



CORPORATE PRESENTATION  
Q2 2023

# Cautionary Statements

*This document is a presentation dated for reference January 2022 (the "Presentation") regarding Black Swan Graphene Inc. (the "Company") current as of January 2022, unless stated otherwise. It is information in a summary form and does not purport to be complete.*

*The Presentation contains forward-looking information and forward-looking statements regarding the Company within the meaning of applicable Canadian securities laws (collectively herein referred to as "forward-looking information") concerning anticipated developments and events that may occur in the future. Forward looking information contained in this Presentation includes, but is not limited to, statements with respect to: (i) the market, demand for, and future price of graphene and related products; (ii) estimates of future production; (iii) estimates of future demand; (iv) the results of the Internal Scoping Study done by Thomas Swan & Co. Ltd., which was not vetted by a third party, including statements about future production, future operating and capital costs, the projected IRR, NPV, payback period, construction timelines and production timelines for the Project, consisting of the design, permitting, financing, and construction of a large scale bulk graphene production facility along with the required commercialization. To the extent any guidance or forward-looking statements herein constitute a financial outlook or future oriented financial information ("FOFI"), they are made as of the date hereof and included herein to provide readers with an understanding of the plans and assumptions for budgeting purposes and readers are cautioned that the information may not be appropriate for other purposes. The Company's actual results, performance or achievements could differ materially from those expressed in, or implied by, these FOFI, or if any of them do so, what benefits the Company will derive therefrom.*

*In certain cases, forward-looking information can be identified by the use of words such as "plans", "expects" or "does not expect", "is expected", "budget", "scheduled", "estimates", "forecasts", "intends", "anticipates" or "does not anticipate", or "believes", or variations of such words and phrases or state that certain actions, events or results "may", "could", "would", "might" or "will be taken", "occur" or "be achieved" suggesting future outcomes, or other expectations, beliefs, plans, objectives, assumptions, intentions or statements about future events or performance. Forward-looking information contained in this Presentation is based on certain factors and assumptions regarding, among other things, graphene and other prices such as surfactants and graphite flakes, the timing and amount of future development expenditures, the estimation of initial and sustaining capital requirements, the estimation of labour and operating costs, the availability of necessary financing, the receipt of necessary regulatory approvals, the estimation of insurance coverage, commercial efforts, growth plans and cash flows, the demand for the Company's services and products, stable market and general economic conditions, and assumptions with respect to currency fluctuations, environmental risks, and other similar matters. While the Company considers these assumptions to be reasonable based on information currently available to it, they may prove to be incorrect.*

*Forward-looking information involves known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by the forward-looking information. Such factors include risks inherent in the exploration and development of such project, including risks relating to changes in project parameters as plans continue to be redefined including the possibility that operations may not commence, risks relating to variations in input prices, such as graphite flakes or graphite powders, surfactants, electricity prices and other input prices, risks relating to the ability to access transportation, sources of power and port facilities, risks relating to changes in prices and the worldwide demand for and supply of graphene and related products, risks related to increased competition in the market for graphene and related products and in the industrial world generally, risks related to current global financial or economical conditions, uncertainties inherent in the supply chain, reliance on key personnel, operational risks inherent in the conduct of industrial or processing activities, including the risk of accidents, labour disputes, increases in capital and operating costs and the risk of delays or increased costs that might be encountered during the development process, regulatory risks, including risks relating to the acquisition of the necessary licenses and permits, financing, capitalization and liquidity risks, including the risk that the financing necessary to fund the exploration and development activities of the business plan may not be available on satisfactory terms, or at all, risks related to disputes concerning the Company's intellectual property, environmental risks, or others. Accordingly, readers should not place undue reliance on forward-looking information. The forward-looking information is made as of the date of this Presentation. Except as required by applicable securities laws, the Company does not undertake any obligation to publicly update or revise any forward-looking information. Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in the forward-looking statements in this Presentation, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements.*

*This Presentation includes market and industry data which was obtained from various publicly available sources and other sources believed by the Company to be true. Although the Company believes it to be reliable, the Company has not independently verified any of the data from third-party sources referred to in this Presentation or analyzed or verified the underlying reports relied upon or referred to by such sources, or ascertained the underlying assumptions relied upon by such sources. The Company does not make any representation as to the accuracy of such information.*

*Graphene products performance results vary depending on type and the specificity of the target material, the specifics of the graphene itself, including but not limited to, carbon purity, particle size, surface agent, dispersion behavior, and application and usage methods.*



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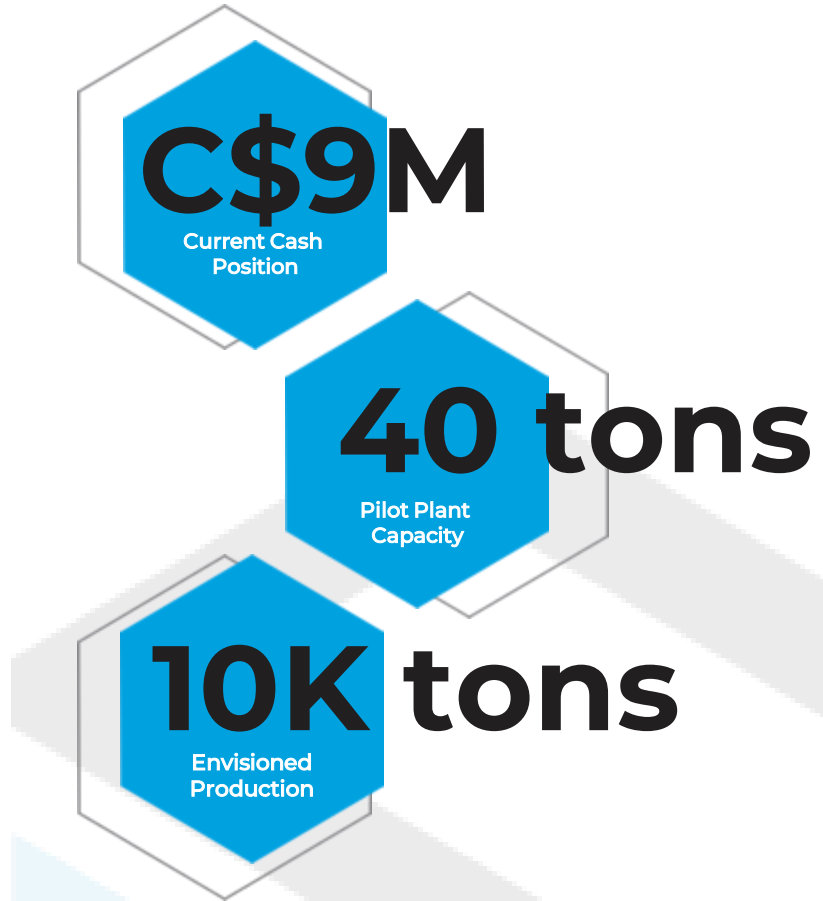
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TSX-V: SWAN



# Highlights

- Bulk Graphene: **Multi-Billion Dollar Addressable Markets**, notably in concrete and polymers.
- Black Swan Graphene Inc. acquired graphene production Intellectual Property, 16 patents granted internationally, and know-how from **Thomas Swan & Co. Ltd.**
  - Low cost, high-performance, bulk graphene
  - **One of VERY few companies with such cost/performance**
- Strategic shareholders:
  - Mason Graphite Inc. (39%)
  - Thomas Swan & Co. Ltd. (15%)
  - Nationwide Engineering (5%)
- Product **already used in commercial applications**, including concrete
- **FULLY INTEGRATED SUPPLY CHAIN** providing a turnkey solution to the construction and concrete industries
- **50 years of cumulative graphene expertise** and 3 PhD's
- **Pilot Plant** used for customer testing and commercialization
- Immediate Objectives:
  - Further advance commercialization;
  - Publish scoping study and commercial feasibility
- Cash position of ~C\$9M
- Seasoned Board of Directors



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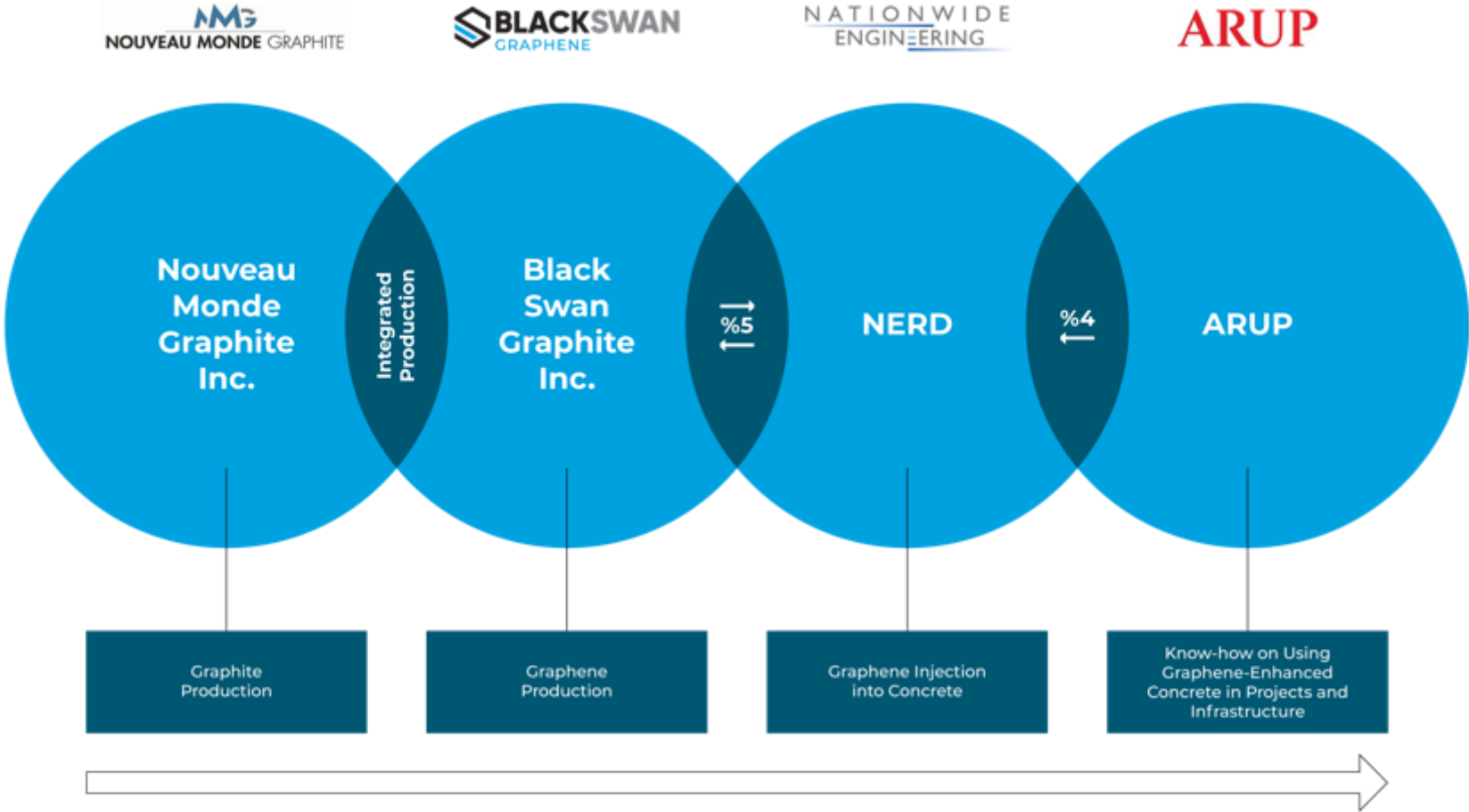
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# Fully Integrated Supply Chain Providing a Turnkey Solution to the Construction and Concrete Industries

Announced on March 27, 2023

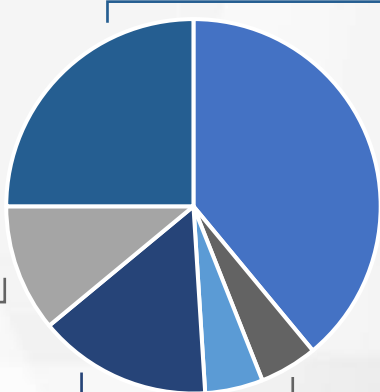


# Valuation and Ownership



Black Swan Graphene Inc.

RTO/Concurrent Financing  
25%



**RTO Financing (2021)**

- ✓ Price: CAN \$0.15 per share
- ✓ \$7,000,000
- ✓ Sub Receipt Financing
- ✓ RTO Process

Mason Graphite  
39%

NERD  
5%

**“NERD” Strategic Equity Swap (2023)**

- ✓ 16,371,504 shares
- ✓ Deemed price of CAN \$0.16 per share
- ✓ Concurrent Supply Agreement
- ✓ Concurrent strategic partnership between NERD and Arup

Private Equity Financing (2021)  
11%

Thomas Swan  
15%

Al-Tamimi  
5%

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# Corporate Leadership



## **Mr. Harry Swan** **Chairman of the Board**

Mr. Swan is the owner and CEO of **Thomas Swan & Co. Ltd.** and the fourth generation of the Swan family to lead the Company. He joined in 2002 to launch the Carbon Nanomaterials business. He took over as Managing Director in 2006 and became CEO in 2018. He is also a Non-Executive Director and Council Member of the Chemical Industries Association and Chairs the Innovation Committee of the Chemistry Growth Partnership. He also chairs the Advisory Board of the Centre for Education Collaboration at York University.

After graduating from Durham University in 1998. Mr. Swan started his career at Monsanto, followed by two years at Regester Larkin Ltd. His focus is now on leading Thomas Swan & Co. into a new sustainable future, developing their credentials as an innovative global player.



## **Simon Marcotte, CFA** **President, CEO, and Director**

Mr. Marcotte has 25 years of capital market and corporate experience with a focus on commodities and junior mining companies.

In 2012, he co-founded **Mason Graphite** which used to be the largest shareholder of NanoXplore Inc., and more recently announced a partnership with **Nouveau Monde Graphite Inc.** He is also the CEO of **Northern Superior Resources Inc.** following the acquisition of **Royal Fox Gold Inc.**, a company he founded., and a Director of **Freeman Gold Corp.**

Mr. Marcotte acted as a director or as an executive for several other mining companies, including **Arena Minerals Inc.**, where he was instrumental in the company's renaissance in lithium with **Ganfeng Lithium** and **Lithium Americas** as partners until its acquisition by Lithium Americas in 2023.

Mr. Marcotte held senior positions with **Sprott Securities, Cormark Securities,** and **CIBC World Markets.** He holds a B.A.A. from Sherbrooke University and is a CFA.



## **Michael Edwards** **COO, Director**

Mr. Edwards has more than 30 years of manufacturing and business experience. Prior to joining Black Swan Graphene, he was Business Director at **Thomas Swan & Co. Ltd.** responsible for the development of the graphene business.

Previous experience includes microprocessor and computer systems design at **Ferranti**, 15 years as General Manager of **Toshiba Electronics Europe** in Düsseldorf where he introduced flash memory into Europe and presided over Toshiba's dominant DRAM position as Windows was launched into the PC market.

Subsequently worked in several start-up companies mainly in global sales, marketing, and business development roles, including 3 years as Global Commercial Director at **Oxford Advanced Surfaces** and global commercial director at **Cambridge Nanotherm**, responsible for taking advanced materials to global LED market.

Mr. Edwards has a BSc(hons) in Electronics (University of Wales, Cardiff), an MBA, and is a Chartered Engineer (CEng) and a Fellow of the Institution of Engineering and Technology (FIET).



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OTCQB: BSWGFF

TSX-V: SWAN



# Corporate Leadership



**Greg Duras**  
**CFO**

Mr. Duras has over 15 years of corporate and project finance experience in the resource sector. He is also the acting Chief Financial Officer of **Emerita Resources Inc.** and the Managing Directors of **Metallica Resources.**

Some of his previous positions include, Vice President of Finance and Administration at S.C. Rosia Montana Gold Corporation S.A. (RMGC), a mineral exploration and mining development company based in Romania and several senior finance roles, including Controller of TSX-listed **Gabriel Resources Ltd.** and **High River Gold Mines Ltd.**

He is a Certified General Accountant and a Certified Professional Accountant and holds a Bachelor of Administration from Lakehead University.



**Paul Hardy**  
**VP Corporate Development**

Mr. Hardy's career spans 30 years in Capital Markets and private enterprise with **CIBC World Markets** and as the Managing Director of Institutional Equities for **Desjardins Securities** overseeing offices in Toronto, Montreal, Calgary, and Vancouver. He was intricate in the evolution of the European Trading and was responsible for over \$100 million in equity positions in domestic and international markets. He simultaneously grew the revenues by over 800%, in only 8 years.

More recently, he **Co-Founded Thorium Power Canada Inc.** where he served as Vice-President and helped launch the Thorium Small Modular Reactor business worldwide, meeting with government agencies and regulators along with institutional and private investors from the USA, Mexico, Indonesia, China, Singapore, Saudi Arabia, and Chile.



**Chris Herron**  
**VP Research & Product Development**

Dr Herron brings over 10 years of direct experience in the graphene industry, with a strong background in research, development, and applications.

He holds a PhD in Chemistry from Durham University, United Kingdom, earned following a first-class honours Master's degree.

After his post-doctoral research post at Durham University, Dr. Herron joined **Applied Graphene Materials PLC**, where he established the graphene characterisation laboratory, scaled up the dispersion process, and led numerous successful commercial customer projects.



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# Corporate Leadership



## **Brad Humphrey** **Independent Director**

Mr. Humphrey has over 25 years of international mining experience and is currently the Chief Executive Officer of NiCAN Limited (TSX-V: NICN), a Canadian explorer advancing nickel projects in the province of Manitoba. Prior to joining NiCAN, Mr. Humphrey was CEO of QMX Gold, a Canadian resource company that was ultimately acquired by Eldorado Gold in a \$132 million transaction. Prior to QMX Gold, Mr. Humphrey worked for Morgan Stanley as an Executive Director and North American Precious Metals Analyst. Mr. Humphrey was also a Managing Director and Head of Mining Research at Raymond James and covered precious metal equities at CIBC World Markets and Merrill Lynch. Mr. Humphrey has held a variety of mining industry roles from contract underground miner to CEO. Mr. Humphrey was recently on the board of Royal Fox Gold Inc., until its acquisition by Northern Superior Resources Inc.



## **Dr. David Deak** **Independent Director**

Dr. David Deak is President of Marbex LLC, running a portfolio of projects at the interface between mining, energy, and technology domains – with a focus battery materials. Dr. Deak built his career advancing initiatives in lithium mining, renewable energy, energy storage, and electric vehicles.

He held the position of Chief Technology Officer and Senior VP of Lithium Americas Corp., and led special **supply chain projects and battery engineering programs for Gigafactory 1 at Tesla Inc.**

Prior to working in the electric vehicles business, he worked for Ambri Inc., a **Bill Gates-backed energy-storage** start-up spun out of the Massachusetts Institute of Technology. Dr. Deak has also acted as a consultant for multinational engineering conglomerates, start-ups, government entities and institutional investors.

His professional career started in the Chief Technology Officer's office at Siemens Wind Power in Denmark. Dr. Deak holds a D.Phil. in Materials Science from Oxford University and a B.A.Sc. in Engineering Science from the University of Toronto.



## **Henri Wilhelm** **VP Technology**

Mr. Henri Wilhelm has more than 15 years of experience in R&D and development of **graphite-based products for energy storage applications.**

He worked for major synthetic graphite producers such as **Imerys Graphite & Carbon** and **SGL Carbon** groups as well as for the French National Center of Scientific Research (CNRS).

He is active as technical advisor for product development and implementation in battery applications. Henri Wilhelm holds a **PhD in Physics and Chemistry of Matter and Materials** from the University of Lorraine (France).



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# Corporate Leadership



## **Roy McDowall** **Director**

Roy McDowall, a Director of Mason Graphite Inc., is a capital markets professional with over 25 years of experience with Canadian-based investment firms, and most recently served as Managing Director, Head of Equity Sales for Macquarie Capital Markets Canada. He also held similar positions with Credit Suisse Securities (Canada) Inc., CIBC World Markets Inc., and National Bank Financial Inc.

Mr. McDowall is currently a Senior Officer of Montreal-based Turquoise Hill Resources Inc., which is listed on the TSX and the NYSE, with a market capitalization of approximately \$5 billion. Over his career, Mr. McDowall played instrumental roles in over 500 financings globally, leveraging self-established relationships with Canadian and international institutional investors.

He has also founded several successful start-ups in the education sector and holds a Bachelor of Commerce degree from the Simon Fraser University in British Columbia.



## **Peter Damouni** **Executive Director**

Mr. Damouni has over 20 years of corporate and investment banking experience with a focus on Natural Resources. He has served as a director or executive officer of a number private and public companies listed on the TSX, TSXV, and LSE and has been instrumental in developing and executing corporate strategy, financings, restructuring, acquisitions and sale process which has created significant value for shareholders.

He is currently Chief Executive Officer of **Mason Graphite Inc.**, Executive Director of Black Swan Graphene, and a Director of Arena Minerals. He also co-founded Chesterfield Resources plc which has Altius Minerals and Polymetal International plc as strategic partners and a Director of Gatling Exploration which is being acquired by MAG Silver Corp.

Mr. Damouni received his economics and business degree from McGill University. He is a Canadian and British citizen, residing in the United Kingdom



## **Aidan Sullivan** **VP – Strategic Initiatives**

Mr. Sullivan has over 20 years of experience building and financing private and public companies in North American and China, where he was one of the first foreign entrepreneurs to receive venture funding for starting a digital media company.

Subsequently, Mr. Sullivan cofounded BrightMind Ventures, providing consulting services as well as M&A advisory for the Chinese market.

Mr. Sullivan's expertise spans natural resources, advanced materials, automotive, technology, and media.

He is a graduate of the University of British Columbia.



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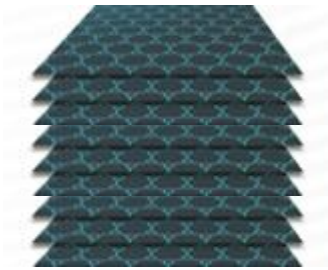
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# What is Graphene

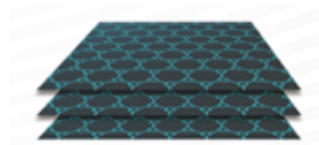
## Flake Graphite

- Layers of carbon atoms arranged in a hexagonal structure (≈200,000 to 400,000 layers)



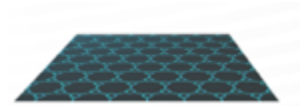
## Bulk Graphene (GNP)

- Few layers of carbon atoms arranged in a hexagonal structure (≈5 to ≈100 layers)
- Large volume industrial applications



## Single Layer Graphene

- Single layer of carbon atoms arranged in a hexagonal structure
- High Cost, Low volume, mostly electronic applications



Improving Performances (and costs)

### TENSILE STRENGTH

200X than structural steel

### CONDUCTIVE

More electrically conductive than Copper

### STIFF yet FLEXIBLE

Youngs Modulus 1TPa

### THERMAL CONDUCTIVITY

5,000W/mK  
More than diamonds

### VERY HIGH SURFACE AREA

2,630 m<sup>2</sup>/g

### TRANSPARENT

Almost transparent to visible light

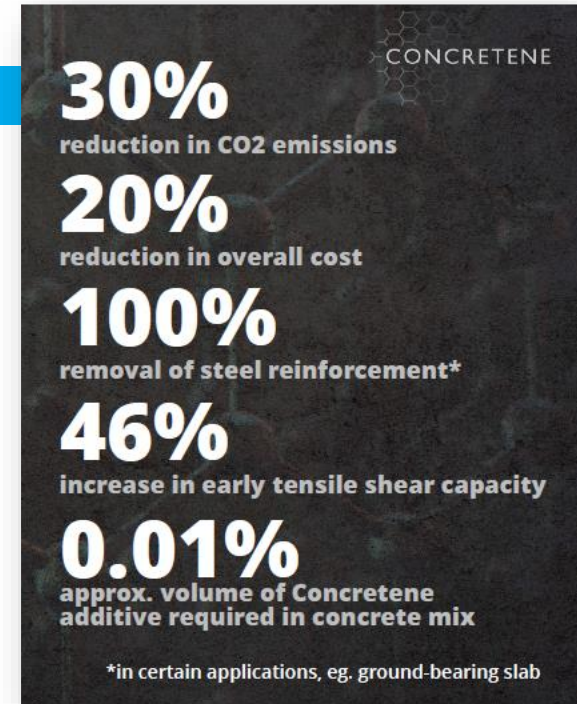




# Bulk Graphene Target Markets

## Concrete

- Large market – over **20 billion tonnes/year** consumed (≈c\$1,200 billion)
- Market Potential: 2,000,000 tonnes of graphene demand
- Concrete responsible for **8%+ of global greenhouse gas emissions**
- Similar strength achieved using **≈40% less concrete**
- **400% decrease in permeability** (water resistance): Greatly increases the life of the concrete by preventing internal swelling due to moisture (alkali-silica reaction) which leads to cracking
- Reduces/eliminates the use of rebar
- Faster cure rate
- Reduced micro-cracking and fractures



NATIONWIDE  
ENGINEERING  
RESEARCH & DEVELOPMENT

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OTCQB: BSWGf

TSX-V: SWAN





# Bulk Graphene Target Markets

## Polymers

- Global **Plastic Additive** market: ~\$40B annually
- Graphene is a game changer for polymers
- Multiple benefits of bulk graphene as an additive:
  - **Light weighting**: weight reduction for transportation driving Electric Vehicle adoption, even replacing metal part with plastic parts
  - **Lower costs**: less polymer required to achieve equivalent performance
  - **Better Precision**: allows plastic parts to compete with metal parts for precision (eliminates shrinkage)
  - **Improves the gas permeability**: can be used to improve anti-corrosion properties
  - **Thermal conductivity**: improves polymer performance in thermally challenging applications; accelerates manufacturing process
- Potential for Black Swan to accelerate bulk graphene industry adoption with downstream integration with **injection molding** and **compounding** companies



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# Bulk Graphene Target Markets

## Tires and Other Carbon Black Replacements

- Carbon black market: **≈\$18B annually** (12Mt), approximately 60% to 70% used in car tires
  - Bulk graphene can **improve tire performance** (or lower cost depending on loading factor) and is a greener product compared to carbon black which is made from tar and requires much larger volumes
  - Improved performance include: increase in wear resistance, fuel economy (due to lower roll resistance), and breaking on ice & wet surfaces
- Carbon Black is a mature industry with lower operating margins – difficult to lower prices to compete with a lower cost bulk graphene replacement
- 5 large and 200 small carbon black producers expected to become distributors, given potential to **realize better margins and existing customer base**
- Large production volume required for market penetration



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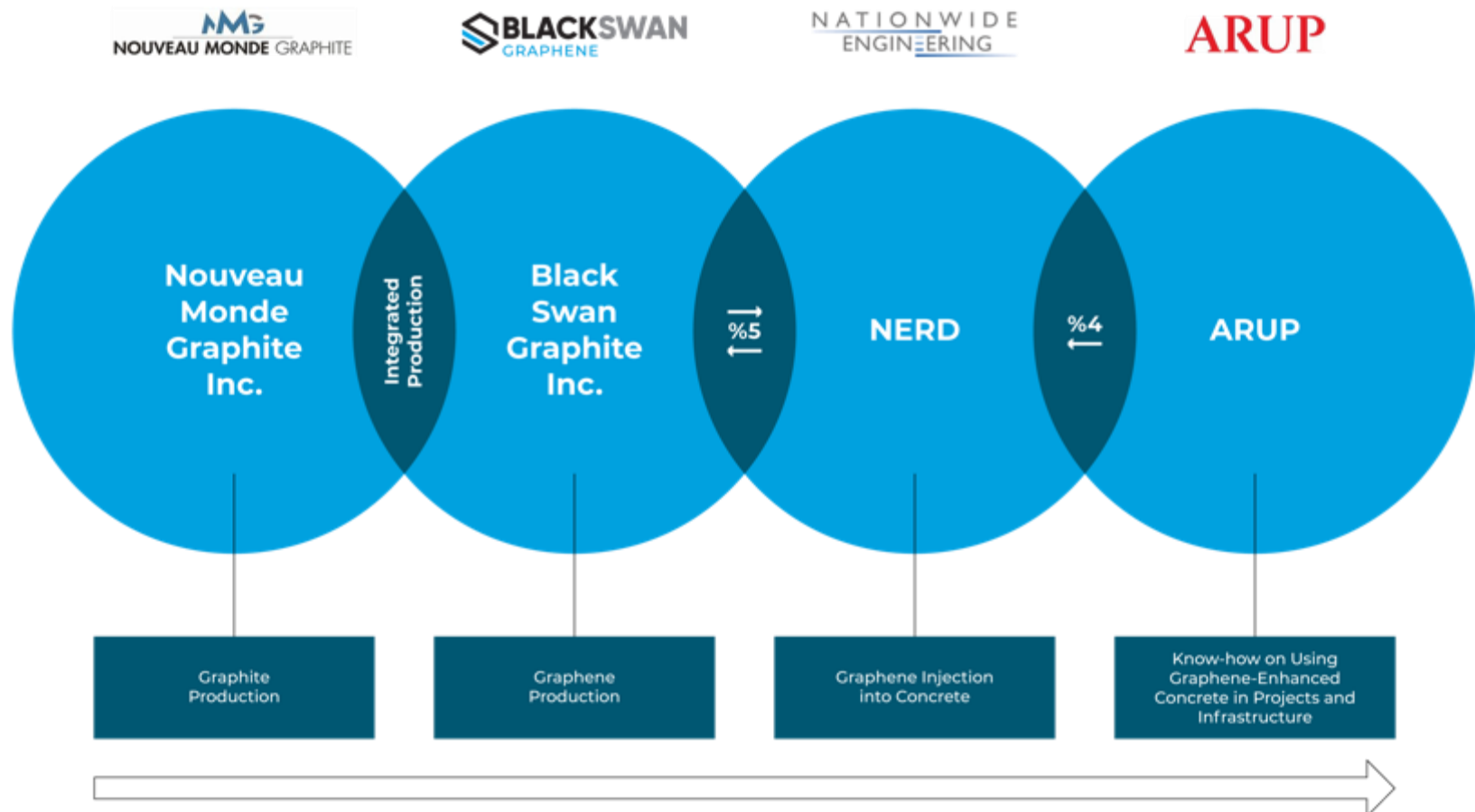
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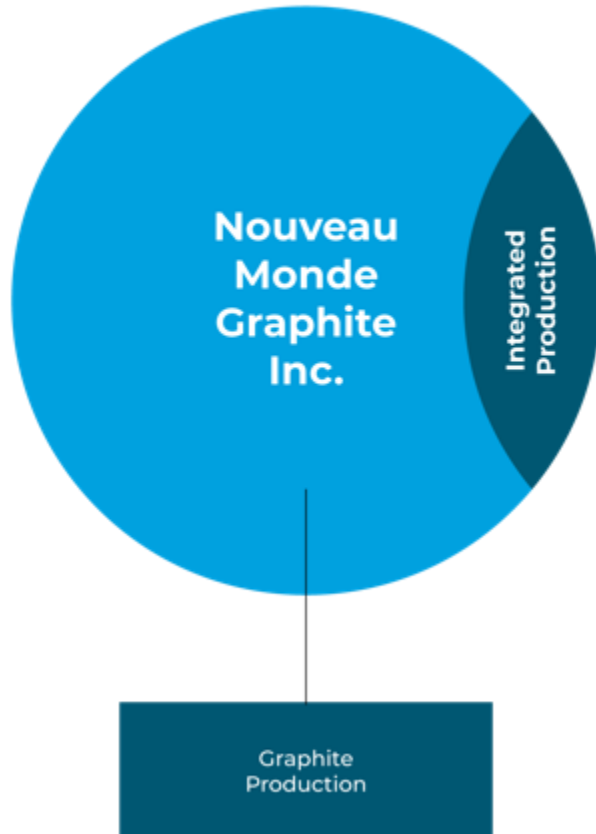
# Fully Integrated Supply Chain Providing a Turnkey Solution to the Construction and Concrete Industries

At its core, Black Swan and NERD arranged an equity swap where each company own approximately **5.0%** of the outstanding shares of the other and entered into a supply agreement

Arup entered into a partnership with NERD, for the ownership of **4.2%** of the outstanding shares of NERD



# Integrated Production with Nouveau Monde Graphite



## Letter of intent (“LOI”) with Nouveau Monde Graphite Inc.:

- Black Swan Graphene to establish graphene production capacity within Nouveau Monde’s graphite processing plant in Saint-Michel-des-Saints, Québec, Canada
- Create a **Fully-Integrated Production Facility** from graphite ore, through graphite concentrate, and to graphene finished products.
- Processing Plant: throughput of 3.5 tonnes of ore per hour (tph), the equivalent nameplate production capacity of approximately **1,000 tonnes of graphite concentrate per annum** (using NMG’s ore grading an average of 4.5% graphitic carbon)



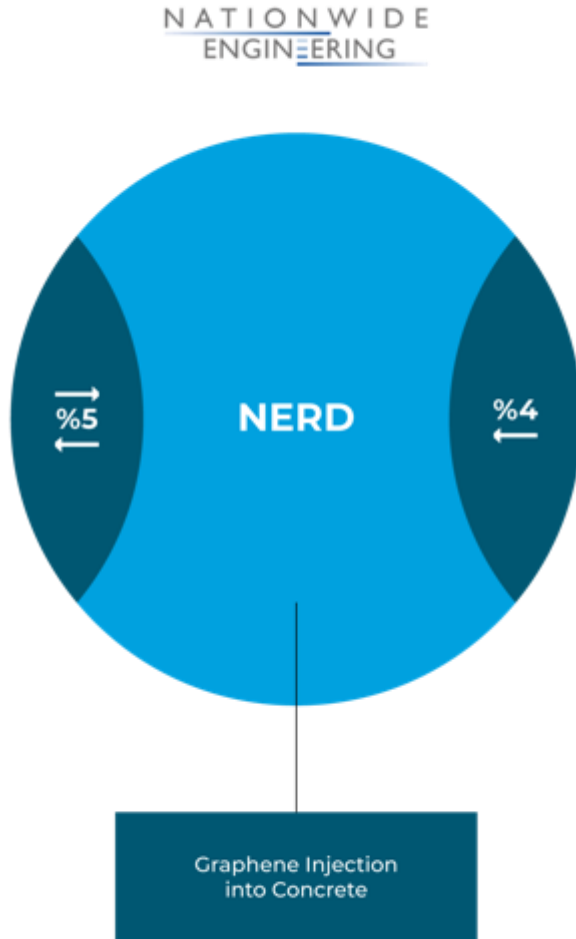
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# Formal partnership with Nationwide Engineering (“NERD”) via a 5% Equity Swap



- NERD has developed a graphene-enhanced admixture for concrete, Concretene, which can significantly increase the strength of concrete, which accounts for approximately 8% of global CO2 emissions.
- Concretene is a graphene-enhanced admixture for concrete that has demonstrated the ability to reduce CO2 emissions by approximately 30%, driven mainly by a significant reduction in the volume of concrete required to achieve equivalent performances.
- A meaningful reduction, if not an elimination, of rebar requirements, combined with a longer life cycle of the concrete, represent additional cost saving opportunities for the industry.
- NERD is in advanced evaluation stage for projects with partners such as Heathrow and Manchester Airports, Network Rail, National Highways, and the Nuclear Decommissioning Authority in the United Kingdom.

“We are delighted to formalise these partnerships with Black Swan and Arup as part of NERD and we look forward to combining our skillsets to deliver Concretene to the construction industry in our drive to reduce global CO2 emissions.”

- Rob Hibberd, CEO of NERD



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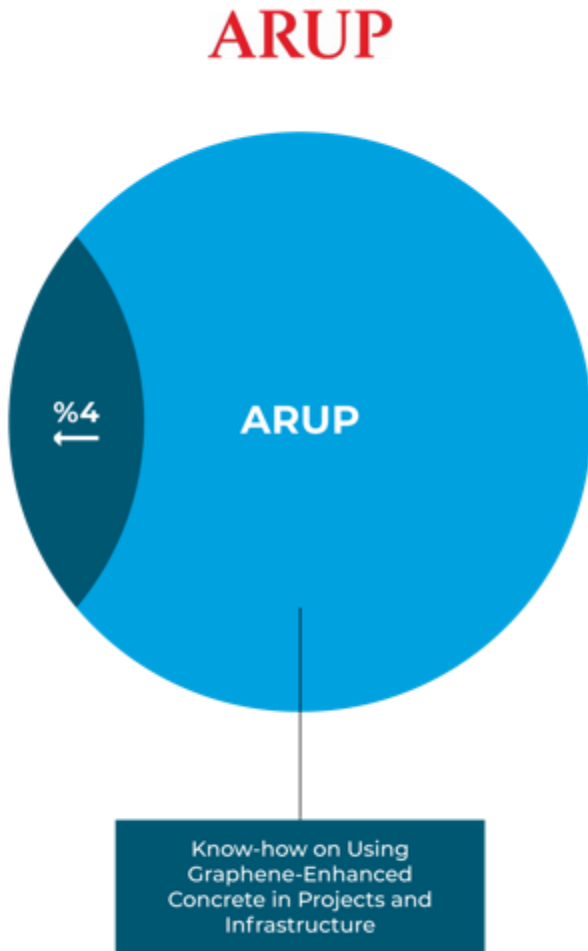
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# Global Reach via partnership with Arup



Arup is an engineering consultancy firm with 18,000 experts working across 140 countries, with countless globally recognised achievements

Arup Group Limited, a globally recognised design and engineering firm has been building, in partnership with the NERD, expertise and know-how on the use of graphene-enhanced concrete in buildings and infrastructure.



“Continued innovation in the production of concrete can drive the construction industry’s journey towards net zero carbon emissions. Supporting that transformative change with our NERD partnership furthers Arup’s goal of shaping a better, more sustainable world. We look forward to using our commercial know-how and deep expertise in the built environment to help NERD’s innovators realise the full potential of Concrete.”

- Matt Lovell, Director at Arup

ARUP

# Agreement with Gerdau Graphene



- Execution of a multi-year Master Distributorship Agreement with Gerdau Grafeno Ltda (“**Gerdau Graphene**”), a wholly owned subsidiary of Gerdau S. A. focused on the development of chemical additives, mineral additives and masterbatches with graphene
- Gerdau Graphene will buy products from Black Swan Graphene in order to market, promote and resell in the Americas Region;

See press release issued by Mason Graphite on May 16, 2022.  
(Black Swan Graphene remained private at the time)



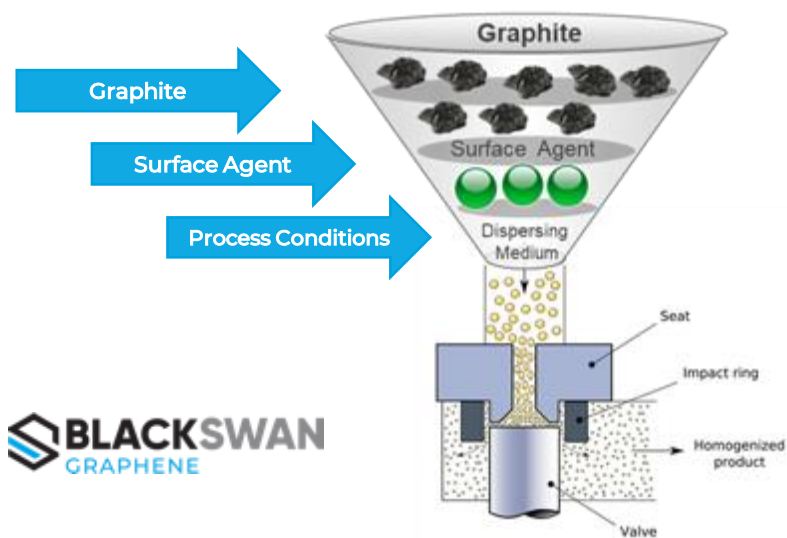
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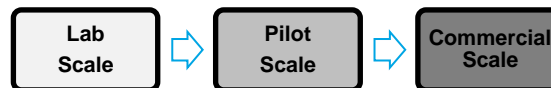


# Patented Manufacturing Process



Black Swan uses a “top-down”, High Shear Liquid Phase Exfoliation process to produce 2D materials in large volume, notably graphene of multiple layers delivering a sub-set of the properties of single layer graphene

- Technology already **scaled up** three times



- Production modularly scalable
- Thomas Swan retains a right to produce 1kt/year and **continue advance commercialization**, as Black Swan prepares for large scale production
- Thomas Swan supports Black Swan by **providing access to R&D, Staff, know-how, commercialization, and ISO-based manufacturing capabilities**
- Aim to establish a **Fully Integrated Supply Chain**, from graphite ore to graphene products, in partnership with Mason Graphite
- Royalty payable to Trinity College Dublin on Black Swan revenues: 3% of sales up to €5M; 2.5% from €5M to €10M; 2% from €10M to €20M; 1.5% for sales greater than €20M



# Product Performance



Several factors, including dispersion, will impact product performances but in reality, **only end-product performance matters**

GRAPHENE  
ENGINEERING  
INNOVATION  
CENTRE



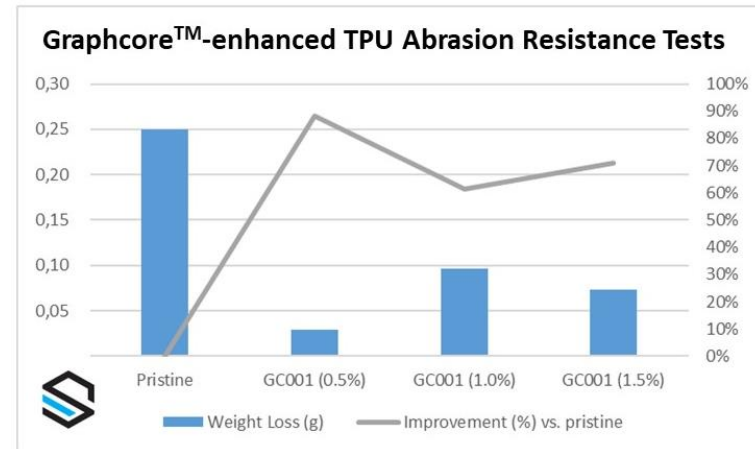
Data **INDEPENDENTLY** measured by the Graphene Engineering Innovation Centre ("GEIC")

"GraphCore™001 enhances the composite abrasion resistance by a range of 60% to 80%, when used as an additive in Thermoplastic Polyurethane ("TPU"). The Company had previously communicated an already enviable enhancement performance of 45%"

"The precise type of TPU selected for the trials is currently used in mobile equipment and extruded sheets, which are used in many industries from packaging to transportation and construction materials."

**Black Swan Graphene Inc. Press Release, May 2, 2023**

- Polymers: **80%** improvement in Abrasion Resistance in TPU with (see below)\*
- Concrete: **38%** improvement in Compressive Strength (28 days) with 0.02% loading\*
- Concrete: **22%** improvement in Tensile Strength (28 days) with 0.02% loading\*



Weight loss of TPU composites at different loading levels

\*Performance results vary depending on type and the specificity of the target material, the specifics of the graphene itself, including but not limited to, carbon purity, particle size, surface agent, dispersion behavior, and application and usage methods.



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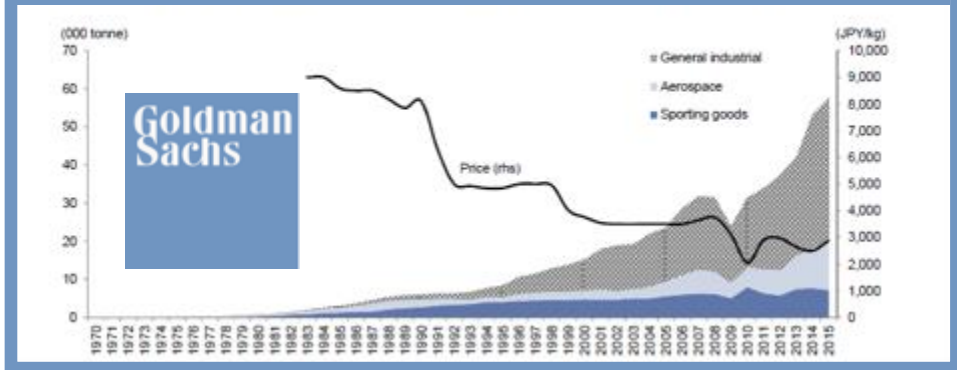


# Carbon Fiber Adoption

- As Carbon Fiber experienced in the 1990's, Bulk Graphene market penetration **accelerating rapidly with availability of lower cost production**
- Generally speaking, graphene **improves product performance while reducing costs for the customer**
- "We are entering the third wave of graphene industrial engagements where **large volume applications are now taking place.**"

- James Baker, CEO of Graphene@Manchester (GEIC)

Exhibit 29: Global demand for carbon fiber took off as a result of lower prices



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OTCQB: BSWGf

TSX-V: SWAN



# Potential Market Size

Table 21: Estimated Market Sized (by volume) by Embedding Across Various Major Industrial Materials

fullerex®		Potential annual graphene requirement (tons)	
Material	Annual production tons	Loading ratio of 0.0001	Loading ratio of 0.05
Concrete	20,000,000,000	2,000,000	1,000,000,000
Polymers (total)	250,000,000	25,000	12,500,000
PE	72,500,000	7,250	3,625,000
PP	47,500,000	4,750	2,375,000
Base Oil	35,000,000	3,500	1,750,000
PVC	27,500,000	2,750	1,375,000
Rubber*	27,000,000	2,700	1,350,000
PS	18,750,000	1,875	937,500
PUR	17,500,000	1,750	875,000
PET	16,250,000	1,625	812,500
PA	5,000,000	500	250,000
Epoxy	2,500,000	250	125,000
High performance polymers	20,000	2	1,000

Source: The Graphene Council, The Graphene Report 2021 (\*Of which synthetic is 14.5M tons, natural is 12.5M tons)

- Graphene adoption finally taking place in industrial applications
- Lead by the largest prospective markets: Concrete and Polymer Additives
- Black Swan's economies of scale for bulk graphene production set to accelerate as a result



XETRA: R96

OTCQB: BSWG

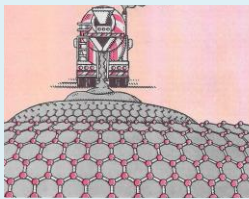
TSX-V: SWAN



In September 2021, graphene resulting from the patented process owned by Black Swan Graphene was used by Nationwide Engineering in the concrete mix poured during the construction of a CA\$30.5M residential development 150 km west of London, England.



<https://www.youtube.com/watch?v=ZVluCeSF7rk>



Nationwide Engineering featured in The Economist Article: "Pouring Graphene's Bright Future"

The Economist

May 21<sup>st</sup> - 27<sup>th</sup> 2022

## Some Other Recent Applications of our Graphene



GC<sup>™</sup> Armour  
(Bullet-proof / Stab Proof)

Graphene Aerogel composite layers  
Using PR0953  
[GNP M1D0953]



PA6 Fibre using GNP  
F7P1518  
(0.37mm using GNP @ 0.2%)



Concrete "Admixture"  
using GNP M1S1504  
@ 0.2%

A well recognized lobbying firm has been identified and is expected to be retained by the Company in order to lobby Canadian governments into mandating the use of graphene in concrete



# Battery Materials Partnership



"Aims to improve energy density, power density and low temperature performance of battery technologies through application of innovative carbons"

"Johnson Matthey (JM), (...) has teamed up with (...) Thomas Swan, one of the UK's leading independent chemical manufacturers, to explore how to best optimize battery technology. (...) Will fine tune these novel carbon structures produced at an industrial scale by Thomas Swan and demonstrate how they can be best applied to enhance the overall performance of traditional lithium-ion and next generation batteries such as JM's family of nickel-rich advanced cathode materials eLNO® and LIFE POWER® LFP"

*Johnson Matthey Press Release June 22, 2021*



XETRA: R96

OTCQB: BSWG

TSX-V: SWAN

## Post RTO - 24-month Budget

	Year-1	Year-2
G&A	.872m	.872m
Legal, Patent/Trademark Management, Audit, TSX, etc.	.728m	.728m
Optimization, R&D, Customer Testing	.65m	.65m
Partnerships, Government Lobbying, Branding	.53m	.4m
PEA, Feasibility Study	.2m	.6m
Capital Market Fees, Conferences	.4m	.25m
Commercialization: Staff, Samples, CRM Software	.3m	.25m
<b>TOTAL</b>	<b>3.68m</b>	<b>3.75m</b>





XETRA: R96

OTCQB: BSWGf

TSX-V: SWAN





 TSX-V: SWAN  OTCQB: BSWG  XETRA: R96

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