

INDUSTRIAL PRODUCTS

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All figures in C\$, unless otherwise noted.

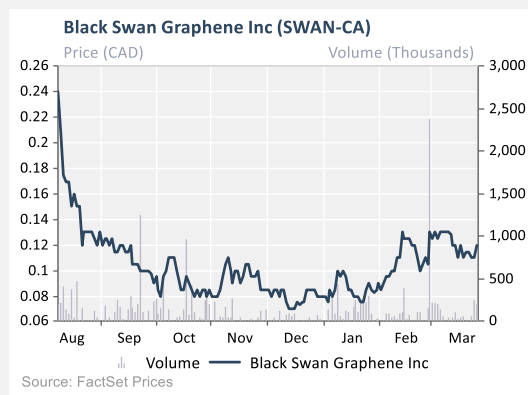
Rating: Buy

unchanged

12-Month Target: \$0.60

unchanged

Current Price	\$0.14				
Ticker	SWAN-V				
	BSWGF-OTCQB				
FYE	31-Dec				
Potential ROR (incl. dividend)	329%				
Shares O/S	Basic (M)	301.7			
	FD (M)	301.7			
Market Cap	Basic (\$M)	42			
	FD (\$M)	42			
Enterprise Value (\$M)	42				
Net Debt (\$M)	0				
PCI Est	FY23e	FY24e	FY25e	FY26e	FY27e
Revenue (\$M)	0.6	4.9	12.8	51.3	141.1
EBITDA (\$M)	(3.5)	(1.9)	1.5	26.8	85.0



Source: FactSet, IBES consensus, Company filings, Paradigm Capital Inc.

Company description: Black Swan Graphene is a Canadian-based international bulk graphene manufacturer that is in the process of dramatically increasing its output by as much as 250-fold over the next several years. There are only two bulk graphene manufacturers in the world SWAN and NanoXplore Inc. SWAN is focusing its market penetration into the concrete and polymer verticals with a concentration on transportation applications. Graphene has a high ESG content as it replaces more fossil fuel inefficient material such as steel and carbon black, and SWAN's plans to manufacture in Quebec using hydro sourced electricity makes it a green investment on many fronts. We fully expect SWAN to generate impressive cash flow and earnings over the next five years.

Establishes Graphite to Concrete Ore to Pour Supply Chain

Investment Thesis. Black Swan Graphene (SWAN) provides investors with the opportunity to invest in an early stage but post-development high-volume graphene producer targeting the industrial markets. Black Swan's patented process is scaling up to 10,000 tpa and it is currently building a customer base to take the production. Black Swan is 41.5% owned by Mason Graphite and 15.6% by Thomas Swan Co. Ltd. U.K.

Event

SWAN announced a strategic partnership with Nationwide Engineering Ltd. U.K., including an embedded relationship with Arup Group Ltd., a global engineering consultancy.

Highlights

- ▶ **Black Swan and Nationwide Engineering Research and Development (NERD) Form Partnership** | Black Swan and NERD have formed a partnership, including a 5% equity swap between the two companies. SWAN has been working with NERD over the last three years to get SWAN graphene qualified into Nationwide's Concretene in various building projects replacing traditional concrete formulations.
- ▶ **Arup Group Concurrently Forms Partnership with NERD** | Arup Group is an engineering consultancy based in London, U.K. but is actively involved in significant projects worldwide where Concretene can be specced. Arup will have a 4.2% ownership position in NERD.
- ▶ **Establishes "Ore to Pour" Supply Chain** | Combined with SWAN's graphite sourcing through Nouveau Monde (NOU-V, NR) SWAN has established an "Ore to Pour" supply chain for graphene-enhanced concrete formulations, specifically Concretene.
- ▶ **The GEIC – A Customer Acceleration Portal** | Black Swan is a member of the Graphene Engineering Innovation Centre (GEIC) Manchester U.K., which is a development and research facility that customizes graphene to individual potential customer specs. This facility allows many applications to be pursued simultaneously without encumbering SWAN's scientific capacity. The evolution of the partnerships announced today is a great example how the GEIC relationship can facilitate and accelerate such business combinations.
- ▶ **Envisioning 10,000-tpa Capacity in Quebec** | Black Swan is a Canadian company and plans to have its first high-volume production facilities in Quebec, to take advantage of the graphite availability and benefit from favourable Quebec Hydro electricity rates. SWAN will grow capacity in response to market demand.
- ▶ **Cash Level Strong** | The company currently has \$10M in cash which we expect will easily cover the next 2–3 years of spending.
- ▶ **Strong Management & Board** | With Harry Swan (Chairman), Simon Marcotte (President & CEO) and Michael Edwards (COO, headed Thomas Swan's graphene program), we view Black Swan as poised for success.

Valuation & Conclusion

As our valuation model indicates (Figures 8 & 9), using an 8x EV/EBITDA multiple on 2027e EBITDA of \$85M (\$0.28/sh) and discounted by 25% per year (to account for the pre-feasibility stage of development), we arrive at our one-year target price of \$0.60, which equates to 1.4x 2027e revenue per share. We maintain our Buy recommendation.

Graphene: A Quick Primer

- Graphene was first discovered in 2004 at the University of Manchester by scientists Andrei Geim and Konstantin Novoselov who successfully produced very few layers of graphene by mechanical exfoliation of graphite.
- The exact methodology was to take a normal graphite pencil used for drawing and peel off layers of graphite using normal everyday cello tape (Scotch tape). After many repeated attempts graphite a few layers thick was achieved.
- This process, while simplistic, was also time consuming, and produced very low yields. While clearly a scientific success, it needed significant enhancement to be a commercial success.
- In its purest form graphene is one layer thick graphite (100% carbon). However, for industrial applications multi-layer thick “bulk” graphene is the best trade-off between performance, price and volume available.
- The number of layers, the graphene dispersion and the way the graphene interacts with the surrounding material all have a combined impact on the graphene performance.

Graphene: The Miracle Material of the 21st Century

- **Tensile Strength:** 200x stronger than structural steel.
- **Electrical Conductivity:** More conductive than copper.
- **Thermal Conductivity:** 5,000 W/mk (watts per meter/Kelvin), transfers heat better than diamonds.
- **High-surface Area:** 2,630 m²/g (no material is higher).
- **Transparent:** Not visible to normal light; therefore, can be tinted any colour.
- **Stiff Yet Flexible:** As measured using Youngs Modulus ITPA.

Graphene Production Summary

- The four main methods being used today are chemical layer separation, mechanical exfoliation, chemical/mechanical exfoliation and plasma arc creation.
- The process that is achieving the most financial success is the chemical/mechanical exfoliation method. **This is the broad process family that Black Swan Graphene and NanoXplore (GRA-T, \$10.00 TP, Buy) are using.**
- Each company has individual patented processes and the companies agree the patents do not infringe on one another.
- With regard to commercialization success, the high-volume spot in the market is for bulk graphene which can materially improve performance at a low cost.
- This thickness can be produced economically and has high-volume application, replacing carbon black in many polymer applications, but also as a stand-alone additive in many materials, including, but not limited to, concrete and asphalt.

Bulk Graphene: The Sweet Spot

- Selling prices in the US\$10–US\$12/kg range and operating costs in the sub-US\$5/kg range provide gross margins of US\$5–US\$7/kg.
 - High performance in concrete and polymers.

Only Two Companies Can Supply Bulk Quality Graphene Globally

- High-quality, high-volume and low price are the three factors required to supply industrial users with graphene as a meaningful new material in commercial products.
 - We believe only two graphene companies in the world are in a position to supply such material at a cost that can allow for rapid adoption — NanoXplore Inc. and Black Swan Graphene Inc.

Addressable Market Is Large

- The two major verticals that dominate the graphene space by potential tonnage per year are the concrete and total polymer markets (Figure 1).
- A 10% penetration of each market would require a total of about 70 production plants of 10,000-tpa graphene each, 20 in the concrete space and 50 in the polymer space, depending on graphene loading assumptions.

Figure 1: Graphene Market and Number of Plants

	Annual Production	Load	tpa	Plant Size tpa	plants	10% mkt
Concrete	20,000,000,000	0.01%	2,000,000	10,000	200	20
Polymers	250,000,000	2%	5,000,000	10,000	500	50

Source: Company filings, Paradigm Capital Inc.

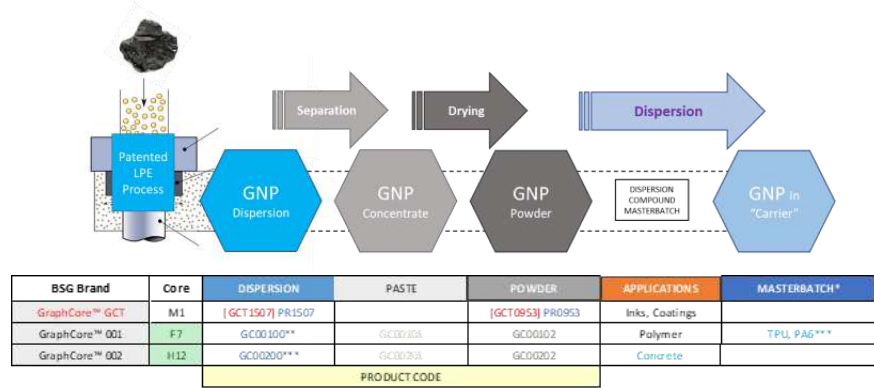
High-shear Liquid Exfoliation High-volume Manufacturing Process

- Patented process developed by Thomas Swan under license from Trinity College University of Dublin. Black Swan owns 100% of the Trinity patent at this time.
- The process exfoliates graphite using shear force on the graphite.
- The resultant mix is then homogenized in the presence of a chemical additive into a dispersion that can then be dried to powder form.
- The process is low cost as there is no change of state — the graphite/graphene remains solid through the entire process.
- The process is also self-contained with recycled chemicals and fluids.
- Royalty is based on revenue (3% on sales up to €5M, 2.5% on €5–€10M, 2% on €10–€20M and 1.5% greater than €20M).
- SWAN has 20 patents and patent applications in nine countries, including the U.K., U.S., Canada, Germany, Italy, Spain, France, Sweden and China.

Figure 2: Graphene Production Process



Modular, scalable & patented process



* - currently @ Pilot Stage [GCP104P-F07]
 ** - currently @ R&D stage Product [GCR094P-H12]

*** - planning (check status)

BLACK SWANTECHNICAL OVERVIEW

Source: Company filings, Paradigm Capital Inc.

Full Access to Thomas Swan R&D and Process Engineers

- Graphene processing IP is owned by Black Swan but was developed by Thomas Swan.
- Black Swan has access to Thomas Swan’s labs and scientists.
- Michael Edwards, who headed the graphene effort at Thomas Swan, is COO of Black Swan.
- A core group of process engineers will be based in Canada and operate the graphene processing facility in Quebec.

Thomas Swan & Co. Ltd. U.K.

- A private specialty chemical company based in County Durham, England.
- Has worked on graphene for 15 years and was the sole owner of the Trinity license.
- An ISO-compliant company, hence all the graphene processing procedures are ISO-compliant which is key for quality control, repeatability and product consistency, giving customers great confidence.

Black Swan Two-year Milestone Goals

Management has provided the following goals that it is aiming to achieve over the next two years.

Figure 3: Two-Year Milestone Summary

Business Objective	Timeframe	Est. Cost
Publication of independent scoping study for 10,000-tpa facility	0-12 months	\$200K
Publication of a feasibility study for its large-scale facility	12-24 months	\$600K
Product optimization and R&D, plus customer testing	0-24 months	\$1,300K
Lobbying, branding, sales, marketing & promotion	0-24 months	\$930K

Source: Company filings, Paradigm Capital Inc.

Black Swan “on Board” Customers

Based on graphene samples produced by Black Swan, two concrete producers have signed on as customers when the company can produce sufficient volume — Gerdau Grapheno Ltda. and Nationwide Engineering U.K. for use in its Concretene product.

Nationwide Engineering

- U.K.-based civil engineering firm concentrating on the rail and construction sectors.
- Owner of the patented graphene-enhanced product Concretene.
- Concrete pours with Concretene have shown:
 - 30% less concrete needed
 - no rebar required
 - water repulsion
 - no micro-fracturing
 - high strength
- Nationwide has 30 projects in its current pipeline that have Concretene engineered into the solution, with a focus on the transportation vertical, including concrete for highways, runways and railways, among others.

Gerdau Grapheno Ltda.

- A subsidiary of the large global steel conglomerate Gerdau S.A.
- Has signed a multi-year master distributorship agreement with Black Swan for graphene.
- Will buy products from SWAN to market, promote and resell in the Americas.
- Research facilities in Brazil and the U.K. (GEIC) working on the application of graphene to the following products:
 - Concrete
 - Elastomers
 - Polymers
 - Lubricants
 - Coatings
 - Electronic sensors

Canadian Concrete Potential

- The Canadian cement/concrete industry has expressed interest in graphene additives.
- Having done some R&D about seven years ago, the industry put further work on hold as bulk graphene in large quantities was not available.
- The Canadian cement/concrete industry is fertile ground for Black Swan.

Graphene Use in Concrete Is a Huge GHG Reducer

- Concrete is responsible for 8% of CO₂ emissions globally per annum.
- Adding less than 1% graphene by weight to concrete can allow it to be 40% stronger (i.e., the same strength can be achieved with 40% less concrete).
- In addition, steel reinforced concrete can use 40% less rebar, further adding to the reduction of CO₂ as less steel needs to be produced. Depending on the specific application, it has been found that rebar can be eliminated and the same strength (or stronger) can be attained with graphene-enhanced concrete.
- Less concrete volume also leads to less material transport and less labour-intensive construction methods.

Carbon Credit Potential

Black Swan is exploring the potential of receiving value for its carbon reduction features. These could be in the form of tradable carbon credits or economic value from customers that may receive credits from using Black Swan graphene carbon credits. These could be earned from various sources, including:

- Input energy credits from using hydro-generated power to produce graphene.
- Energy-reduction credits when the graphene is used (e.g., concrete).
- Credits generated from less rebar produced.

Polymer Vertical

- Focus on transportation sector with a particular emphasis on increasing the range of EVs through lightweighting.
- High-strength lightweight TPU (thermoplastic polyurethane) sheeting (airbags and military inflatables) — Black Swan already has a customer in this vertical.
- High-strength lightweight polymers for bodywork and under hood applications, battery boxes or internal battery foundations.

The GEIC: A Customer Accelerator Vertical

- The Graphene Engineering Innovation Centre (GEIC) is located at the University of Manchester and promotes and facilitates the development of graphene into different products.
- Time to market for a new application is greatly reduced by using the R&D teams at GEIC.
- SWAN has executed a Tier 2 Membership with the GEIC.
- The GEIC interfaces between Black Swan and end-use customers and thus becomes a multi-pronged specific R&D function for Black Swan.
- This “portal” type function accelerates Black Swan’s market penetration significantly.
- The Nationwide Engineering and Gerdau relationships, for example, have emerged from this portal.

ESG Play on Several Fronts

- Black Swan is a genuine ESG play on several fronts.
- Graphene is an ESG material as it significantly reduces the need for higher CO₂ consuming materials in both the polymer and concrete verticals.
- The potential for licensing Black Swan's process offers the concrete vertical substantial additional CO₂ reduction benefits by eliminating the drying process.
- Black Swan's production facilities will be based in Quebec with electricity to be supplied by existing excess hydro-electric capacity.
- The company will not only allow customers to reduce their carbon footprint but Black Swan's graphene will also be a low carbon process itself.
- Assuming Black Swan uses Lac Guéret graphite as a feedstock, the deposit's high grade (four times most other graphite deposits) means that Lac Guéret graphite requires one-quarter of the energy to extract and is significantly less to process per kilogram of ore.

40-tpa Pilot Plant in Place; 10,000-tpa Plant is the Goal

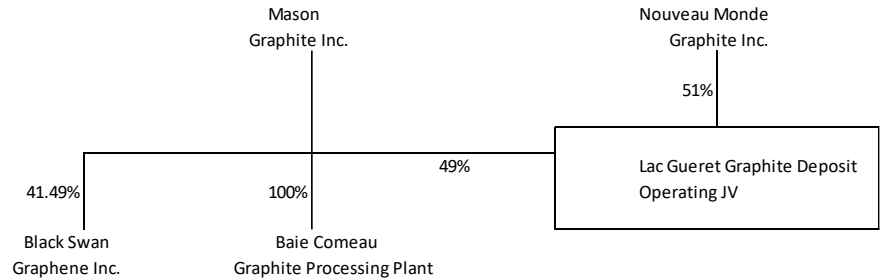
- Black Swan's low production facility is located in Thomas Swan's main facility in County Durham, U.K.
- The plant can produce 40 tpa in 6 kg batches.
- The first scale-up is planned to be 10x (i.e., about 400 tpa).
- Moving to 1,000 tpa and then 4,000 tpa, and onto 10,000 tpa.
- The repeatable module size is 400 tpa.
- Number of 400-tpa modules in the scale-up is 3, 10 and 25, which can be re-assessed as demand evolves.
- Multiple 400-tpa modules feed one drying unit.
- SWAN is undertaking an independent third-party scoping study of a graphene production plant, which will soon be made public and include cost parameters.
- In our view the capex for 10,000 tpa would be between \$40M and \$50M.

Black Swan Will Grow Capacity at the Rate the Market Will Bear

- As clients adapt graphene to their various products, Black Swan has the ability to add modules to fit the demand curve.
- SWAN has executed an exclusive binding collaboration agreement with a key equipment supplier for the procurement of long lead graphene production equipment.
- Batch processing allows maximum production flexibility.
- The drying part of the process can be customized to handle multiple, 400 tpa modules.

Corporate Relationship Between SWAN, LLG and NOU

- Figure 4 shows the schematic of the corporate relationships of the three companies.
- The Lac Guéret graphite deposit is the link between SWAN and NOU through LLG.
- The Lac Guéret graphite deposit located in Quebec is massive and is very high grade, with NI-43-101 (February 2016) reserves of 65.6Mt at 17.19% graphite for the first 25 years and resources beyond that of an additional 58.1Mt at 16.3% graphite.
- Few graphite deposits in the world have over 7% grade.
- The operating joint-venture agreement between Mason Graphite Inc. (LLG-T, \$1.65 TP, Buy) and Nouveau Monde Graphite Inc. was released July 28, 2022.

Figure 4: SWAN, LLG, NOU Corporate Schematic


Source: Company filings, Paradigm Capital Inc.

Production Plant Could Be Built in Nouveau Monde Facility

- Through the Nouveau Monde Graphite and Mason Graphite joint graphite production venture, Black Swan will have access to build a graphene plant in NOU's graphite processing plant in Saint-Michel-des-Saints, Quebec.
- This facility has the capacity to produce 1,000 tpa of graphite concentrate and is expected to produce more as it also processes the ore from the Lac Gu eret project which carries a much higher grade.
- A larger plant could be built in, or beside, a larger 100,000-tpa graphite plant being considered at the same location.
- This strategy allows Black Swan to move into commercial production quicker than a greenfield build. As clients introduce graphene to their various products, Black Swan has the ability to add modules to fit the demand curve.
- More information on the Nouveau Monde Graphite and Mason Graphite joint venture can be found in a [May 16, 2022](#) press release.

Lac Gu eret Graphite a Possible Source of Feedstock

- Through the NOU/LLG Joint Graphite Production Venture, Black Swan will have access to Lac Gu eret graphite.
- The Lac Gu eret mine has very high graphite grades of up to 27.8% Cg and a possible 200-year mine life.
- Consequently, Lac Gu eret graphite has a low carbon footprint as the grade is four times that of most other graphite deposits.
- This unique relationship between Black Swan, Mason Graphite and Nouveau Monde Graphite allows Black Swan a unique security of graphite supply.

Financial Forecast

In Figure 5 we provide a summary of our forecast (full forecast in Figure 11).

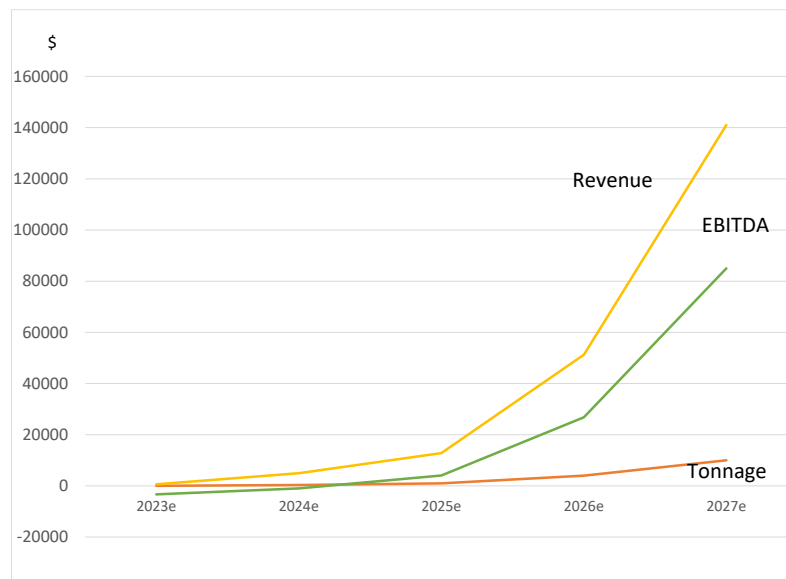
Figure 5: Summary Financial Forecast

C\$000s	2023e	2024e	2025e	2026e	2027e
Tonnage	40	350	1,000	4,000	10,000
Revenue	615	4,936	12,821	51,282	141,026
EBITDA	(3,496)	(1,855)	1,487	26,819	84,994

Source: Company filings, Paradigm Capital Inc.

EBITDA growth is impressive, as shown in Figure 6. Once production moves above 4,000 tpa the EBITDA accelerates, reaching \$85M per year (\$0.28/sh).

Figure 6: Black Swan Tonnage, Revenue and EBITDA Growth Curves



Source: Company filings, Paradigm Capital Inc.

Valuation

Our key valuation assumptions are:

- Based on 2027 production of 10,000 tpa.
- 2027 EBITDA forecast of \$85M.
- An equity raise of between \$20M and \$25M to reach 4,000 tpa and the move to 10,000 tpa could be funded by internal cash flow.
- We provide two scenarios: 1) 325M shares outstanding; and 2) 368M shares outstanding.
- Discount rates of 10%, 15%, 20% and 25%.
- No debt
- EV/EBITDA of 8x, 10x and 12x.

Figure 7: Capex Equity Raise Matrix

		Share Price		
		\$0.30	\$0.40	\$0.50
Capex	\$20M	67	50	40
Total Shares O/S		352	335	325
Capex	\$25M	83	63	50
Total Shares O/S		368	348	335

Source: Company filings, Paradigm Capital Inc.

Figure 8: 325M Shares Outstanding Valuation Matrix

Capex \$20M for 4,000 tpa			
Shares O/S 325M	EV/EBITDA		
Discount (%)	8x	10x	12x
10	1.37	1.72	2.06
15	1.11	1.39	1.67
20	0.86	1.07	1.29
25	0.66	0.83	0.99

Source: Company filings, Paradigm Capital Inc.

Figure 9: 368M Shares Outstanding Valuation Matrix

Capex \$25M for 4,000 tpa			
Shares O/S 368M	EV/EBITDA		
Discount (%)	8x	10x	12x
10	1.21	1.52	1.82
15	1.11	1.39	1.67
20	0.76	0.95	1.14
25	0.58	0.73	0.88

Source: Company filings, Paradigm Capital Inc.

Using an 8x EV/EBITDA multiple and a 25% discount rate with 368M shares outstanding results in a one-year target price of \$0.58; using these same metrics with 325M shares outstanding results in a target price of \$0.66. This would equate to a market cap one-year out of \$215M. **Blending both of these metrics our target price is \$0.60.**

Capital Structure

Share Ownership

- 41.49% of the shares owned by Mason Graphite Inc.
- 15.56% owned by Thomas Swan Co. Ltd. U.K. (private company)
- 2.1% by management and the board equating 17.66%, including the ownership position of Thomas Swan, which is 100%-owned by Harry Swan, Chairman of Black Swan.
- 41.2% is publicly owned, including 7.5% by Mr. Al-Timimi, Chairman of Mason Graphite Inc.

The company has no debt and \$10 million in cash on the balance sheet.

Management & Board of Directors

Black Swan has an experienced management and board with two representatives from Thomas Swan plus entrepreneurs from the EV battery and industrial/mining space. Full bios are available on the corporate website and official filings.

- **Harry Swan, Chairman:** Owner and CEO of Thomas Swan.
- **Simon Marcotte: President & CEO, Director:** Mining entrepreneur.
- **Michael Edwards, COO, Director:** Former business director Thomas Swan responsible for development of the graphene business.
- **David Deak, Director:** President of Marbex LLC, working in the EV battery space. Formerly with Lithium Americas and Tesla Gigafactory 1.
- **Peter Damouni, Executive Director:** Several years of corporate development and investment banking experience in the natural resource sector and currently President and CEO of Mason Graphite and director of Arena Minerals.
- **Roy McDowall, Director:** Currently a director of Mason Graphite and senior officer of Turquoise Hills Resources Inc. Over 25 years in investment banking and corporate finance.
- **Greg Duras, CFO:** 15 years of experience in corporate and project finance in the resource sector.
- **Henri Wilhelm, Vice President, Technology:** Over 15 years of experience in R&D and development of graphite-based products for Imerys Graphite.
- **Paul Hardy, Vice President, Corporate Development:** Over 30 years in Canadian capital markets with CIBC and Desjardins Securities and also co-founder of Thorium Power Canada Inc.

Publicly Listed Graphene Companies

We have followed the graphene space for six years and find it to be a very interesting vertical, both from a scientific and business opportunity perspective. Two significant characteristics of the space emerge:

- There are many niche players that have very low volumes of production and are accompanied by high costs which cannot be significantly reduced because of the technology of manufacturing they have embraced.
- The “sweet spot” in the industry are those companies with the ability to produce high volumes of graphene at low cost (i.e., below US\$5.00/kilogram). These players will benefit from significant revenue and high profit margins, and in our view will be very successful businesses.

As can be seen from the comparables table (Figure 10), NanoXplore and Black Swan fit into this high-volume category and hence fall into our Bulk Graphene Commercial Innovator Group, while the remainder we place in the Low Volume Research Group.

Figure 10: Publicly Listed Graphene Companies

	Market Cap (\$M)
Bulk Graphene Commercial Innovators	
NanoXplore (GRA-T)	546.4
Black Swan (SWAN-T)	26.0
Low-volume Researchers	
Zentek (ZEN-T)	218.6
Graphene Manufacturing Group (GMG-T)	245.1
Directa Plus PLC (DCTA-L)	91.7
Versarien PLC (VRS-L)	40.6

Source: Company filings, Paradigm Capital Inc.

We note that at a similar point in its evolution, NanoXplore’s market cap was ~\$180M.

Figure 11: Income Statement
Income Statement

C\$/US\$	0.78								
\$000's		2023e	2024e	2025e	2026e	2027e			
Tonnage		40	350	1,000	4,000	10,000			
Tonnage US\$/kg	\$	12.00	\$ 11.00	\$ 10.00	\$ 10.00	\$ 11.00			
C\$Revenue		615	4,936	12,821	51,282	141,026			
C\$		462	3,141	7,692	20,513	51,282			
COGS US\$/kg	\$	9.00	\$ 7.00	\$ 6.00	\$ 4.00	\$ 4.00			
Op Margin		154	1,795	5,128	30,769	89,744			
<i>Operating Margin %</i>		<i>25.0%</i>	<i>36.4%</i>	<i>40.0%</i>	<i>60.0%</i>	<i>63.6%</i>			
SGA		3000	3000	3000	3000	3500			
<i>SGA Margin %</i>		<i>487.5%</i>	<i>60.8%</i>	<i>23.4%</i>	<i>5.9%</i>	<i>2.5%</i>			
R&D		650	650	641	950	1250			
<i>R&D Margin %</i>		<i>105.6%</i>	<i>13.2%</i>	<i>5.0%</i>	<i>1.9%</i>	<i>0.9%</i>			
EBITDA		(3,496)	(1,855)	1,487	26,819	84,994			
Dep & Amort		150	500	2000	2000	2000			
EBIT		(3646)	(2355)	(513)	24819	82994			
Interest		(300)	(150)	(1,200)	(600)	(150)			
Pre-tax Income		(3,346)	(2,205)	687	25,419	83,144			
Income tax		50	65	600	4,800	19,200			
%		<i>nmf</i>	<i>nmf</i>	87.3%	18.9%	23.1%			
Net Income		(3,396)	(2,270)	87	20,619	63,944			
sos		301747	301747	341372	341372	341372			
EPS		-0.01	-0.01	0.00	0.06	0.19			

Source: Company filings, Paradigm Capital Inc.

Figure 12: Balance Sheet
**Black Swan Graphene
 Balance Sheet**
July 31 2022
ASSETS
Current Assets

Cash	10,116
Receivables	159
Prepaid Expenses	4
Total Current Assets	10,279

Non-current assets

Intangible assets	8,435
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Total assets	18,713
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LIABILITIES AND EQUITY
Current liabilities

Accounts payable and accrued	327
Total liabilities	327

Equity

Common shares	25,698
Contributed surplus	390
Option reserve	1,014
Deficit	8,716
Total equity	18,386
Total liabilities and equity	18,713

Source: Company filings, Paradigm Capital Inc.

DISCLAIMER SECTION

Company	Ticker	Disclosures
Black Swan Graphene Inc.	SWAN-CA	3
Mason Graphite Inc.	LLG-CA	3
NanoXplore Inc.	GRA-CA	3

Note: Please refer to above table for applicable disclosure numbers.

- The analyst has an ownership position in the subject company.
- Paradigm Capital Inc. has assumed an underwriting liability for, and/or provided financial advice for consideration to the subject companies during the past 12 months.
- Paradigm Capital Inc. expects to receive or intends to seek compensation for investment banking services from the subject companies in the next 3 months.
- Paradigm Capital Inc. has greater than a 1% ownership position in the subject company.
- The analyst has a family relationship with an Officer/Director of subject company.
- A partner, director, officer, employee or agent of Paradigm Capital Inc. is an officer or director of the issuer.

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Stock Coverage History

Date	Target	Rating	Estimates
11/8/2022	\$0.60	Buy	Initiating Coverage

Research Rating System

Paradigm Capital Inc. uses the following rating recommendation guidelines in its research:

Recommendation	Number of Companies	Percentage Breakdown	
Buy	86	59%	Buy – Expected returns of 20% or more over 12 months.
Spec. Buy	43	29%	Speculative Buy - Expected returns of 20% or more over the next 12 months on high-risk development or pre-revenue companies, such as junior mining and other early stage companies.
Hold	17	8%	Hold - Expected returns of less than +/- 20% over the next 12 months. Includes companies Under Review.
Sell*	0	0%	Sell - Expected returns of -20% or more over the next 12 months.
Total	146		

*Includes companies with a "Tender" recommendation

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