

MANAGEMENT'S DISCUSSION AND ANALYSIS

For the years ended June 30, 2022 and 2021



[Unless specified otherwise, all amounts are expressed in Canadian dollars]

This Management's discussion and analysis ("MD&A") provides a review of NanoXplore Inc.'s operations, performance and financial position for the years ended June 30, 2022 and 2021 and should be read in conjunction with the consolidated financial statements for the years ended June 30, 2022 and 2021. The purpose of this document is to provide information on our activities. The information contained herein is dated as of September 14, 2022, date on which the MD&A was approved by the Corporation's board of directors. You will find more information about us on NanoXplore's website at www.nanoxplore.ca and on SEDAR at www.sedar.com, including all press releases.

The financial statements have been prepared in accordance with International Financial Reporting Standards ("IFRS"). The Corporation has consistently applied the accounting policies used in the preparation of its IFRS financial statements, including the comparative figures. We occasionally refer to non-IFRS financial measures in the MD&A. See the Non-IFRS measures section for more information. The terms "we", "our", "us", "NanoXplore" or the "Corporation" mean NanoXplore Inc. and its subsidiaries, unless otherwise indicated.

"Q4-2022" and "Q4-2021" refer to the three-month periods ended June 30, 2022 and 2021 respectively, and "YTD 2022" and "YTD 2021" refer to the years ended June 30, 2022 and 2021 respectively.

1. FORWARD-LOOKING STATEMENTS

This MD&A contains certain forward-looking statements within the meaning of applicable Canadian securities laws with respect to the Corporation. Such forward-looking statements are dependent upon a certain number of factors and are subject to risks and uncertainties. Actual results may differ from those expected. The Corporation considers the assumptions on which these forward-looking statements are based to be reasonable, but it advises the reader that these assumptions with regard to future events, many of which are beyond the Corporation's control, could prove incorrect as they are subject to risks and uncertainties inherent in the Corporation's activities. Management does not assume any obligation to update or revise any forward-looking statements, whether as a result of new information of future events, except when required by the regulatory authorities.

This MD&A contains forward-looking statements. When used in this MD&A, the words "may", "would", "could", "will", "intend", "plan", "anticipate", "believe", "seek", "propose", "estimate", "project", "expect" and similar expressions are intended to identify forward-looking statements. In particular, this MD&A contains forward-looking statements with respect to, among other things, business objectives, expected growth, results of operations, performance, business projects and opportunities and financial results. These statements involve known and unknown risks, uncertainties and other factors that may cause actual results or events to differ materially from those anticipated in such forward-looking statements. Such statements reflect NanoXplore's then current views with respect to future events based on certain facts and assumptions and are subject to certain risks and uncertainties, including without limitation changes in the risk factors described under the section "*Risks and Uncertainties*" of this MD&A. The forward-looking statements are based on certain key expectations and assumptions made by NanoXplore, including expectations and assumptions made by NanoXplore, including expectations and assumptions concerning availability of capital resources, business performance, market conditions and customer demand. Although NanoXplore believes that the expectations and assumptions on which such forward-looking statements since no assurance can be given that they will prove to be correct.

Many factors could cause NanoXplore's actual results, performance or achievements to vary from those described in this MD&A, including without limitation those listed above, those described under the section "*Risks and Uncertainties*" of this MD&A as well as the assumptions upon which they are based proving incorrect. These factors should not be construed as exhaustive. Should one or more of these risks or uncertainties materialize, or should assumptions underlying forward-looking statements prove incorrect, actual results may vary materially from those described in this MD&A as intended, planned, anticipated, believed, sought, proposed, estimated or expected, and such forward-looking statements should not be unduly relied upon. NanoXplore does not intend, and does not assume any obligation, to update these forward-looking statements except as required by law. The forward-looking statements contained in this MD&A are expressly qualified by these cautionary statements. Forward-looking statements contained in this MD&A about prospective results of operations, financial position or cash flows are based on assumptions about future events, including economic conditions and proposed courses of action, based on NanoXplore's management's assessment of the relevant information currently available. Readers are cautioned that outlook information contained in this MD&A should not be used for the purposes other than for which it is disclosed herein or therein, as the case may be.

2. BUSINESS OVERVIEW

CORPORATION OVERVIEW

NanoXplore is a graphene company, a manufacturer and supplier of high-volume graphene powder for use in transportation and industrial markets. Also, the Corporation provides standard and custom graphene-enhanced plastic and composite products to various customers in transportation, packaging, electronics, and other industrial sectors. The Corporation was formed by amalgamation under the *Canada Business Corporations Act* by Certificate of Amalgamation dated September 21, 2017 and is headquartered at 4500 Thimens Blvd, Montreal, QC, Canada.

On July 15, 2021, NanoXplore Inc. graduated from the Toronto Stock Exchange ("TSX") Venture Exchange to the TSX. NanoXplore is still traded under "GRA" and is also listed on the OTCQX and traded under "NNXPF".

The Corporation has the following subsidiaries:

- NanoXplore Switzerland Holding SA ("NanoXplore Switzerland"), based in Switzerland, with an equity interest of 100% [2021 – 100%]. NanoXplore Switzerland holds 100% of CEBO Injections SA ("CEBO").
- NanoXplore Holdings USA, Inc. ("NanoXplore Holdings USA"), based in the United States, with an equity interest of 100% [2021 – 100%]. NanoXplore Holdings USA holds 100% of NanoXplore USA, Inc.
- Sigma Industries Inc. ("Sigma"), based in Canada, with an equity interest of 100% [2021 100%]. Sigma has two active wholly owned subsidiaries; Faroex Ltd., based in Manitoba, and Rene Composite Materials Ltd., based in Quebec. Rene Composite Materials Ltd. has one active wholly owned subsidiary; RMC Advanced Technologies Inc., based in the United States.
- Canuck Compounders Inc. ("Canuck"), based in Canada, with an equity interest of 100% [2021 nil].

On April 1, 2021, VoltaXplore Inc. ("VoltaXplore") was incorporated. On April 14, 2021, NanoXplore and Martinrea Innovation Developments Inc., a wholly-owned subsidiary of Martinrea International Inc. ("Martinrea"), formed a joint venture (50%/50%) through VoltaXplore, a battery-based initiative to service the electric transportation and grid storage market.

On December 15, 2021, the Corporation acquired all of the issued and outstanding shares of Canuck.

KEY FINANCIAL HIGHLIGHTS

- At as December 16, 2021, the Corporation provided financial guidance for the year ended June 30, 2022, with \$85,000,000 of total revenues and positive adjusted EBITDA⁽¹⁾ for Q4-2022. As at May 16, 2022, the Corporation increased its annual total revenues guidance to \$90,000,000 and maintained its positive adjusted EBITDA⁽¹⁾ target. The Corporation achieved annual total revenues of \$94,307,159 and also achieved a positive adjusted EBITDA⁽¹⁾ for Q4-2022 of \$112,735.
- Adjusted EBITDA⁽¹⁾ increased from -\$3,760,406 in Q1-2022, to -\$3,139,026 in Q2-2022, to -\$2,384,227 in Q3-2022, and \$112,735 in Q4-2022.
- Total revenues for 2022 and 2021 were \$94,307,159 and \$72,348,402, representing 30% annual increase.
- Total liquidity of \$58,638,827 as at June 30, 2022, including cash and cash equivalents of \$51,232,068.
- Total long-term debt of \$9,450,814 as at June 30, 2022.

BUSINESS HIGHLIGHTS

During the year ended June 30, 2022, the Corporation continued to focus on developing markets for its graphene production facility in Montreal, Canada and to develop down stream pre-mixed additives and products that facilitate such introduction. The Corporation has been successful in integration of GrapheneBlack in a few streams of products, both internally and externally, some of which has been press released during the year. The Corporation continues its engagement with many potential customers that are currently validating GrapheneBlack and GrapheneBlack improved masterbatches, concentrates, and products.

⁽¹⁾ Adjusted EBITDA is a non-IFRS measure and that the reconciliation can be found in the section "Overall Results"

Macroeconomics and Supply chain issues

The COVID-19 pandemic and its negative collateral effects on the supply of materials and the availability of labour continued to have an adverse effect on our business, results of operations, cash flows and financial position, which is further exacerbated by the recent conflict between Russia and Ukraine. However, the full impact cannot be determined at this time. The extent of the impact will depend on various factors, including the possibility of future shutdowns, the potential for a recession in key markets due to the effect of the pandemic or other pandemics or other economic factors, and on the resulting impact on customers and suppliers, such as inflationary cost increases for wages, materials, energy, and other costs, any supply chain disruptions. A material deterioration in any of the foregoing could have a material adverse effect on the Corporation's business and results of operations. The Corporation expects to be able to continue to respond to the COVID-19 pandemic, and supply chain issues in a measured, prudent and decisive manner with continued emphasis on health and safety, cash conservation and the maintenance of its liquidity position.

Purchase of assets of XG Sciences Inc.

On August 25, 2022, the Corporation purchased a significant portion of the assets of XG Sciences Inc. ("XG or XG Sciences") for an amount of US\$3,000,000 in a sale conducted by XG's senior secured creditor pursuant to Article 9 of Michigan's enactment of the Uniform Commercial Code. The Corporation and the senior creditor entered into an asset purchase agreement pursuant to which the Corporation acquired XG's mechanical milling platform, research and development lab and all issued and pending patents and trademarks, among other items.

XG Sciences specialized in the production of graphene nanoplatelets and the formulations of advanced materials that amplify product performance across diverse applications such as Lithium-ion battery anode materials, automotive, packaging, composites, concrete, and other industrial markets. XG Sciences ceased operations in July. While operating, XG Sciences worked with leading companies such as Ford for noise reduction and light-weighting using graphene-enhanced PU foam as well as Callaway Golf Corporation for graphene-enhanced golf balls.

XG Sciences has a high-quality patent portfolio (including 40 issued and pending patents) in important end-markets and their additives have attractive features and performance in the battery anode material, particularly in next generation solid-state battery chemistries. As a result of the transaction, the Corporation now owns all patents and patent applications including a portfolio of 7 patents (6 issued and 1 pending) of silicon-graphene battery materials and all XG trademarks. This complements the Corporation's existing intellectual properties and know-how related to graphene and graphene-silicon composite materials for Lion batteries.

The Corporation is planning to move all the assets from Lansing, Michigan to Canada to establish a dedicated battery material R&D facility. Moreover, the Corporation plans to use these assets to build a silicon-graphene anode material facility with a production capacity of 100-200 tons per year during 2023.

Financing

On February 24, 2022, the Corporation completed a financing by way of a prospectus supplement dated February 17, 2022 to the Corporation's short form base shelf prospectus dated January 24, 2022 of 6,522,000 common shares at a price of \$4.60 per share for gross proceeds of \$30,001,200. The Corporation intends to use the net proceeds of the financing for general corporate purposes, which may include pursuing potential acquisitions and to fund its growth strategies. The aggregate issuance costs related to this issuance, including the commission, were \$2,004,968 and were paid in cash.

Acquisition of Canuck

On December 15, 2021, the Corporation acquired all of the issued and outstanding shares of Canuck for a total consideration of \$9,158,408. This amount represents \$9,300,000 plus cash on hand, less debt and a working capital adjustment, and a discount on the balance of purchase price due in 24 months. This transaction was financed using the Corporation's available cash. This acquisition was concluded to expand the Corporation's downstream, value-added product offering through enhanced masterbatch and compounds.

Canuck was a privately held plastic recycling compounder for the past 30 years and provides sustainable and engineered recycled plastic compounds for use in transportation, building and construction, agriculture and packaging markets. Canuck's manufacturing facility is based in Cambridge, Ontario.

Total liquidity

As at June 30, 2022, the Corporation had total liquidity of \$58,638,827, including cash and cash equivalents and availability under the Corporation's operating loans.

Long-term debt and Advance debt payment

The total long-term debt decreased from \$12,687,871 in 2021 to \$9,450,814 in 2022 for a variation of \$3,237,057. Repayment amounted to \$5,215,070, which included advance payments of \$2,229,049 to provide a fertile ecosystem for growth. An amount of \$1,539,094 was received in January 2022 as the last tranche in relation to an interest-free financing that had been concluded in 2018.

Investment in a Joint Venture - VoltaXplore

In January 2022, the Corporation and Martinrea have provided \$1,000,000 each in cash to VoltaXplore for the continued support of a pilot battery manufacturing facility.

3. OVERALL RESULTS

HIGHLIGHTS

The following tables set out certain highlights of the Corporation's performance for the years ended June 30, 2022 and 2021. Refer to the Corporation's consolidated financial statements for the years ended June 30, 2022 and 2021 for a detailed account of the Corporation's performance for the periods presented in the tables below.

	Q4-2022	Q4-2021		Variation	YTD 2022	YTD 2021	Va	riation
	\$	\$	\$	%	\$	\$	\$	%
Revenues	28,280,476	20,886,168	7,394,308	35%	94,307,159	72,348,402	21,958,757	30%
Operating loss	(2,695,249)	(3,808,124)	1,112,875	(29%)	(16,934,137)	(11,246,858)	(5,687,279)	51%
Loss	(2,708,675)	(4,437,041)	1,728,366	(39%)	(15,540,594)	(11,807,661)	(3,732,933)	32%
Loss per share (Basic and diluted)	(0.02)	(0.03)			(0.10)	(0.08)		
Non-IFRS Measures								
Adjusted EBITDA	112,735	(3,018,654)	3,131,389	(104%)	(9,170,924)	(8,909,308)	(261,616)	3%

Results of operations may include certain unusual and other items which have been separately disclosed, where appropriate, in order to provide a clear assessment of the underlying Corporation results. In addition to IFRS measures, management uses non-IFRS measures in the Corporation's disclosures that it believes provide the most appropriate basis on which to evaluate the Corporation's results.

	Q4-2022	Q3-2022	Q2-2022	Q1-2022
	\$	\$	\$	\$
Revenues from customers	28,080,085	27,997,816	18,425,908	17,830,017
Adjusted EBITDA *	112,735	(2,384,227)	(3,139,026)	(3,760,406)

* NON-IFRS MEASURES

This MD&A was prepared using results and financial information determined under IFRS. However, the Corporation considers certain non-IFRS financial measures as useful additional information in measuring the financial performance and condition of the Corporation. These measures, which the Corporation believes are widely used by investors, securities analysts and other interested parties in evaluating the Corporation's performance, do not have a standardized meaning prescribed by IFRS and therefore may not be comparable to similarly titled measures presented by other publicly traded companies, nor should they be construed as an alternative to financial measures determined in accordance with IFRS. Non-IFRS measures include "Adjusted EBITDA".

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MANAGEMENT'S DISCUSSION AND ANALYSIS FOR YEARS ENDED JUNE 30, 2022 AND 2021

The following table provides a reconciliation of IFRS "Loss" to Non-IFRS "Adjusted EBITDA" for the three-month periods ended June 30, 2022 and 2021 and for the years ended June 30, 2022 and 2021.

	Q4-2022	Q4-2021	YTD 2022	YTD 2021
	\$	\$	\$	\$
Loss	(2,708,675)	(4,437,041)	(15,540,594)	(11,807,661)
Current and deferred income tax recovery	(419,927)	(638,655)	(976,077)	(1,023,144)
Net interest expenses	92,350	207,966	761,601	1,649,791
Share of loss of a joint venture	341,003	52,941	744,285	52,941
Gain (loss) on disposal of property, plant and equipment	_	271,671	(1,923,352)	271,671
Loss on measurement to fair value less costs of the property held for sale	_	734,994	_	734,994
Gain on a bargain purchase	_	_	_	(1,125,450)
Foreign exchange ⁽¹⁾	365,977	60,160	233,503	91,942
Canada Emergency Wage Subsidy ("CEWS")	_	(1,005,770)	(840,249)	(4,723,884)
Share-based compensation expenses	171,415	224,064	698,885	673,415
Non-operational items ⁽²⁾	_	_	295,012	89,884
Depreciation and amortization	2,270,592	1,511,016	7,376,062	6,206,193
Adjusted EBITDA	112,735	(3,018,654)	(9,170,924)	(8,909,308)

The following table provides a reconciliation of IFRS "Loss" to Non-IFRS "Adjusted EBITDA" for the three-month periods ended June 30, 2022 (Q4-2022), March 31, 2022 (Q3-2022), December 31, 2021 (Q2-2022) and September 30, 2021 (Q1-2022).

	Q4-2022	Q3-2022	Q2-2022	Q1-2022
	\$	\$	\$	\$
Loss	(2,708,675)	(4,516,108)	(3,585,180)	(4,730,631)
Current and deferred income tax recovery	(419,927)	(134,303)	(378,445)	(43,402)
Net interest expenses	92,350	274,559	174,256	220,436
Share of loss of a joint venture	341,003	171,807	173,734	57,741
Gain on disposal of property, plant and equipment	_	_	(1,601,271)	(322,081)
Foreign exchange ⁽¹⁾	365,977	(189,108)	(25,890)	82,524
CEWS	_	_	(41,608)	(798,641)
Share-based compensation expenses	171,415	175,592	179,937	171,941
Non-operational items ⁽²⁾	_	(17,414)	312,426	_
Depreciation and amortization	2,270,592	1,850,748	1,653,015	1,601,707
Adjusted EBITDA	112,735	(2,384,227)	(3,139,026)	(3,760,406)

⁽¹⁾ Since Q4-2022, the Corporation excludes foreign exchange from the adjusted EBITDA.

⁽²⁾ Non-operational items consist of professional fees related to business acquisitions and for the filing of prospectuses.

RESULTS OF OPERATIONS VARIANCE ANALYSIS – THREE-MONTH PERIODS

Revenues

	Q4-2022	Q4-2021	Variation		Q3-2022 Variation		n	
	\$	\$	\$	%	\$	\$	%	
Revenues from customers	28,080,085	19,608,770	8,471,315	43.2%	27,997,816	82,269	0%	
Other income	200,391	1,277,398	(1,077,007)	(84%)	408,934	(208,543)	(51%)	
Total revenues	28,280,476	20,886,168	7,394,308	35%	28,406,750	(126,274)	(0%)	

Revenues from customers were stable between Q3-2022 and Q4-2022 despite unfavorable economic conditions and supply chain issues.

Revenues from customers increased from \$19,608,770 in the last year quarter (Q4-2021) to \$28,080,085 in the current quarter (Q4-2022). This increase is mainly due to a positive product mix including graphene enhanced products, the acquisition of Canuck in December 2021, new sales programs and price increases.

Other income decreased from \$1,277,398 in the last year quarter (Q4-2021) to \$200,391 in the current quarter (Q4-2022). The decrease is explained by the end of the CEWS program set up by the Canadian Federal government to help businesses deal with the COVID-19 pandemic. The Corporation received nil under this program during Q4-2022 compared to \$1,005,770 in Q4-2021 as the program ended in October 2021.

Adjusted EBITDA

The adjusted EBITDA improved from -\$2,384,227 in the previous quarter (Q3-2022) to \$112,735 in the current quarter (Q4-2022). The improvement is mainly due to a positive product mix, improved productivity and cost control as well as lower variable compensation costs.

The adjusted EBITDA improved from -\$3,018,654 in the last year quarter (Q4-2021) to \$112,735 in the current quarter (Q4-2022). The variation is explained as follows:

- Gross margin on total revenues increased by \$2,589,196 compared to last year due to higher sales, a positive product mix, price increases, improved productivity and cost control; and
- Lower administrative expenses (SG&A and R&D) of \$542,193 mainly due to lower variable compensation and reduction
 of discretionary spending.

Loss

The loss decreased from \$4,437,041 in the last year quarter (Q4-2021) to \$2,708,675 in the current quarter (Q4-2022). The variation is mainly explained as follows:

- An increase in adjusted EBITDA of \$3,131,389 as explained above;
- This was offset by:
 - A decrease of \$1,005,770 in government assistance received from the Canadian federal government through its CEWS program;
 - Higher depreciation and amortization of \$759,576 due to the acquisition of Canuck and new composites equipment; and
 - Share loss of a joint venture of \$341,003 in Q4-2022 compared to 52,941 in Q4-2021.

RESULTS OF OPERATIONS VARIANCE ANALYSIS - FOR THE YEARS

Revenues

	YTD 2022	YTD 2021	Variatio	on
	\$	\$	\$	%
Revenues from customers	92,333,826	66,654,634	25,679,192	39%
Other income	1,973,333	5,693,768	(3,720,435)	(65%)
Total revenues	94,307,159	72,348,402	21,958,757	30%

Revenues from customers increased from \$66,654,634 in 2021 (YTD 2021) to \$92,333,826 in 2022 (YTD 2022). The increase is mainly explained as follows:

- Revenues from the Canuck acquisition completed on December 15, 2021;
- Full-year impact of the Continental Structural Plastics-Newton plant ("CSP Newton Plant") acquisition completed on September 11, 2020;
- Positive product mix including graphene enhanced products;
- Tooling revenues were higher in 2022 compared to 2021;
- Throughout 2022, demand from our customers continue to be negatively impacted due to lower production at customer's
 manufacturing sites caused by supply issues (semiconductors and raw materials among others) while other customers
 have still not regained their pre-pandemic levels (coach buses and industrial sectors). The Corporation has been able
 to partially offset this volume decrease through price increases and new sales programs.

Other income decreased from \$5,693,768 in 2021 (YTD 2021) to \$1,973,333 in 2022 (YTD 2022). The decrease is explained by the end of the CEWS program set up by the Canadian Federal government to help businesses deal with the COVID-19 pandemic. The Corporation received \$840,249 under this program during 2022 compared to \$4,723,884 in 2021 as the program ended in October 2021.

Adjusted EBITDA

The adjusted EBITDA decreased from -\$8,909,308 in 2021 (YTD 2021) to -\$9,170,924 in 2022 (YTD 2022). The variation is mainly explained as follows:

- Gross margin on total revenues is up by a net amount of \$1,912,919 compared to 2021 due to an increase in revenues from customers of \$25,679,192. The positive impact from higher sales was offset by higher manufacturing costs explained as follows:
 - Higher labour costs and lower productivity. Like many manufacturing companies, the Corporation is facing a labour shortage. The Corporation has had to use personnel agencies, work overtime hours and rely more heavily on outsourcing. This had a negative impact on labour costs and on productivity;
 - Significant increase in the cost of raw materials which the Corporation has only been partially able to pass along to our customers;
 - Higher maintenance on production equipment; and
- Higher administrative expenses (SG&A and R&D) of \$2,379,663 mainly due to the addition of the CSP Newton Plant's and Canuck's expenses as well as the addition of new strategic positions.

Loss

The loss increased from \$11,807,661 in 2021 (YTD 2021) to \$15,540,594 in 2022 (YTD 2022). The variation is mainly explained as follows:

- The adjusted EBITDA decreased by \$261,616 as explained above;
- A decrease of \$3,883,635 in government assistance received from the Canadian federal government through its CEWS program;
- An increase of \$1,169,869 in depreciation and amortization due to the acquisition of Canuck and new composites equipment;
- In 2021, a gain on a bargain purchase of \$1,125,450 was recognized relating to the acquisition of the CSP Newton Plant in September 2020;

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MANAGEMENT'S DISCUSSION AND ANALYSIS FOR YEARS ENDED JUNE 30, 2022 AND 2021

- An increase in the share loss of a joint venture of \$691,344 as the current year includes the full-year impact of VoltaXplore, which was incorporated in April 2021;
- These losses were offset by:
 - The gain on disposal of property, plant and equipment of \$1,923,352, mainly due to the sale of the property held for sale located in Quebec;
 - In 2021, a loss on measurement to fair value less costs of the property held for sale of \$734,994 was recognized on the building located in Tennessee; and
 - A reduction of net interest expenses of \$888,190 due to advance payment done on long-term debt in 2022 and 2021 and to the conversion of the convertible debentures during 2021.

SUMMARY OF QUARTERLY RESULTS

The table below presents selected financial data for the eight most recently reported quarters. This unaudited quarterly information has been prepared in accordance with IFRS.

		Revenues	Loss (1)	Basic and diluted loss per share	
		\$	\$	\$	
Q4-2022	June 30, 2022	28,280,476	(2,708,675)	(0.02)	Note 1
Q3-2022	March 31, 2022	28,406,750	(4,516,108)	(0.03)	Note 2
Q2-2022	December 31, 2021	18,801,487	(3,585,180)	(0.02)	Note 3
Q1-2022	September 30, 2021	18,818,446	(4,730,631)	(0.03)	Note 4
Q4-2021	June 30, 2021	20,886,168	(4,437,041)	(0.03)	
Q3-2021	March 31, 2021	18,421,736	(3,873,781)	(0.03)	Note 5
Q2-2021	December 31, 2020	17,463,831	(3,403,581)	(0.02)	Note 6
Q1-2021	September 30, 2020	15,576,667	(93,258)	(0.00)	Note 7

Note 1 The loss was smaller due to positive product mix, improved productivity and cost control.

Note 2 Higher revenues are mainly explained by positive product mix including graphene enhanced product, the acquisition of Canuck, price increase and new sales program.

Note 3 The loss was lower than usual given a gain on disposal of property, plan and equipment of \$1,601,271.

Note 4 The loss was higher than usual given less CEWS received and lower gross margin on total revenues due to increases in raw material and labour costs.

Note 5 Higher revenues are mainly explained by tooling revenues.

Note 6 The increase in revenues is explained by the business acquisition of the CSP Newton Plant, completed on September 11, 2020. The pandemic was still negatively impacting our revenues. We also received government assistance of \$944,112 from the Canadian federal government through its CEWS program. The loss was higher than usual given less CEWS received, a negative FX (USD/CAD) impact and higher selling, general and administrative expenses is explained by the addition of strategic new positions, the addition of the CSP Newton Plant and higher salary expenses.

Note 7 Resumed activity has been observed among our customers, which explains an increase in revenues compared to the previous quarter, but the pandemic was still negatively impacted our revenues. We also received government assistance of \$2,183,492 from the Canadian federal government through its CEWS program. Although the COVID-19 pandemic negatively impacted the quarterly results, the loss was less significant than expected given the CEWS received and the gain on a bargain purchase of \$1,125,450 due to the acquisition of the CSP Newton Plant.

⁽¹⁾ Since the initial net assets acquired from CSP Newton Plant were estimated and the valuation was completed during Q4-2021, the fair value of the property, plant and equipment has been increased by \$1,125,450 and this adjustment has been reflected retrospectively to the acquisition date as a gain on a bargain purchase in conformity with IFRS 3, *Business Combinations*.

Nano PLOTE MANAGEMENT'S DISCUSSION AND ANALYSIS For years ended june 30, 2022 and 2021

4. FINANCIAL POSITION, LIQUIDITY AND CAPITAL RESOURCES

CONSOLIDATED FINANCIAL POSITION

	2022 \$	2021 \$	Variation \$	Main manager for simulficent revision
	Ψ	Ψ	Ψ	Main reasons for significant variation
Assets				
Cash and cash equivalents	51,232,068	50,524,583	707,485	Refer to section Cash Flows
Accounts receivable and Contract asset	21,077,868	12,733,190	8,344,678	Mainly due to Canuck acquisition and to an increase of sales in Q4-2022 vs Q4- 2021
Inventory	17,507,812	11,036,407	6,471,405	Mainly due to Canuck acquisition and an increase of raw materials levels to avoid potential material shortages
Investment in a joint venture	4,238,774	3,983,059	255,715	
Right-of-use assets	8,381,031	4,885,169	3,495,862	New leaseback with Newton building and new leases with Canuck acquisition
Property, plant and equipment, and equipment deposits	54,329,195	55,225,547	(896,352)	
Property held for sale	_	2,424,351	(2,424,351)	Buildings located in Tennessee and Quebec were sold
Intangible assets	7,256,340	3,354,446	3,901,894	Due to Canuck acquisition
Goodwill	1,919,673	460,164	1,459,509	Due to Canuck acquisition
Other assets	1,315,688	675,008	640,680	
Total assets	167,258,449	145,301,924	21,956,525	
Liabilities and Shareholders' Equity				
Liabilities				
Accounts payable, accrued liabilities and income taxes payable	17,029,869	15,229,027	1,800,842	Due to Canuck acquisition and balance of purchase price from Canuck acquisition, offset by payment of the balance of purchase price of CSP Newton Plant and payment timing
Contract liability	536,060	1,740,789	(1,204,729)	Timing and completion of contract
Operating loans	4,648,900	1,343,300	3,305,600	To support higher working capital needs
Defined benefit liabilities	296,817	811,316	(514,499)	Increase of the discount rate
Balance of purchase price of business acquisition	956,014	_	956,014	Due to Canuck acquisition
Lease liability	15,232,915	9,574,747	5,658,168	Mainly due to the new leaseback with Newton building and to new leases with Canuck
Long-term debt	9,450,814	11,652,440	(2,201,626)	Advance debt repayment
Long-term debt directly associated with property held for sale	-	1,035,431	(1,035,431)	Building located in Quebec was sold
Deferred taxes liabilities	1,575,665	927,952	647,713	
Total liabilities	49,727,054	42,315,002	7,412,052	
Shareholders' Equity				
Share capital	169,354,272	140,067,376	29,286,896	Financing completed in February 2022
Reserve	4,185,185	3,880,555	304,630	
Foreign currency translation reserve	12,070	88,173	(76,103)	
Deficit	(56,020,132)	(41,049,182)	(14,970,950)	
Total shareholders' equity	117,531,395	102,986,922	14,544,473	
Total liabilities and shareholders' equity	167,258,449	145,301,924	21,956,525	

NanoxPlore

MANAGEMENT'S DISCUSSION AND ANALYSIS FOR YEARS ENDED JUNE 30, 2022 AND 2021

CASH FLOWS

	YTD 2022	YTD 2021	Variatio	on
	\$	\$	\$	%
Cash used in operating activities prior to changes in non-cash working capital items	(8,415,973)	(5,333,382)	(3,082,591)	58%
Changes in non-cash working capital items	(11,698,608)	(801,371)	(10,897,237)	1,360%
Operating activities	(20,114,581)	(6,134,753)	(13,979,828)	228%
Financing activities	26,547,162	38,087,338	(11,540,176)	(30%)
Investing activities	(5,740,219)	(15,145,348)	9,405,129	(62%)
Net effect of currency exchange rate on cash and cash	(,,,,,		, ,	()
equivalents	15,123	(79,340)	94,463	(119%)
Net change in cash and cash equivalents	707,485	16,727,897	(16,020,412)	(96%)

Operating activities

Cash flows used in operating activities prior to changes in non-cash working capital items were \$8,415,973 in 2022 compared to \$5,333,382 in 2021. The variation is mainly explained by a reduction of \$3,883,635 in the amount received from the CEWS program.

Changes in non-cash working capital items were -\$11,698,608 for the year ended June 30, 2022. The decrease is explained as follows:

- An increase in accounts receivable and contract asset of \$4,556,084 is mainly due to an increase in sales between Q4-2021 and Q4-2022;
- An increase in inventory of \$4,085,353 is mainly due to an increase in production levels, higher raw materials costs and stocking levels to meet our client forecast and mitigate against potential material shortages; and
- A reduction of contract liability of \$1,204,773 due to timing and completion of projects.

Financing activities

Cash flows generated in financing activities were \$26,547,162 in 2022 compared to \$38,087,338 in 2021. In 2022, the Corporation completed an issuance of common shares following a public financing for net proceeds of \$27,996,232, a long-term debt of \$1,539,094 was issued, the operating loans increased by \$2,955,000, stock options have been exercised for proceeds of \$896,409 and lease incentive of \$1,253,921 was received. These cash inflows were offset by an \$8,093,494 repayment on long-term debt and lease liability, which included advance debt payments of \$2,229,049.

In 2021, the Corporation completed an issuance of common shares following a public financing for net proceeds of \$43,382,567 and stock options were exercised for \$864,901. These were offset by repayment of \$5,428,790 on long-term debt and lease liability which included advance debt payments of \$1,370,000. Repayment of long-term debt was also higher in the 2022 as compared to 2021 because of the fact that our banks authorized a moratorium on payments due to the pandemic.

Investing activities

Cash flows used in investing activities were \$5,740,219 in 2022 compared to \$15,145,348 in 2021. In 2022, the Corporation paid \$6,830,534 for the acquisition of Canuck, net of cash acquired, \$2,051,304 for the repayment of balance of purchase price of the assets of CSP Newton Plant, \$1,000,000 to reinvest in VoltaXplore and \$4,058,685 for capital expenditures which are mostly related to expenditures of composites equipment. These were offset by the sale of three buildings for an amount of \$8,325,052.

In 2021, \$4,000,000 was paid as investment in a joint venture (VoltaXplore), \$2,303,450 was paid for acquiring the assets of CSP Newton Plant, and \$8,943,059 was paid for capital expenditures which were mostly related to expenditures of the extruding line of the graphene plant and composites equipment.

USE OF PROCEEDS

Use of Proceeds Reconciliation

i) February 2021

On February 12, 2021, the Corporation raised gross proceeds of \$46,000,000 by issuing a total of 11,500,000 Common Shares pursuant to a short form prospectus offering (the "February 2021 Offering"). The net proceeds of the February 2021 Offering were \$43,382,567, after deduction of underwriters' fees and other expenses.

The net proceeds of the February 2021 Offering are expected to be used by the Corporation within 24 months following the closing of the February 2021 Offering, as follows.

	Use of proceeds as described in the Short Form Prospectus dated February 5, 2021	Revised estimate of the use of proceeds as of the date hereof
Battery initiatives	4,000,000	5,000,000
Sales and marketing of graphene	20,000,000	20,000,000
Debt reduction	15,000,000	15,000,000
General corporate purposes	4,320,000	3,320,000
Total	43,320,000	43,320,000

The increase in planned expenditure for battery initiatives is mainly explained by higher-than-expected costs of equipment.

With respect to the reduction of the Corporation's debt, the Corporation expects to continue to gradually reduce its debt obligations, to provide a fertile ecosystem for growth. The Corporation is aware of the potential early payment fees resulting from repayment of debt before maturity and will take a balanced approach to minimize such fees.

With respect to the potential negative economic impacts of the Covid-19 pandemic on our business, the Corporation will continue to respond in a measured, prudent and decisive manner with continued emphasis on health and safety, cash conservation and the maintenance of its liquidity position.

The Corporation had negative cash flows from operating activities for the year ended June 30, 2022. The Corporation cannot guarantee if it will have positive or negative cash flow from operating activities in future periods. To the extent that the Corporation has negative cash flows in any future period, certain of the proceeds from the February 2021 Offering or future offerings may be used to fund such negative cash flows from operating activities.

ii) February 2022

On February 24, 2022, the Corporation raised gross proceeds of \$30,001,200 by issuing a total of 6,522,000 Common Shares pursuant to a short form prospectus offering (the "February 2022 Offering"). The net proceeds of the February 2022 Offering were \$27,996,232, after deduction of underwriters' fees and other expenses.

The net proceeds of the February 2022 Offering are expected to be used by the Corporation within 24 months following the closing of the February 2022 Offering, as follows.

	Use of proceeds as described in the Short Form Prospectus dated February 24, 2022	Revised estimate of the use of proceeds as of the date hereof	
Acquisition of assets or companies,			
partnerships and General corporate purposes	27,996,232	27,996,232	
Total	27,996,232	27,996,232	

LIQUIDITY AND CAPITAL RESOURCES

Throughout the COVID-19 pandemic, the Corporation has taken controlled and measured actions to preserve liquidity, including flexing and reducing its cost base, eliminating discretionary spending across its global footprint and delaying capital spending where and when appropriate. In addition, the Corporation enhanced its liquidity position with public financing for net proceeds of \$27,996,232 during the financial year 2022. As at June 30, 2022, the Corporation had total liquidity of \$58,638,827, including cash and cash equivalents and availability under the Corporation's operating loans.

Management believes that the Corporation has sufficient funds to meet its obligations, operating expenses and some development expenditures for the ensuing 12 months as they fall due. The Corporation's ability to continue its development activities is dependent on the impact of COVID-19, supply chain issues and the speed of introduction of graphene products into different industries. Although graphene products have generated revenues, the graphene commercial activity is still in the commercial introduction stage and, as a result, the Corporation could be dependent on external financing to fund its continued development program, if the commercial introduction of the graphene is delayed. The Corporation's main sources of funding have been the issuance of equity securities for cash, debt, cash flow from operations and funds from the government of Quebec with respect to R&D tax credits, Sustainable Development Technology Canada ("SDTC") and from the CEWS program.

CONTRACTUAL OBLIGATIONS AND OFF-BALANCE SHEET ARRANGEMENTS

The following table identifies the timing of undiscounted contractual obligations due as of June 30, 2022:

	Contractual obligations				
	1 year	2-3 years	4-5 years	Later than 5 years	Total
	\$	\$	\$	\$	\$
Operating loans	4,648,900	_	_	_	4,648,900
Trade payables, accrued liabilities and current portion					
of balance of purchase price	13,481,875	-	-	-	13,481,875
Balance of purchase price of business acquisition	_	1,000,000	_	_	1,000,000
Lease liability	3,061,652	6,818,954	3,585,912	3,883,690	17,350,208
Long-term debt	3,572,474	3,276,213	2,938,980	754,759	10,542,426
Purchase obligations ⁽¹⁾	857,114	_	_	_	857,114
Total	25,622,015	11,095,167	6,524,892	4,638,449	47,880,523

⁽¹⁾ Purchase obligations consist of those related to inventory. These are off-balance sheet disclosed in consolidated financial statements for the years ended June 30, 2022 and 2021 in note 19.

As at June 30, 2022, the Corporation held forward exchange contracts for a minimum of US\$22.6 million and a maximum of US\$32.9 million depending on the exchange rate of such derivative contracts. Rates vary from 1.1804 to up to 1.3576. The contracts are valid until April 2024.

Management believes that the Corporation will be able to meet its obligations with cash on hand, cash flows from operations and drawdowns under existing credit facilities.

FINANCIAL INSTRUMENTS AND RISK MANAGEMENT

For a detailed description of the financial instruments and risk management associated with the Corporation and its activities, please refer to the consolidated financial statements for the years ended June 30, 2022 and 2021. These identified financial instruments and risks are consistent through the periods.

OUTSTANDING SHARES

As at September 13, 2022, the Corporation has:

- 165,575,525 common shares issued and outstanding;
- 3,301,666 options outstanding with expiry dates ranging between December 19, 2023 and August 4, 2027 with exercise prices between \$1.22 and \$6.44. If all the options were exercised, 3,301,666 shares would be issued for cash proceeds of \$7,697,814.

5. RELATED PARTY TRANSACTIONS

For a detailed description of all related party transactions, please refer to the note 18 "Related party transactions" in the consolidated financial statements for the years ended June 30, 2022 and 2021.

6. **RISKS AND UNCERTAINTIES**

The following risk factors, as well as other information contained in this MD&A, should be considered carefully. The operations of the Corporation are speculative due to the high-risk nature of its business, which relates to acquisitions, financing, technology and manufacturing. These risk factors could materially affect the Corporation's future operating results and could cause actual events to differ materially from those described in forward–looking information relating to the Corporation.

ECONOMIC AND POLITICAL CONDITIONS

The Corporation has international operations, including operations in Canada, the United States and Europe. Worldwide financial and economic cycles or conditions are uncertain, and recovery from a business downturn or recession could be very slow and have significant impact on the Corporation's business. The Corporation's business is sensitive to changes in economic and political conditions, including interest rates, currency issues, energy prices, trade issues, international or domestic conflicts or political crises, and epidemics or pandemics, such as the strain of COVID-19.

As at the date hereof, the global reactions to the spread of COVID-19 have led to, among other things, significant restrictions on travel and gatherings of individuals, quarantines, temporary business closures and a general reduction in consumer activity. While these effects are expected to be temporary, the duration of the disruptions to business internationally and the related financial impact cannot be estimated with any degree of certainty at this time. In addition, the increasing number of individuals infected with COVID-19 could result in an even greater global health crisis that could adversely affect global economies and financial markets, resulting in a protracted economic downturn that could have an adverse effect on the Corporation's prospects.

The responses of governmental authorities and corporate entities, including through mandated or voluntary shutdowns, may also lead to a general long-term slow-down in the economy and may lead to disruptions to the Corporation's workforce and facilities, customers, sales and operations and supply chain.

Measures taken by the governments worldwide and voluntary measures undertaken by the Corporation with a view to the safety of the Corporation's employees may adversely impact the Corporation's business.

LONG AND COMPLEX GRAPHENE SALES CYCLE

It has been the experience of the Corporation that the average sales cycle for its graphene powder and graphene enhanced products can range from one to multiple years from the time a customer begins testing the Corporation's product until the time that they could be used in a commercial product. The product introduction timing will vary based on the target market. The sales and development cycles for the Corporation's products are subject to customer budgetary constraints, internal acceptance procedures, competitive product assessments, scientific and development resource allocations, and other factors beyond the Corporation's control. If the Corporation is not able to successfully accommodate these factors to enable customer development success, the Corporation may be unable to achieve sufficient sales to reach profitability. Failure to achieve profitability may have a material adverse effect on the Corporation's operating results.

The graphene sales cycle is long and complex. Several milestones have to be reached in order to see a widespread adoption of graphene in several markets.

- Availability of Supply: The first step is to demonstrate that the technology has reached a level of maturity that a consistent and reliable supply of graphene is available in an industrial setting and at a cost that is acceptable.
- Graphene certification as a substance: Any new material requires to be certified in order to be produced and shipped cross borders. Each jurisdiction has its own requirement, U.S. Environmental Protection Agency ("EPA"), Environmental Canada, and Europe REACH (Registration, Evaluation, Authorization and Restriction of Chemicals) are examples of these entities which aim to provide a high level of protection of human health and the environment from the use of chemicals/substance.
- **Product validation:** This includes technical performance, financial validation, sustainability and life-time analysis, processability and logistic, and more. Different players in the supply chain are involved in validating the performance of graphene. OEMs, molders, and formulators are all involved in these steps, making it a long process and unpredictable.

 Product level certification: The majority of products and applications are certified through ASTM or ISO certifications. For instance, for a new additive to be used in plastic pipes, corresponding ASTM and ISO certifications have to be modified.

PRODUCT DEVELOPMENT AND TECHNOLOGICAL CHANGE

As there is limited sustained history of successful use of the Corporation's graphene powder and graphene enhanced products in commercial applications, there is no assurance that broad successful commercial applications may be technically feasible. Most, if not all, of the scientific and engineering data related to the Corporation's products has been generated by the Corporation's own laboratories or laboratory environments at our customers or third-parties, like universities and national laboratories. It is well known that laboratory data is not always representative in commercial applications.

Additionally, the industries in which the Corporation operates are characterized by rapid technological change and frequent new product introductions. Part of the Corporation's business strategy is to monitor such change and take steps to remain technologically current, but there is no assurance that such strategy will be successful. If the Corporation is not able to adapt to new advances in materials sciences, or if unforeseen technologies or materials emerge that are not compatible with the Corporation's products and services or that could replace its products and services, the Corporation's revenues and business would likely be adversely affected.

MARKET DEVELOPMENT AND SUSTAINED GROWTH

Failure to further develop the Corporation's key markets and existing geographic markets or to successfully expand its business into new markets could have an adverse impact on sales growth and operating results. The Corporation's ability to further penetrate its key markets and the existing geographic markets in which it competes, and successfully expand its business into other countries, is subject to numerous factors, many of which are beyond its control. There can be no assurance that efforts to increase market penetration in the Corporation's key markets and existing geographic markets will be successful. Failure to achieve these goals may have a material adverse effect on the Corporation's operating results.

LIQUIDITY CONCERNS AND FUTURE FINANCING

The Corporation is ultimately dependent on the commercial sales of graphene powder and graphene enhanced products. Any delay in the sales of such products could require additional financing. There can be no assurance that the Corporation will be successful in obtaining the required financing as and when needed. Volatile markets may make it difficult or impossible for the Corporation to obtain debt financing or equity financing on favourable terms, if at all. Failure to obtain additional financing on a timely basis may cause the Corporation to postpone or slow down its development plans or reduce or terminate some or all of its activities.

LAWS AND REGULATIONS, LICENSES AND PERMITS

Legislation is evolving in a manner that is creating stricter standards, while enforcement, fines and penalties for non compliance are also increasingly stringent. A significant change in the legal and regulatory environment in which the Corporation currently carries on business could adversely affect the Corporation's operations. In particular, large volume production of graphene requires permits and approvals from various government authorities, and is subject to extensive federal, provincial, state, and local laws and regulations governing development, production, exports, taxes, labour standards, occupational health and safety, environment and other matters. As graphene is a new chemical substance, production and sale of graphene may be subject to specific occupational health and safety and environment regulatory approvals in different jurisdictions including, without limitations, under the *Canadian Environmental Protection Act* (Canada), the *Food and Drug Act* (Canada), the *Toxic Substances Control Act* (USA), the *Food Drug and Cosmetic Act* (USA) and the *Registration, Evaluation, Authorization and Restriction of Chemicals* (Europe). Such laws and regulations are subject to change, can become more stringent, and compliance can be costly. There can be no guarantee that the Corporation will be able to maintain or obtain all necessary licences, permits and approvals that may be required to produce or sell graphene, and such failures could have a material adverse effect on the Corporation.

In addition, the Corporation's operations could be adversely impacted by significant changes in tariffs and duties imposed on its products, particularly significant changes to the United States-Mexico-Canada Agreement on Trade ("**USMCA**"), the adoption of domestic preferential purchasing policies in other jurisdictions, particularly the United States, or positive or negative changes in tax or other legislation. The Corporation could be exposed to increased customs audits due to governmental policy which could lead to additional administrative burden and costs. Changes in legislation or regulation could lead to additional administrative burden and costs in general, and also carry the potential of a material fine or significant reputational risk.

INTELLECTUAL PROPERTY

The Corporation relies on the patent, trade secret and other intellectual property laws of Canada, the United States and the other countries where it does business to protect its intellectual property rights. The Corporation may be unable to prevent third parties from using its intellectual property without its authorization. The unauthorized use of the Corporation's intellectual property could reduce any competitive advantage that it has developed, reduce its market share or otherwise harm its business. In the event of unauthorized use of the Corporation's intellectual property, litigation to protect and enforce the Corporation's rights could be costly, and the Corporation may not prevail.

Many of the Corporation's technologies are not covered by any patent or patent application, and the Corporation's issued and pending Canadian, United States and other countries' patents may not provide the Corporation with any competitive advantage and could be challenged by third parties. The Corporation's inability to secure issuance of pending patent applications may limit its ability to protect the intellectual property rights these pending patent applications were intended to cover. The Corporation's competitors may attempt to design around its patents to avoid liability for infringement and, if successful, could adversely affect the Corporation's market share. Furthermore, the expiration of the Corporation's patents may lead to increased competition.

In addition, effective patent, trade secret and other intellectual property protection may be unavailable or limited in some foreign countries. In some countries, the Corporation does not apply for patent or other intellectual property protection. The Corporation also relies on unpatented technological innovation and other trade secrets to develop and maintain its competitive position. Although the Corporation generally enters into confidentiality agreements with its employees and third parties to protect its intellectual property, these confidentiality agreements are limited in duration, could be breached and may not provide meaningful protection of its trade secrets. Adequate remedies may not be available if there is an unauthorized use or disclosure of the Corporation's trade secrets and manufacturing expertise. In addition, others may obtain knowledge about the Corporation's trade secrets through independent development or by legal means. The failure to protect the Corporation's processes, technology, trade secrets and proprietary manufacturing expertise, methods and compounds could have a material adverse effect on its business by jeopardizing critical intellectual property.

Where a product formulation or process is kept as a trade secret, third parties may independently develop or invent and patent products or processes identical to such trade secret products or processes. This could have a material adverse effect on the Corporation's ability to make and sell products or use such processes and could potentially result in costly litigation in which the Corporation might not prevail.

The Corporation could face intellectual property infringement claims that could result in significant legal costs and damages and impede its ability to produce key products, which could have a material adverse effect on its business, financial condition, and results of operations.

DEPENDENCE ON MANAGEMENT AND KEY PERSONNEL

The Corporation is dependent on the services of key executives, including a small number of highly skilled and experienced executives and personnel. The Corporation's development to date has largely depended, and in the future will continue to depend, on the efforts of key management and other key personnel to develop its projects. Loss of any of these people, particularly to competitors, in the short term, could have a material adverse impact upon the Corporation's business.

QUALIFIED EMPLOYEES

Recruiting and retaining qualified personnel is critical to the Corporation's success. Especially if it relates to its graphene operations, finding skilled scientists and a sales team familiar with the subject matter is difficult. As the Corporation grows further, the need for skilled labour will increase. The number of persons skilled in the high-tech manufacturing business is limited and competition for this workforce is intense. This may adversely affect the business of the Corporation if it is unable to recruit and retain qualified personnel as and when required.

COMPETITION

The Corporation competes with other graphene and manufacturing companies, in highly competitive markets. Some of the Corporation's competitors have substantially greater financial, marketing and other resources and higher market share that the Corporation has in certain products or geographic areas. As the markets for the Corporation's products and other services expand, additional competition may emerge and competitors may commit more resources to products which directly compete with the Corporation's products. There can be no assurance that the Corporation will be able to compete successfully with existing competitors or that its business will not be adversely affected by increased competition or by new competitors.

CYBERSECURITY THREATS

The reliability and security of the Corporation's information technology ("IT") systems is important to the Corporation's business and operations. Although the Corporation has established and continues to enhance security controls intended to protect the Corporation's IT systems and infrastructure, there is no guarantee that such security measures will be effective in preventing unauthorized physical access or cyberattacks. A significant breach of the Corporation's IT systems could, among other things, cause disruptions in the Corporation's manufacturing operations (such as operational delays from production downtime, inability to manage the supply chain or produce product for customers, disruptions in inventory management), lead to the loss, destruction, corruption or inappropriate use of sensitive data, including employee information or intellectual property, result in lost revenues due to theft of funds or due to a disruption of activities, including remediation costs, or from litigation, fines and liability or higher insurance premiums, the costs of maintaining security and effective IT systems, which could negatively affect results of operation's, its customers' or suppliers' intellectual property or confidential information. If any of the foregoing events (or other events related to cybersecurity) occurs, the Corporation may be subject to a number of consequences, including reputational damage, a diminished competitive advantage and negative impacts on future opportunities which could have a material adverse effect on the Corporation.

SHARE PRICE FLUCTUATIONS

The market price of securities of many companies, particularly development stage companies, experience wide fluctuations in price that are not necessarily related to the operating performance, underlying asset values or prospects of such companies. There can be no assurance that fluctuations in the Corporation's share price will not occur. In particular, the fluctuations may be exaggerated if the trading volume of the Common Shares of the Corporation is low.

COST ABSORPTION AND PURCHASE ORDERS

Especially as it relates to its activities in the transportation industry, and given the current trends in that industry, the Corporation is under continuing pressure to absorb costs related to product design and development, engineering, program management, prototypes and validation. In particular, OEMs are requesting that suppliers pay for the above costs and recover these costs through the piece price of the applicable component. Contract volumes for customer programs not yet in production are based on the Corporation's customers' estimates of their own future production levels. However, actual production volumes may vary significantly from these estimates due to a reduction in consumer demand or new product launch delays, often without any compensation to the supplier by its OEM customer. Typical purchase orders issued by customers do not require that they purchase a minimum number of the Corporation's products. For programs currently under production, the Corporation is generally unable to request price changes when volumes differ significantly from production estimates used during the quotation stage. If estimated production volumes are not achieved, the product development, design, engineering, prototype and validation costs incurred by the Corporation may not be fully recovered. Similarly, future pricing pressure or volume reductions by the Corporation's customers may also reduce the amount of amortized costs otherwise recoverable in the piece price of the Corporation's products. Either of these factors could have an adverse effect on the Corporation's profitability. While it is generally the case that once the Corporation receives a purchase order for products of a particular vehicle program it would continue to supply those products until the end of such program, customers could cease to source their production requirements from the Corporation for a variety of reasons, including the Corporation's refusal to accept demands for price reductions or other concessions.

ACQUISITIONS

The Corporation has acquired and could continue to acquire complementary businesses, assets, technologies, services or products, at competitive prices. The Corporation could continue to pursue acquisitions in those product areas which were identified as key to the Corporation's long-term business strategy. However, as a result of intense competition in these strategic areas, the Corporation may not be able to acquire the targets needed to achieve its strategic objectives. The completion of such transactions poses additional risks to the Corporation's business. Acquisitions are subject to a range of inherent risks, including the assumption of incremental regulatory/compliance, pricing, supply chain, commodities, labor relations, litigation, environmental, pensions, warranty, recall, IT, tax or other risks. Although the Corporation seeks to conduct appropriate levels of due diligence on acquisition targets, these efforts may not always prove to be sufficient in identifying all risks and liabilities related to the acquisition, including as a result of: limited access to information; time constraints for conducting due diligence; inability to access target Corporation facilities and/or personnel; or other limitations in the due diligence process. Additionally, the Corporation may identify risks and liabilities that cannot be sufficiently mitigated through appropriate contractual or other protections. The realization of any such risks could have a material adverse effect on the Corporation's operations or profitability. The benefit to the Corporation of previous and future acquisitions is highly dependent on the Corporation's ability to integrate the acquired businesses and their technologies, employees and products into the Corporation, and the Corporation may incur costs associated with integrating and rationalizing the facilities (some of which may need to be closed in the future). The Corporation cannot be certain that it will successfully integrate acquired businesses or that acquisitions will ultimately benefit the Corporation. Any failure to successfully integrate businesses or failure of the businesses to benefit the Corporation could have a material adverse effect on its business and results of operations. Such transactions may also result in additional dilution to the Corporation's shareholders or increased debt. Such transactions may involve partners, and the formula for determining contractual sale provisions may be subject to a variety of factors that may not be easily quantified or estimated until the time of sale (such as market conditions and determining fair market value).

LAUNCH AND OPERATIONAL COSTS

The launch of new business, in an existing or new facility, is a complex process, the success of which depends on a wide range of factors, including the production readiness of the Corporation and its suppliers, as well as factors related to tooling, equipment, employees, initial product quality and other factors. A failure to successfully launch material new or takeover business could have an adverse effect on profitability. Significant launch costs were incurred by the Corporation in recent years. The Corporation's manufacturing processes are vulnerable to operational problems that can impair its ability to manufacture its products in a timely manner, or which may not be performing at expected levels of profitability. The Corporation's facilities contain complex and sophisticated equipments that are used in its manufacturing processes. The Corporation has in the past experienced equipment failures and could experience equipment failure in the future due to wear and tear, design error or operator error, among other things, which could have an adverse effect on profitability. From time to time, the Corporation may have some operating divisions which are not performing at expected levels of profitability. Significant underperformance of one or more operating divisions could have a material adverse effect on the Corporation's profitability and operations.

CYCLICAL RISKS

A portion of the business of the Corporation is cyclical, especially as it relates to its activities in the transportation industry. It is dependent on, among other factors, general economic conditions in North America and elsewhere. Future sales and production volumes are anticipated to be relatively flat or stable in North America over the next several years, but volume levels are uncertain, and volume levels can decrease at any time. There can be no assurance that North American truck production overall or specific platforms will not decline in the future or that the Corporation will be able to utilize any existing unused capacity or any additional capacity it adds in the future. A continued or a substantial additional decline in the production of trucks overall or by customer or by customer platform may have a material adverse effect on the Corporation's financial condition and results of operations and ability to meet existing financial covenants.

North America is a key truck producing region for the Corporation and operating results are dependent on truck production in this region by our customers. Due to the nature of the Corporation's business, it is dependent upon several large customers such that cancellation of a significant order by any of these customers, the loss of any such customers for any reason or the insolvency of any such customers, reduced sales of truck platforms of such customers, or shift in market share on trucks on which we have significant content, or any significant or sustained decline in truck production volumes in North America, could significantly reduce the Corporation's ongoing revenue and/or profitability, and could materially and adversely affect the Corporation's financial condition. Although the Corporation continues to diversify its business, there is no assurance that it will be successful.

PRODUCT WARRANTY, RECALL AND LIABILITY RISK

Especially as it relates to the Corporation's composites parts manufacturing operations, customers are increasingly requesting that each of their suppliers bear costs of the repair and replacement of defective products which are either covered under a manufacturer's warranty or are the subject of a recall by the manufacturer and which were improperly designed, manufactured or assembled by their suppliers. The obligation to repair or replace such parts, or a requirement to participate in a product recall, could have a material adverse effect on the Corporation's operations and financial condition.

MATERIAL AND COMMODITY PRICES

Prices for key raw materials and commodities used in composite parts and graphene production, particularly graphite, polyester resin, glass fiber and other raw materials, as well as energy prices, have proven to be volatile at certain times. To the extent that the Corporation is unable to fully mitigate its exposure to price change of key raw materials and commodities, particularly through engineering products with reduced content, by passing price increases to customers, or otherwise, such additional costs could have a material adverse effect on profitability. Increased energy prices could also have an impact on production or transportation costs which in turn could affect competitiveness.

QUOTE/PRICING ASSUMPTIONS

Especially as it relates to the Corporation's composites parts manufacturing operations, the time between award of new production business and start of production typically ranges between one to three years. Since product pricing is typically determined at the time of award, the Corporation is subject to significant pricing risk due to changes in input costs and quote assumptions between the time of award and start of production. The inability to quote effectively, or the occurrence of a material change in input cost or other quote assumptions between program award and production, could have an adverse effect on the Corporation's profitability.

UNINSURED RISKS

The Corporation maintains insurance to cover normal business risks. In the course of its manufacturing businesses, certain risks and, in particular, unexpected or unusual catastrophic events including explosions and fire may occur. It is not always possible to fully insure against such risks as a result of high premiums or other reasons. Should such liabilities arise, they could reduce or eliminate any future profitability and result in increasing costs and a decline in the value of the Common Shares of the Corporation.

FOREIGN EXCHANGE

The Corporation operates internationally and is exposed to foreign exchange risk mainly related to expenses and sales in currencies other than the respective functional currencies of the Corporation, primarily with respect to the US dollar. Management has set up a policy that requires the Corporation to manage its currency risk and imposes strict limits on the maximum exposures that can be entered into. Sales denominated in US dollars accounted for around 61% of the Corporation's total sales for the year ended June 30, 2022. Consequently, the Canadian dollar trends in relation to the US dollar add an element of risk and uncertainty for the Corporation. These risks are partially offset by the raw material purchases denominated in US dollars. The Corporation's policy is not to use derivative financial instruments for trading or speculative purposes but only for hedging some risk related to the US dollar. The Corporation sets up credit facilities allowing it to enter into forward foreign or option exchange contract transactions. This amount partially covers the Corporation's potential requirements over the next 24 months. The Corporation will proactively monitor the need to use this facility based on market conditions.

LITIGATION

The Corporation has entered into legally binding agreements with various third parties, including supply, distribution, nondisclosure, consulting and partnership agreements. The interpretation of the rights and obligations that arise from such agreements is open to interpretation and the Corporation may disagree with the position taken by the various other parties resulting in a dispute that could potentially initiate litigation and cause the Corporation to incur legal costs in the future. Given the speculative and unpredictable nature of litigation, the outcome of any such disputes could have a material adverse effect on the Corporation's business.

OTHER RISK FACTORS

Additional risks not currently known to the Corporation or that the Corporation currently deems immaterial may also impair the Corporation's operations.

7. ACCOUNTING POLICIES

CRITICAL ACCOUNTING JUDGMENTS AND ESTIMATES

The preparation of consolidated financial statements requires management to make estimates and judgments about the future. Management periodically reviews these estimates, which are based on historical experience, changes in the business environment and other factors, including expectations of future events, that management considers reasonable under the circumstances. The estimates involve judgments we make based on the information available. However, accounting estimates could result in outcomes that require a material adjustment to the carrying amount of the asset or liability affected in future periods.

The Corporation based its assumptions and estimates on parameters available when the consolidated financial statements were prepared. However, existing circumstances and assumptions about future developments may change due to market events or to circumstances beyond the Corporation's control. Such changes are reflected in the assumptions when they occur. This discussion addresses only those estimates that we consider important based on the degree of uncertainty and the likelihood of a material impact if we had used different estimates. There are many other areas in which we use estimates about uncertain matters.

NANO PLOPE MANAGEMENT'S DISCUSSION AND ANALYSIS FOR YEARS ENDED JUNE 30, 2022 AND 2021

For a detailed description of the critical accounting judgments and estimates associated with the Corporation and its activities, please refer to the section "Significant management estimates and judgments in applying accounting policies" in the note 2 in the consolidated financial statements for the years ended June 30, 2022 and 2021.

FUTURE CHANGES IN ACCOUNTING POLICIES

Certain standards and amendments to existing standards have been published, and their adoption is mandatory for future accounting periods. Refer to the note 3 in the consolidated financial statements for the years ended June 30, 2022 and 2021 for the details of these standards and amendments.

8. CONTROLS AND PROCEDURES

In accordance with National Instrument 52-109 of the Canadian Securities Authorities, the Corporation has filed certificates signed by the Chief Executive Officer and the Chief Financial Officer that, among other things, attest to the design of the disclosure controls and procedures ("DC&P") and the design and effectiveness of internal controls over financial reporting.

An evaluation of the design and operating effectiveness of DC&P and ICFR was carried out under the supervision of the Chief Executive Officer and the Chief Financial Officer. This evaluation consisted of a review of documentation, audits and other procedures that management considered appropriate in the circumstances. Based on this evaluation and using the criteria set by the Committee of Sponsoring Organizations of the Treadway Commission on Internal Control – Integrated Framework (COSO-Framework 2013) and in connection with the preparation of its year-end financial statements, the two certifying officers concluded that the design of DC&P and ICFR were effective as at June 30, 2022.

No changes were made to the Corporation's internal controls over financial reporting during Q4-2022 that have materially affected, or are reasonably likely to materially affect, internal controls over financial reporting.

Limitation on Scope of Design

The scope of design of internal controls over financial reporting and DC&P excluded the controls, policies, and procedures of Canuck, which was acquired on December 15, 2021. Canuck's contributions to the Corporation's consolidated statements of loss and comprehensive loss for the year ended June 30, 2022 was approximately 16% of total revenues. Additionally, as at June 30, 2022, Canuck's assets and liabilities represented approximately 6% and 10%, respectively, of the Corporation's consolidated assets and liabilities. The amounts recognized for the net assets acquired as at the date of this acquisition are described in Note 4a of the consolidated financial statements for the years ended June 30, 2022 and 2021.