the hiring of additional personnel and incurred approximately \$60,000 associated with the design and development of a prototype 3D printer. These expenditures mostly leveled off in the subsequent quarters, with the exception of the November 2016 and November 2015 quarters which increased due to the addition of research contractors and personnel.

Many new recipes have been developed for 3D printing materials which are being optimized for production. The optimization requires large amounts of raw materials to be utilized which accounts for the increased R&D supplies expense in the previous year.

These research and development activities generated an important research, development and royalty agreement with a Fortune 500 listed manufacturer which was announced in December 2015. In April 2016, the Company was approved to move forward with the next task under this Agreement.

## 1.7 Summary of Quarterly Results

The following summary information is taken from the Company's quarterly and annual financial reports covering the last eight reporting quarters.

|                                                         | Quarter<br>ended<br>Nov 30,<br>2016<br>\$ | Quarter<br>ended<br>Aug 31,<br>2016<br>\$ | Quarter<br>ended<br>May 31,<br>2016<br>\$ | Quarter<br>ended<br>Feb 29,<br>2016<br>\$ | Quarter<br>ended<br>Nov 30,<br>2015<br>\$ | Quarter<br>ended<br>Aug 31,<br>2015<br>\$ | Quarter<br>ended<br>May 31,<br>2015<br>\$ | Quarter<br>ended<br>Feb 28,<br>2015<br>\$ |
|---------------------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
| Revenue                                                 | (235,449)                                 | (296,556)                                 | (416,088)                                 | (265,281)                                 | (58,369)                                  | (33,674)                                  | (41,056)                                  | -                                         |
| Cost of goods sold                                      | 163,906                                   | 133,318                                   | 342,714                                   | 136,062                                   | 71,858                                    | 41,706                                    | 47,159                                    | -                                         |
| Gross (profit) loss                                     | (71,543)                                  | (163,238)                                 | (73,374)                                  | (129,219)                                 | 13,489                                    | 8,032                                     | 6,103                                     | -                                         |
| Operating expenses                                      | 420,565                                   | 268,588                                   | 742,028                                   | 545,375                                   | 453,164                                   | 647,560                                   | 654,056                                   | 866,368                                   |
| Other expenses                                          | 11,810                                    | 11,810                                    | -                                         | -                                         | -                                         | -                                         | -                                         | -                                         |
| Net loss                                                | 360,832                                   | 117,160                                   | 668,654                                   | 416,156                                   | 466,653                                   | 655,592                                   | 660,159                                   | 866,368                                   |
| Comprehensive Loss                                      | 352,590                                   | 116,590                                   | 620,835                                   | 414,095                                   | 466,187                                   | 668,148                                   | 665,788                                   | 877,461                                   |
| Net loss per share (basic and diluted)                  | \$0.006                                   | \$0.002                                   | \$0.01                                    | \$0.01                                    | \$0.011                                   | \$0.015                                   | \$0.015                                   | \$0.02                                    |
| Total assets                                            | 1,505,418                                 | 1,477,573                                 | 1,273,546                                 | 1,797,074                                 | 380,893                                   | 617,560                                   | 1,022,322                                 | 1,464,651                                 |
| Shareholders' equity                                    | 1,125,977                                 | 1,078,817                                 | 886,158                                   | 1,326,499                                 | 110,735                                   | 552,484                                   | 951,090                                   | 1,399,030                                 |
| Weighted average number of<br>common shares outstanding | 55,987,631                                | 51,533,243                                | 45,264,917                                | 48,202,657                                | 41,164,954                                | 43,789,674                                | 43,387,500                                | 42,812,915                                |

The Company's revenue and margins showed significant improvement with the inclusion of the GLI business activities. The acquisition of GLI took effect on December 8, 2015 and as a result, the GLI reporting has only been consolidated with Graphene 3D since December 8, 2015.

During the quarter ended May 31, 2016, there was a one-time reclassification adjustment of cumulative selling costs incurred in the fiscal year. As a result of this reclassification made in the fourth quarter ended May 31, 2016, revenue and cost of goods sold increased and gross profit decreased in the period.

Operating expenses increased during the quarter ended May 31, 2016 in comparison to the quarter ended February 29, 2016 primarily due to stock-based compensation expense on the 2,500,000 options granted in March 2016 vesting immediately which had a value of \$327,424 that was expensed in the quarter. The decrease in operating expenses in the quarter ended August 31, 2016 was also a result of the higher stock-based compensation expense in the three months ended May 31, 2016, as well as due to the stock-based compensation recovery of \$135,384 from the forfeited unvested options in the current quarter.

The decrease in revenue from \$296,556 in the quarter ended August 31, 2016 to \$235,449 in the quarter ended November 30, 2016 is due to a transition period related to the partnership with Toner Plastics. The Company intends to outsource most of the production of the 3D printing filaments to Toner plastics. New operating procedures related to this mode of operation were being established in the quarter which caused some disturbance and inefficiencies in production. Management expects operations to normalize in the next quarter.

## 1.8 Selected Financial Information

The following table contains selected financial information for Graphene 3D for the year ended May 31, 2016 as compared to the year ended May 31, 2015, and the period commencing September 3, 2013, the date of incorporation, and ending May 31, 2014. The information set forth should be read in conjunction with the audited annual financial statements, prepared in accordance with International Financial Reporting Standards (“IFRS”), and the related notes thereon.

|                                         | Year ended<br>May 31, 2016<br>\$ | Year ended<br>May 31, 2015<br>\$ | Period ended<br>May 31, 2014<br>\$ |
|-----------------------------------------|----------------------------------|----------------------------------|------------------------------------|
| Revenue                                 | 773,412                          | 41,056                           | -                                  |
| Net loss                                | 2,207,055                        | 4,276,273                        | 177,673                            |
| Comprehensive Loss                      | 2,244,845                        | 4,306,207                        | 177,673                            |
| Net loss per share                      | \$0.05                           | \$0.11                           | \$0.01                             |
| Total assets                            | 1,273,546                        | 1,022,322                        | 97,227                             |
| Total non-current financial liabilities | 217,348                          | -                                | -                                  |

Non-current financial liabilities consist of the long-term portion of the finance lease obligation and deferred tax liability related to the acquisition of GLI in December 2015.

## 1.9 Liquidity and Capital Resources

As of November 30, 2016 the Company had working capital of \$601,331 (May 31, 2016 - \$304,246).

Cash and cash equivalents totaled \$386,013 as at November 30, 2016 (May 31, 2016 – \$131,138).

Cash used in operating activities during the six months ended November 30, 2016 was \$505,041 (2015 - \$621,813), including \$44,907 (2015 - \$230,381) of changes in working capital.

Cash used in investing activities during the six months ended November 30, 2016 was \$3,250 (2015 - \$15,799) from the purchase of equipment.

Cash generated from financing activities during the six months ended November 30, 2016 was \$816,979 (2015 - \$56,000) resulting primarily from shares issued private placements and warrants exercised.

At November 30, 2016, share capital totalled \$5,750,877 (May 31, 2016 - \$4,924,772) representing 56,620,804 (May 31, 2016 – 49,410,454) issued and outstanding common shares without par value. Warrant reserve was \$64,172 (May 31, 2016 - \$60,300) and contributed surplus was \$2,521,398 (May 31, 2016 - \$2,629,811). As a result of the net loss for the six months ended November 30, 2016 of \$477,992 (year ended May 31, 2016 –\$2,207,055), the deficit was \$7,138,993 as at November 30, 2016 (May 31, 2016 - \$6,661,001). Accordingly, net assets was \$1,125,977 at November 30, 2016 (May 31, 2016 - \$886,158).

The Company’s ability to meet its administrative expenses and complete its planned research and development activities and its ramp up of commercial operations is ultimately dependent upon management’s ability to secure additional financing. While management has been successful in obtaining funding in the past, there can be no assurance that it will be able to do so in the future.

## 1.10 Commitments

The Company entered into a finance lease that requires monthly payments of \$4,337 until March 1, 2019.

## 1.11 Off-Balance Sheet Arrangements

At November 30, 2016, the Company had no off-balance sheet arrangements such as guarantee contracts, contingent interest in assets transferred to an entity, derivative instruments obligations or any obligations that trigger financing, liquidity, market or credit risk to the Company.

### 1.12 Critical Accounting Estimates

The preparation of the consolidated financial statements in conformity with IFRS requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results may differ from those estimates. Estimates are reviewed on an ongoing basis based on historical experience and other factors that are considered to be relevant under the circumstances. These estimates involve considerable judgment and are, or could be, affected by significant factors that are out of the Company's control. Revisions to estimates and the resulting effects on the carrying amounts of the Company's assets and liabilities are accounted for prospectively.

All of the Company's significant accounting policies and estimates are included in note 3 to the May 31, 2016 audited consolidated financial statements of Graphene 3D Lab Inc.

### 1.13 Transactions with Related Parties

Parties are considered to be related if one party has the ability, directly or indirectly, to control the other party or exercise significant influence over the other party in making financial and operating decisions. Related parties may be individuals or corporate entities. Key management includes directors and officers of the Company. The Company entered into the following transactions with related parties:

- a) During the six months ended November 30, 2016, the Company paid professional fees to companies controlled by officers and directors of the Company in the amount of \$nil (2015 - \$77,611);
- b) During the six months ended November 30, 2016, the Company paid salaries to directors and officers of the Company in the amount of \$112,500 (2015 - \$112,500); and
- c) During the six months ended November 30, 2016, the Company issued 800,000 (2015 - 200,000) stock options with a fair value of \$117,917 (2015 - \$95,042) to directors and officers of the Company. For the six months ended November 30, 2016, \$117,917 (2015 - \$181,701) related party share-based compensation has been included in profit and loss.
- d) Prior to the Company's acquisition of GLI, during the six months ended November 30, 2015, the Company paid \$7,400 for reimbursement of rent, accounting, research and development and other expenses to GLI, a Company controlled by common officers and directors.

The following amounts were due to related parties:

|                                           | November 30, 2016 | May 31, 2016 |
|-------------------------------------------|-------------------|--------------|
| Salary to officers                        | \$ -              | \$ 4,100     |
| Professional fees to officers             | -                 | 2,061        |
| Expense reimbursements to related parties | 3,207             | 1,701        |
|                                           | \$ 3,207          | \$ 7,862     |

Amounts due to related parties are unsecured, have no fixed repayments and are non-interest bearing.

### Acquisition of Graphene Laboratories:

On December 8, 2015, the Company closed a non-arm's length share exchange agreement (the "SEA") to acquire all of the issued and outstanding shares of Graphene Laboratories Inc. ("GLI"). GLI is incorporated under the laws of the Commonwealth of Massachusetts, U.S.A, and is controlled and managed by the Co-Chief Executive Officers of the Company.

### 1.14 Risks and Uncertainties

An investment in the Company's securities involves a high degree of risk. Potential investors should carefully consider the following information about these risks. If any of the following risks actually occurs, the business, financial condition and prospects of the Company could be materially adversely affected. In that case, the value of any securities of the Company could also decline and investors could lose all or part of their investment.

The risks and uncertainties described below are those that Graphene 3D's management believes are material, but these risks and uncertainties may not be the only ones that the Company may face. Additional risks and uncertainties, including those that management currently are not aware of or deem immaterial, may also result in decreased operating revenues, increased operating expenses or other events that could result in a decline in the value of any securities of the Company. The following information is a summary only of certain risk factors and is qualified in its entirety by reference to, and must be read in conjunction with, the detailed information appearing elsewhere in Management Discussion and Analysis.

An investment in the securities of the Company is highly speculative.

**Risks Related to Our Business and Industry**

If the market does not develop as we expect, our products may not be accepted by the market.

- There is significant competition in our market, which could make it difficult to attract customers, cause us to reduce prices and result in reduced gross margins.
- The long sales cycle for our products makes the timing of our revenues difficult to predict.
- We may not be able to generate operating profits.
- We plan to grow very rapidly, which will place strains on management and other resources.
- We may not be able to hire the number of skilled employees that we need to achieve our business plan.
- Loss of key management or sales or customer service personnel could adversely affect our results of operations.
- If our manufacturing facilities are disrupted, sales of our products will be disrupted, and we could incur unforeseen costs.
- Global economic, political and social conditions may harm our ability to do business, increase our costs, and negatively affect our stock price.
- We may need to raise additional capital from time to time if we are going to meet our growth strategy and may be unable to do so on attractive terms.
- Our operating results and financial condition may fluctuate on a quarterly and annual basis.

Our operating results and financial condition may fluctuate due to a number of factors, including those listed below and those identified throughout this "Risk Factors" section:

- the development of new competitive systems or processes by others;
- the entry of new competitors into our market whether by established companies or by new companies;
- changes in the size and complexity of our organization, including our international operations;
- levels of sales of our products and services to new and existing customers;
- the geographic distribution of our sales;
- changes in product developer preferences or needs;
- delays between our expenditures to develop, acquire or license new technologies and processes, and the generation of sales related thereto;
- our ability to timely and effectively scale our business during periods of sequential quarterly or annual growth;

- limitations or delays in our ability to reduce our expenses during periods of declining sequential quarterly or annual revenue;
- changes in our pricing policies or those of our competitors, including our responses to price competition;
- changes in the amount we spend in our marketing and other efforts;
- the volatile global economy;
- general economic and industry conditions that affect customer demand and product development trends;
- changes in accounting rules and tax and other laws;
- We could be subject to personal injury, property damage, product liability, warranty and other claims involving allegedly defective products that we supply, which could result in material expense, diversion of management time and attention and damage to our business reputation;
- We could face liability if our 3D printers are used by our customers to print dangerous objects;
- We may not have adequate insurance for potential liabilities; and
- Even a partially uninsured claim of significant size, if successful, could materially adversely affect our business, financial condition, results of operations and liquidity. However, even if we successfully defend ourselves against any such claim, we could be forced to spend a substantial amount of money in litigation expenses, our management could be required to spend valuable time in the defense against these claims and our reputation could suffer, any of which could adversely affect our results of operations.

#### **Risks Related to Our Intellectual Property**

We may not be able to obtain patent protection or otherwise adequately protect or enforce our intellectual property rights, which could impair our competitive position.

- Obtaining and maintaining our patent protection depends on compliance with various procedural, documentary, fee payment and other requirements imposed by governmental patent agencies, and our patent protection could be reduced or eliminated for non-compliance with these requirements.
- We may incur substantial costs defending against third party infringement claims as a result of litigation or other proceedings.
- Our failure to expand our intellectual property portfolio could adversely affect the growth of our business and results of operations.

#### **Risks Related to the Securities Markets and Ownership of Our Common Stock**

*The market price of our common stock may fluctuate significantly.* The market price and liquidity of the market for shares of our common stock may fluctuate and may be significantly affected by numerous factors, some of which are beyond our control and may not be directly related to our operating performance.

- If equity research analysts do not publish research or reports about our business, or if they issue unfavorable commentary or downgrade our shares, the price of our shares could decline.
- Future sales of our shares could reduce the market price of our shares.
- We do not anticipate paying any cash dividends in the foreseeable future. Therefore, if our share price does not appreciate, our investors may not gain and could potentially lose on their investment in our shares.
- Provisions in our charter documents or Delaware law may inhibit a takeover, which could adversely affect the value of our common stock.

- Raising additional capital by issuing securities may cause dilution to our stockholders.

### 1.15 Outstanding Share Data

The authorized capital of the Company consists of an unlimited number of common shares with no par value. As at the date of this MD&A, the following common shares, options and share purchase warrants were outstanding:

|                                          | Number of Shares  | Exercise Price | Expiry Date        |
|------------------------------------------|-------------------|----------------|--------------------|
| Issued and Outstanding Common Shares     | 56,970,804        |                |                    |
| Share Purchase Warrants                  | 4,300,000         | C\$0.30        | December 18, 2017  |
|                                          | 3,766,600         | C\$0.25        | July 11, 2018      |
|                                          | 2,823,125         | C\$0.25        | September 13, 2018 |
|                                          | 648,688           | C\$0.25        | September 29, 2018 |
| Stock Options                            | 1,925,000         | C\$0.25        | February 28, 2019  |
|                                          | 690,000           | C\$0.21        | August 4, 2021     |
|                                          | 200,000           | C\$0.21        | September 13, 2021 |
| <b>Fully Diluted at January 30, 2017</b> | <b>71,324,217</b> |                |                    |

As of the date of this MD&A, 10,115,667 issued and outstanding common shares remain in escrow.

### OTCQB Listing

The Company has been verified to trade on OTCQB®, the venture marketplace for entrepreneurial and development stage companies operated by OTC Markets Group (OTCQX: OTCM), and began trading Oct. 7, 2014. Euro Pacific Capital, Inc. is a qualified Principal American Liaison (“PAL”) and has submitted a Letter of Introduction for Graphene 3D in accordance with the standards for trading on OTCQB.

### 1.16 Critical Accounting Estimates

The Company’s accounting policies are presented in Note 3 of the May 31, 2016 audited annual financial statements. The preparation of financial statements in accordance with IFRS requires management to select accounting policies and make estimates. Such estimates may have a significant impact on the financial statements. Actual amounts could differ materially from the estimates used and, accordingly, affect the results of the operations. These include:

- the valuation of share-based payments expense;
- the useful lives for depreciation of equipment;
- the valuation of inventories and recognition of inventory impairment;
- the determination of the allowance of doubtful accounts; and
- the useful lives and recoverability of intangible asset.

#### *Share-based payments*

The grant date fair value of share-based payment awards granted to employees is recognized as an employee expense, with a corresponding increase in equity, over the period that the employees unconditionally become entitled to the awards. The amount recognized as an expense is adjusted to reflect the number of awards for which the related service and non-market vesting conditions are expected to be met, such that the amount ultimately recognized as an expense is based on the number of awards that do meet the related service and non-market performance conditions at the vesting date.

#### *Inventory*

The Company’s inventory is measured at the lower of cost and net realizable value. Cost is determined using the weighted average method. The cost of finished goods and work-in-progress comprises raw materials, direct labour, other direct costs and related production overhead costs.

An allowance for obsolete or slow-moving inventories is made where necessary. Net realizable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and selling expenses.

### **1.17 Operating Segments**

The Company operates in one reportable segment – the development and manufacturing of graphene-enhanced materials for 3D printing. Substantially all of the Company's revenue was generated in the U.S. and all capital assets are located in the U.S.

### **1.18 Financial Instruments and Other Instruments**

The fair value of the Company's cash and cash equivalents, amounts receivable, and accounts payable and accrued liabilities approximate carrying value which is the amount recorded on the statement of financial position due to their short term nature.

#### *Credit risk*

Credit risk is the risk of financial loss to the Company if counter-party to a financial instrument fails to meet its contractual obligations. The Company manages credit risk by investing its cash and cash equivalents with a large United States and Canadian chartered banks. The Company manages credit risk for trade and other receivables through established credit monitoring activities. As at November 30, 2016, the Company's maximum exposure to credit risk is the carrying value of cash and cash equivalents and accounts receivable.

#### *Interest rate risk*

Interest rate risk is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in market interest rates. Financial assets and liabilities with variable interest rates expose the Company to interest rate risk with respect to its cash flow. As at November 30, 2016, the Company is not exposed to significant interest rate risk.

#### *Currency risk*

The Company has transactions internationally and is exposed to foreign exchange risk from the Canadian Dollar. Foreign exchange risk arises from financing and purchase transactions that are denominated in currency other than the US Dollar, which is the functional currency of the Company. As at November 30, 2016 the Company held \$119,546 in Canadian dollar cash and cash equivalents. A 10% increase or decrease in the Canadian dollar would increase or decrease comprehensive income by \$8,900.

#### *Liquidity risk*

Liquidity risk is the risk that the Company will not be able to meet its financial obligations as they fall due. The Company manages liquidity risk through the management of its capital structure and financial leverage as outlined above. As at November 30, 2016, the Company has cash and cash equivalents of \$386,013 and a working capital surplus of \$601,331. However, the Company has an accumulated deficit of \$7,138,993. The continuation of the Company depends upon the support of its lenders and equity investors, which cannot be assured.

### **APPROVAL**

The Board of Directors of Graphene has approved the disclosure contained in this MD&A. A copy of this MD&A will be provided to anyone who requests it.

### **ADDITIONAL INFORMATION**

Additional information related to Graphene is on SEDAR at [www.sedar.com](http://www.sedar.com) and the Company's website <http://www.graphene3dlab.com>.