

**GRAPHENE 3D LAB INC.**  
**Management Discussion and Analysis**  
**For the year ended May 31, 2018**

*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 years ended May 31, 2018 and 2017. The following information should be read in conjunction with the audited annual consolidated financial statements and the notes to the audited annual consolidated financial statements for the year ended May 31, 2018, 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 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 September 26, 2018.

## **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”). The historical operations, assets and liabilities of Graphene 3D U.S. are included as the comparative figures as at and for the period

ended May 31, 2014, which is deemed to be the continuing entity for financial reporting purposes. Graphene 3D U.S. was incorporated on September 3, 2013 in the State of Delaware, U.S.A.

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".

Graphene 3D U.S. is a C-corporation, organized on September 3, 2013 under the laws of the State of Delaware. 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. Graphene 3D U.S. was initially a spinout of Graphene Laboratories Inc. ("Graphene Laboratories" or "GLI"). On August 12, 2015, the Company entered a Share Exchange Agreement ("SEA") to acquire all of the issued and outstanding shares of 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 composites and coatings, based on graphene and other advanced materials, for a number of industries including: aerospace, automotive, medical prosthetics, and military. In addition it produces a variety of materials for 3D printing. Graphene 3D currently has eight US patent applications pending for its technology.

The Company's wholly-owned subsidiary, Graphene Laboratories Inc., currently offers over 100 graphene and related products to a client list comprised of more than 12,000 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 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.

The Company operates several subdivisions which include the following:

#### **R&D Materials**

Graphene Supermarket (R&D Graphene Materials): The Company's suite of graphene products is available online at the company's e-commerce platform Graphene Supermarket ([www.graphene-supermarket.com](http://www.graphene-supermarket.com)). 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 3D printable filaments including a portfolio of specialty fused filament fabrication filaments. These materials can be purchased through multiple distribution networks worldwide or directly from the web-store [www.blackmagic3D.com](http://www.blackmagic3D.com).

#### **Conductive Epoxies**

The Company's recent focus has been on developing the best in conductive epoxy systems. Through research and development, our team have been able to create innovative, new products with unique properties by using a proprietary mix of high-performance carbon fillers to achieve superb electrical and mechanical properties for electrically conductive epoxy. The

Company's specialty adhesive epoxies are well suited for use in aerospace, automotive industries, electronics and communication etc.

Three different product lines are offered:

Carbon -P series: Carbon filled conductive epoxy (G6-EP), with main features:

- Non-metallic: carbon filled
- Excellent electrical conductivity: 5 Ohm x cm
- Ultralight: density is less than 1.1 g/cm<sup>3</sup>
- Low-cost silver alternative
- Excellent gap-filling adhesive

Silver – SG series: Silver/Graphene conductive epoxies (G6-SG, G6-FXSG, G6-HTSG).

- Traditional epoxy materials tend to be brittle and are prone to mechanical failure. Graphene fillers add superior durability, fatigue and crack resistance in addition to low electrical resistance. The Company uses a proprietary mix of silver and graphene materials to achieve a superb combination of mechanical and electrical properties.
- G6-SG - Silver/Graphene conductive epoxy;
- G6-FXSG – Flexible Silver/Graphene conductive epoxy;
- G6-HTSG – High-temperature Silver/Graphene conductive epoxy

Silver- NS series: Silver/Carbon conductive epoxies (G6-NS10, G6-NS11, G6-HTNS).

- These epoxies have been developed based on advanced proprietary technology that requires less silver content to be at par with leading silver-based epoxies in terms of electrical properties. This improvement makes G6E-NS™ less dense, more flexible, and allows for stronger adhesion to the target substrate.
- G6-NS10 - Silver/Carbon conductive epoxy;
- G6-NS11 - Silver/Carbon conductive epoxy
- G6-NS - High-temperature Silver/Carbon conductive epoxy

Adhesive materials produced by the company are distributed under the G6-Epoxy™ trade name and can be purchased at <https://g6-epoxy.com/>.

## **Fine Chemicals for Advanced Manufacturing and Drug Discovery**

ChemApproach is a worldwide supplier of a wide variety of building blocks (many of these are unique) to R&D facilities in the pharmaceutical, agriculture, and biotechnology industries, as well as academic institutions, and various technology companies. It's professional team of PhD chemists hold many years of experience in design, development and implementation of industrial projects, as well as experience in synthetic organic chemistry. This division offers a plethora of the substituted aromatic and heterocyclic compounds. Most of its molecules are synthesized as medicinally-relevant and drug candidates. The production scale varies from grams to multi-kilograms quantities. The divisions main expertise lies within the introduction of the various substituents to the aromatic rings, a large variety of functional group transformations, and a selective incorporation of halogens in organic molecules, particularly, iodine. These classes of organic molecules have a wide range of application in: Drug-design, Biochemistry, Polymer chemistry, Electronics and Hi-Tech, Petrochemical <https://chemapproach.com/>

## **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.

## 1.4 HIGHLIGHTS FOR THE YEAR ENDED MAY 31, 2018

### Corporate Developments

In June 2017, the Company announced the addition of Graphene-HIPS to the family of 3D printing products offered by the Company. This new material was a distinctly engineered and innovative semi-flexible FDM 3D printing material reinforced with graphene and designed for high performance 3D printing. This FDM material exhibits outstanding interlayer adhesion, toughness and superb impact resistance. These properties provide an excellent mechanical and structural performance for 3D printed objects made from this material. It was well suited for printing precise functional components for engineering applications. Unlike other 3D printing material, Graphene-HIPS is both temperature and weather resistant, which made it an ideal material for outdoor projects.

The Graphene-HIPS filament was commercially available for desktop FDM/FFF 3D printers in the size of 1.75 mm at 400 grams per spool and distributed through the e-commerce sites: BlackMagic3D and Graphene Supermarket, as well as on Amazon.com. On October 2, 2017, the company was included in the strategic plan for economic development growth within the region prepared by LIREDC, titled “A Region in Motion”. In this document, LIREDC named relocation and expansion of production capacity of Graphene Laboratories Inc. as one of the priority projects recommended to receive financial support from the State of New York. This strategic plan was supported by New York State as confirmed in an announcement by Governor Andrew M. Cuomo during an Award Ceremony that was held in the city of Albany on December 13, 2017. The Long Island Region was identified as a Top Performer, and New York State awarded the Long Island Region \$83.3M to fund the projects listed in the plan recommended by the LREDC. The Grant of \$500,000 awarded to the Company, in the form of a reimbursement for future facility development costs, is a part of this total.

On November 20, 2017, the Company, through Graphene Laboratories, executed a Distribution Agreement with Great Lakes Graphite Inc. (“GLK”), a provider of high quality micronized graphite products. Graphene Laboratories will offer these products through its online web store Graphene Supermarket, thereby addressing its customer database that includes more than 12,000 customers. Micronized graphite products are used by customers in a wide variety of industries for a wide variety of applications that include: composite materials, electronics, batteries, lubricants, coatings and friction products. GLK sources Brazilian graphite and further processes and purifies it in the USA. Working with partners to micronize and purify graphite enables GLK to create standard and customized products, to customer specifications. As a result, GLK can offer a material with outstanding quality that is consistent from batch to batch.

On February 21, 2018, the Company announced an invention in the blockchain and cryptocurrency mining space and filed for IP protection. The invention addresses an overwhelming need for more efficient energy management in data centers and computational facilities in cryptocurrency mining and other industries. This technology is versatile and is designed to work with various computing equipment used for cryptocurrency mining including CPUs, GPUs and ASICs. Graphene-enhanced materials help to boost performance of such systems.

On March 8, 2018, the Company announced that it had moved from Calverton, NY to a new location at 760 Koehler Avenue Suite 2, Ronkonkoma, NY as the Company made the decision to relocate the business operations to a facility with a more favorable industrial setting. This new 8,000 square foot facility comes with a larger production floor, office and lab space and is situated in a tech park near Long Island MacArthur Airport which is about 30 miles from the company’s existing address.

In December 2017 the Company introduced a new line of business and start offering fine chemicals for drug discovery and advanced manufacturing under the brand ChemApproach. As the result of this new business endeavor, on March 29, 2018 the Company’s wholly-owned subsidiary Graphene Laboratories entered into a Technology Transfer Agreement with a multinational manufacturer producing advanced materials with uses in the pharmaceutical industry (“Industrial Partner”). The Industrial Partner will manufacture a certain advanced material at one of its European facilities utilizing the Company’s technology. The Company will assist with the first production campaign and provide guidance related to technical details of the process to facilitate adoption of the technology by the Partner. The material produced as a result of this production campaign will be subjected to third party testing and evaluation. If the tests yield positive outcome, the Company expects that this technology will be used for large-scale production in the future.

The Company agreed to grant a limited-time exclusive license to the Industrial Partner for the material manufactured within this production campaign. The Company retains ownership of its Intellectual Property rights and may further benefit from it either through further licensing and royalty payment or sale of IP.

Under the terms of the agreement, in the case of successful completion of the project, the Company will receive up to a total of US \$202,500 in royalty payments and US \$7,000 for miscellaneous expenses. An initial advance of US \$57,000 has been paid, and a further US \$152,500 is due within 30 days upon successful completion of the project. The term of the Agreement is set to nine months.

### **Management Team Changes**

On July 28, 2017, Mr. Roman Rabinovich was appointed to the Board of Directors. Mr. Rabinovich serves as a Senior Director at FTI Consulting. FTI Consulting is one of the largest business advisory firms providing advice and services which include, but are not limited to business restructuring, mergers and acquisitions and business performance improvement. Mr. Rabinovich has tremendous experience in strategic development, transaction advisory, litigation support, and business restructuring engagements. He specializes in analysis of corporate finance and building optimal pricing strategies to improve sales growth.

On the same day Mr. A. Paul Gill resigned from the Board of Directors.

### **Financial Update**

On June 13, 2017, the Company terminated its finance lease obligation by completing the buy-out of the equipment under the lease. The termination of the finance lease and buy-out of the equipment was settled for \$101,296, of which a deposit in the amount of \$5,000 was paid during the year ended May 31, 2017, and the remaining amount was paid through a short-term loan acquired on the termination date. The short-term loan obtained has a due date of September 11, 2017, includes a loan fee of \$1,440 and does not bear any interest. The lease had been terminated and paid off by the Company on September 11, 2017.

On July 28, 2017, 300,000 options were granted to a director of the Company at an exercise price of C\$0.11 valid for 5 years, vested immediately.

On September 12, 2017, the Company closed a non-brokered private placement financing issuing 5,400,000 common shares at a price of C\$0.08 per unit for gross proceeds of \$348,667 (C\$432,000).

On November 13, 2017, 500,000 bonus shares were issued to an officer of the Company with a fair value of \$47,121 (C\$60,000).

On November 14, 2017 the Company granted 2,450,000 incentive stock options to certain directors, officers and consultants. The Options are exercisable at \$0.12 for a period of 5 years from the date of grant and vested immediately.

On December 14, 2017, the Company announced that a grant of \$500,000 awarded to the Graphene Laboratories Inc., by the Long Island Regional Economic Development Council (“LIREDC”) to help finance the renovation of the Company’s new facility at Ronkonkoma was supported by the State of New York. The grant will also help finance the acquisition of new equipment and an expanded workforce for the facility. Grant funding is subject to 80% matching funds to be paid by the Company. To date none of the grant funds have been utilized.

On January 18, 2018, 10,581,010 common share purchase warrants were exercised at the amended price of C\$0.12 per share for gross proceeds of \$1,012,734 (C\$1,269,721). 500,000 common share purchase warrants expired unexercised during the year ended May 31, 2018.

As at May 31, 2018, the Company has 73,451,814 (2017 – 56,970,804) issued and outstanding common shares of which 330,000 (2017 – 7,487,758) are subject to escrow agreements.

## **1.5 RESULTS OF OPERATIONS**

### **Year ended May 31, 2018 compared with the year ended May 31, 2017**

Revenue decreased to \$909,512 (2017 - \$1,108,998) which was largely due to the reduced level of operations in late November through February which resulted from the Company’s decision to relocate to a new facility much better suited for its business.

As a result of the relocation the Company also decided to discontinue certain products, mainly with low profit margins, and sold that inventory at discounted prices.

Cost of Goods Sold also decreased to \$291,829 (2017 - \$626,218) which resulted in an increase in Gross profit to \$617,683 (2017 - \$482,780). The reduction in Costs of Good Sold was largely due to the Company utilizing previously expensed raw materials inventory as well as additional non-inventory supplies. There were also other small inventory adjustments which also resulted in reducing the costs of goods sold. In addition, the Company changed several vendors by offering lower prices with major items and optimized the business operation by putting more efforts behind the products and services having higher profit margins

Total operating expenses for the year ended May 31, 2018 was \$1,715,233 (2017 - \$1,529,370). Expenses with significant changes from the previous comparative period are as follows:

- Share-based compensation of \$226,514 (2017 – recovery \$34,387) was due to granted 2,750,000 stock options to certain directors and officers with a fair value of \$0.12.
- Salaries and benefits of \$332,332 (2017 - \$390,325) decreased due to the departure of an employee in the year.
- Professional fees of \$299,498 (2017 - \$289,990) increased due to increased fees in relating to the engagement of business advisory, accounting and compliance services.
- Marketing and investor relations of \$152,584 (2017 - \$122,727) increased due to the Company has retained expanded IR services consultants to increase investor and product awareness during the year.
- Office and administrative expenses of \$211,107 (2017 - \$247,946) includes rent, communication, insurance and other general office costs. Office and administrative expenses decreased due to the cost saving initiative.
- Depreciation expense of \$87,998 (2017 - \$108,280) decreased due to disposal of equipment since the prior comparative period.
- Amortization of intangible asset of \$43,640 (2017 - \$43,640) is a related to the intangible asset acquired as part of the GLI transaction in December 2015. The intangible asset is amortized on a straight-line basis over ten years.

The Company’s net loss for the year ended May 31, 2018 totaled \$1,064,075 (2017 - \$1,017,590) or \$0.02 (2017 - \$0.02) per share. The increase in net loss in 2018 was primarily due to an increase in share-based compensation but most of the increase in share based compensation was offset by the increase in gross profit

### Three months ended May 31, 2018 compared with the three months ended May 31, 2017

During the three months ended May 31, 2018, the Company reported net loss of \$111,817 compared to a net loss of \$326,604 during the same quarter in fiscal 2017, a decrease in net loss \$214,787. The decrease in net loss resulted from increased in sale, offset by decreased professional fees, the majority of which were related to the completion of the acquisition of GLI, and reduced research and development activities with the hiring of additional personnel to accelerate development of new products.

Research and development expenditures are summarized as follows:

	Quarter ended May 31, 2018	Quarter ended Feb. 28, 2018	Quarter ended Nov 30, 2017	Quarter ended Aug 31, 2017	Quarter ended May 31, 2017	Quarter ended Feb 28, 2017	Quarter ended Nov 30, 2016	Quarter ended Aug 31, 2016 \$
Research personnel	47,244	53,675	37,766	54,252	64,327	64,235	74,621	37,678
Research and development equipment and supplies	39,267	11,598	1,849	8,056	2,898	5,124	11,968	13,364
Patent registration expense	15,723	2,869	450	599	6,030	1,421	500	6,971
Total research and development expenses	102,234	68,142	40,065	62,907	73,255	70,780	87,089	58,013

Since the corporate RTO transaction in August 2014, the Company has ramped up its research and development budget and activities incurring significant expenditures on its R&D activities over the past several quarters. The Company has expanded

these activities with the purchase of research and development equipment and supplies to set-up the extruder equipment acquired in the year ended May 31, 2015. Recent reductions in R&D spending were as a result of the Company focusing its resources on revenue generating activities.

## 1.6 SELECTED FINANCIAL INFORMATION

The following table contains selected financial information for Graphene 3D for the year ended May 31, 2018 as compared to the years ended May 31, 2017 and 2016. 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 May 31, 2018 \$	Year ended May 31, 2017 \$	Year ended May 31, 2016 \$
Revenue	909,512	1,108,998	773,412
Gross profit	617,683	482,780	181,072
Net loss	1,064,075	1,017,590	2,207,055
Comprehensive Loss	1,046,521	1,025,195	2,244,845
Net loss per share	\$0.02	\$0.02	\$0.05
Total assets	1,481,232	1,057,022	1,273,546
Total non-current financial liabilities	56,525	147,391	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.

## 1.7 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 ended May 31, 2018 \$	Quarter ended Feb 28, 2018 \$	Quarter ended Nov 30, 2017 \$	Quarter ended Aug 31, 2017 \$	Quarter ended May 31, 2017 \$	Quarter ended Feb 28, 2017 \$	Quarter ended Nov 30, 2016 \$	Quarter ended Aug 31, 2016 \$
Revenue	(229,442)	(235,592)	(209,965)	(234,513)	(309,098)	(267,895)	(235,449)	(296,556)
Cost of goods sold	5,888	127,329	124,914	33,698	203,147	125,847	163,906	133,318
Gross (profit) loss	(223,554)	(108,263)	(85,051)	(200,815)	(105,951)	(142,048)	(71,543)	(163,238)
Operating expenses	418,976	401,060	494,971	400,226	449,745	343,232	420,565	268,588
Net loss	111,817	303,707	421,497	227,054	326,604	212,994	360,832	117,160
Comprehensive Loss	109,628	288,707	421,595	226,591	341,652	214,363	352,590	116,590
Net loss per share (basic and diluted)	\$0.002	\$0.005	\$0.007	\$0.004	\$0.006	\$0.004	\$0.006	\$0.002
Total assets	1,481,232	1,649,404	1,050,555	1,171,990	1,057,022	1,283,449	1,505,418	1,477,573
Shareholders’ equity	1,192,577	1,340,508	641,460	740,749	675,074	927,814	1,125,977	1,078,817

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.

The decrease in revenue in the quarter ended August 31, 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 in the quarter.

The increase in loss for the quarter ended November 30, 2017 was primarily due to stock-based compensation of \$203,207 recorded for the 2,450,000 share options granted to directors, officers and consultants of the Company during the period.

The decrease of cost of good sold for the quarter ended May 31, 2018 is primarily due to the Company utilizing previously expensed raw materials inventory as well as additional non-inventory supplies. In addition the Company changed several vendors by offering lower prices with major items. There were also other small inventory adjustments which also results in reducing the costs of goods sold.

The decrease of the annual revenue for the fiscal year ended May 31, 2018 is due to the relocation of the facility. The Company completed its relocation to new premises at the quarter ended February 28, 2018. The relocation took several months to complete. During the relocation, some of the equipment required for manufacturing remain non-operational. This have done an unavoidable impact on sales. However, the Company put its best efforts to mostly mitigate that impact by accelerating production to produce additional inventory to be sold during the relocation.

The operating expenses for the quarter ended November 30, 2017 included approximately \$200,000 in stock-based compensation. When adjusting for that and comparing to February 28, 2018 operating expenses the increase in the quarter ended February 28, 2018 can be attributed to the additional costs to produce inventory that could be sold during the relocation period.

There were no significant variations in other operating expenses.

## **1.8 LIQUIDITY AND CAPITAL RESOURCES**

As of May 31, 2018, the Company had working capital surplus of \$711,943 (2017 - \$166,165).

Cash and cash equivalents totaled \$426,878 as at May 31, 2018 (2017 – \$39,424).

Cash used in operating activities during the year ended May 31, 2018 was \$789,940 (2017 - \$884,551). The main cause of this change was lower accounts payable and accrued liabilities and offset by higher inventory during the year.

Cash used in investing activities during the year ended May 31, 2018 was \$62,472 (2017 - \$8,960) from the purchase of new equipment \$71,118, offset by the proceeds of disposal of equipment of \$8,646.

Cash generated from financing activities during the year ended May 31, 2018 was \$1,257,676 (2017- \$809,529) resulting primarily from shares issued private placements and warrants exercised.

At as May 31, 2018, share capital totalled \$7,205,717 (2017 - \$5,799,624) representing 73,451,814 (2017 – 56,970,804) issued and outstanding common shares without par value. Warrant reserve was \$33,946 (2017 - \$33,946) and contributed surplus was \$2,821,938 (2017 - \$2,595,424). As a result of the net loss for the year ended May 31, 2018 of \$1,064,075 (2017 – \$1,017,590), the deficit was \$8,742,666 as at May 31, 2018 (2017 - \$7,678,591). Accordingly, net assets were \$1,226,052 at May 31, 2018 (2017 - \$675,074).

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.

## **1.9 COMMITMENTS**

The Company entered into a three year lease for the Company's facilities ending November 14, 2020. The lease requires monthly payments of \$8,000.

The Company entered into a finance lease that requires monthly payments of \$4,337 until March 1, 2019. During the year ended May 31, 2018, the Company terminated its finance lease obligation by completing the buy-out of the equipment under lease.

## **1.10 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 year ended May 31, 2018, the Company paid professional fees to companies controlled by officers, directors and spouses of officers of the Company in the amount of \$144,155 (2017 - \$125,653).
- b) During the year ended May 31, 2018, the Company paid and accrued salaries to directors and officers of the Company in the amount of \$225,000 (2017 - \$225,000).
- c) During the year ended May 31, 2018, the Company issued 1,500,000 (2017 – 845,000) stock options with a fair value of \$122,790 (2017 - \$123,488) to directors and officers of the Company which has been included in share-based compensation.
- d) During the year ended May 31, 2018, the Company issued 500,000 bonus shares with a fair value of \$47,121 (C\$60,000) to an officer of the Company which has been included in professional fees.

The following amounts were due to related parties:

	<b>2018</b>	<b>2017</b>
Salary to directors and officers	\$ 30,005	\$ 18,103
Professional fees to related parties	-	16,566
Expense reimbursements to related parties	10,579	4,059
	<b>\$ 40,584</b>	<b>\$ 38,728</b>

The amounts due to related parties are included in accounts payable and are unsecured, have no fixed repayments and are non-interest bearing.

## 1.11 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; and
- 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.
- 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.

## 1.12 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	73,451,814		
Share Purchase Warrants	42,438	C\$0.25	September 29, 2018
Stock Options	1,575,000	C\$0.25	February 28, 2019
	690,000	C\$0.21	August 24, 2021
	200,000	C\$0.21	September 13, 2021
	300,000	C\$0.11	July 28, 2022
	1,950,000	C\$0.12	November 13, 2022
<b>Fully Diluted at September 26, 2018</b>	<b>78,209,252</b>		

As of the date of this MD&A, 330,000 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.

## 1.13 OPERATING SEGMENTS

The Company operates in one reportable segment – the research, development and manufacturing of graphene-enhanced materials. Substantially all of the Company’s revenue was generated in the U.S. and all capital assets are located in the U.S.

## 1.14 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.

The Company’s significant accounting policies and estimates are included in Note 3 to the May 31, 2018 audited consolidated financial statements of Graphene 3D Lab Inc. 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.

## **1.15 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 May 31, 2018, 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 May 31, 2018, 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 May 31, 2018 the Company held \$203,153 (2017- \$6,312) in Canadian dollar cash and cash equivalents. A 10% increase or decrease in the Canadian dollar would increase or decrease comprehensive income by \$20,000 (2017 - \$6,000).

#### *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 May 31, 2018, the Company has cash and cash equivalents of \$426,878 (2017- \$39,424) and a working capital surplus of \$711,943 (2017- \$166,165). However, the Company has an accumulated deficit of \$8,742,666 (2017- \$7,678,591). 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>.