

Nano  Plore

**WORLD'S LARGEST  
GRAPHENE PRODUCER**

**Presentation**  
December 2024

# FORWARD-LOOKING STATEMENT

This presentation contains express or implied forward-looking statements, which are based on current expectations of management.

These statements relate to, among other things, our expectations regarding management's plans, objectives, and strategies. All statements other than statements of historical fact could be considered forward-looking, including, but not limited to, any projections of financial information; any statements about historical results that may suggest trends in our business and results of operations; any statements of the plans, strategies and objectives of management for future operations, including the timing, funding and construction of planned manufacturing facilities and sales offices; any statements of expectation or belief regarding future events, potential markets or applications, the sizes of addressable markets, expected technology developments, strategic partnerships and collaborations, or enforceability of our intellectual property rights; any statements about the projected or expected economic or other benefits of our products compared to petroleum-derived equivalents, future sales and any statements of assumptions underlying any of the foregoing.

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# NANOXPLORE AT A GLANCE

**Market Cap** → \$372 million  
December 4th

**Cash** → \$21 million

**Long Term Debt** → \$6 million

**Total Liquidity** → \$32 million

**TTM\* Revenue** → \$134 million

Advanced material  
Company founded in



2011

**ESG** vision



A subsidiary of  
NanoXplore



Graphene-enhanced  
Li-ion batteries  
manufacturer

**“Blue chip customers”**

- Paccar
- Volvo
- Ford
- Daimler
- Morgan Olsen
- Caterpillar
- Ge
- Solmax
- Itron
- Gerdeau

Largest Graphene  
Producer




~40%\*\*  
share

Worldwide  
Nameplate Capacity

11 Production  
plants



~500 employees

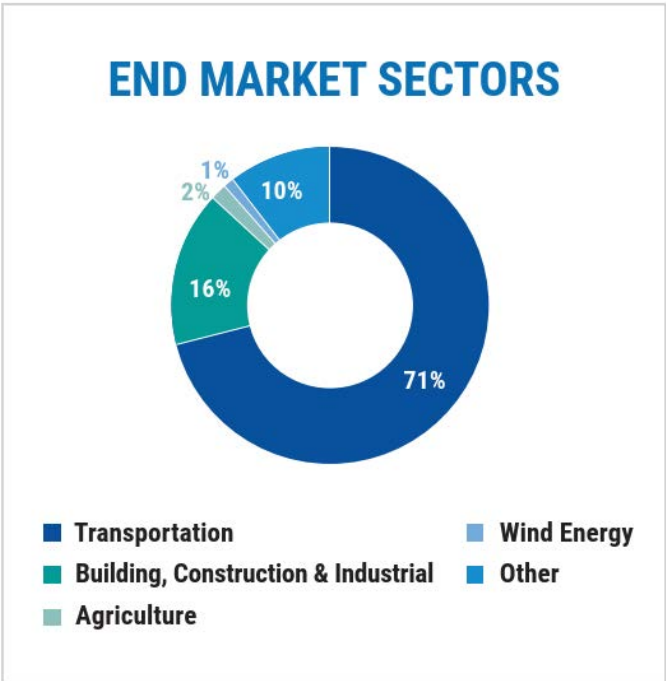


We pride ourselves on  
the **quality & consistency** of our  
branded powder



**GRAPHENEBLACK™**  
A Product of NANOXPLORE

**Strong IP portfolio  
& Know-how** through  
Years of  
R&D development



\*Trailing Twelve Months  
\*\* The Graphene Batteries Market Roni Peleg & Ron Mertens published in June 2024

# MANUFACTURING FOOTPRINT & PROCESS

High  
Volume

Cost  
Effective

Environmentally  
Friendly

GIMLI<sup>2</sup>

BEAUCE<sup>1,2</sup>

CAMBRIDGE<sup>2</sup>

MONTREAL<sup>1</sup>

State-of-the-art graphene facility  
producing graphene powder



Silicon-graphene-enhanced Li-ion battery  
R&D

VALLORBE<sup>2</sup>



NEWTON<sup>2</sup>



## 11 Facilities in Canada, US and Switzerland

- Production of consistent, high-quality graphene in Montreal
- Manufacturing of GrapheneBlack™ powder and masterbatch
- Fully automated facility ensuring product quality and low cost
- Production of silicon-graphene additives and high-performance cylindrical lithium-ion batteries



*1 ISO 9001 certified, state-of-the-art  
graphene facility  
2 Enhanced products in other form  
factors (masterbatch, compounded  
pellets and composite parts)*

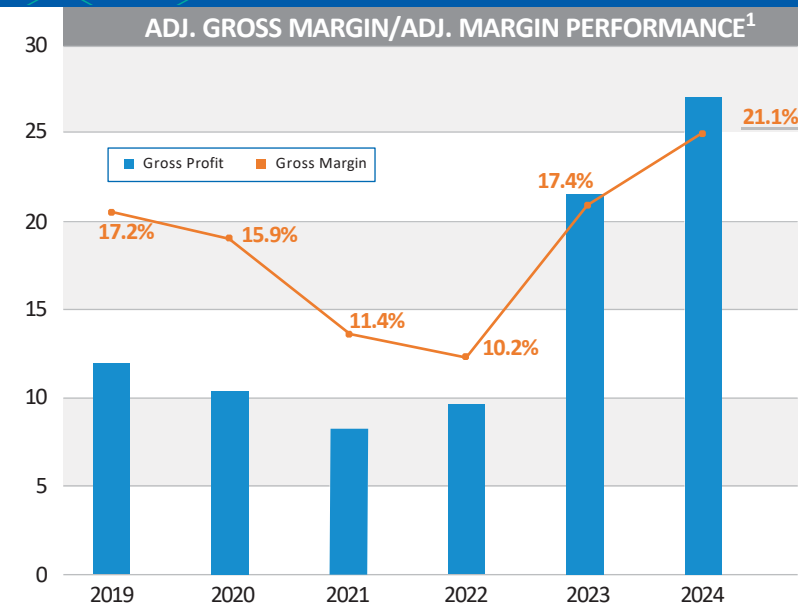
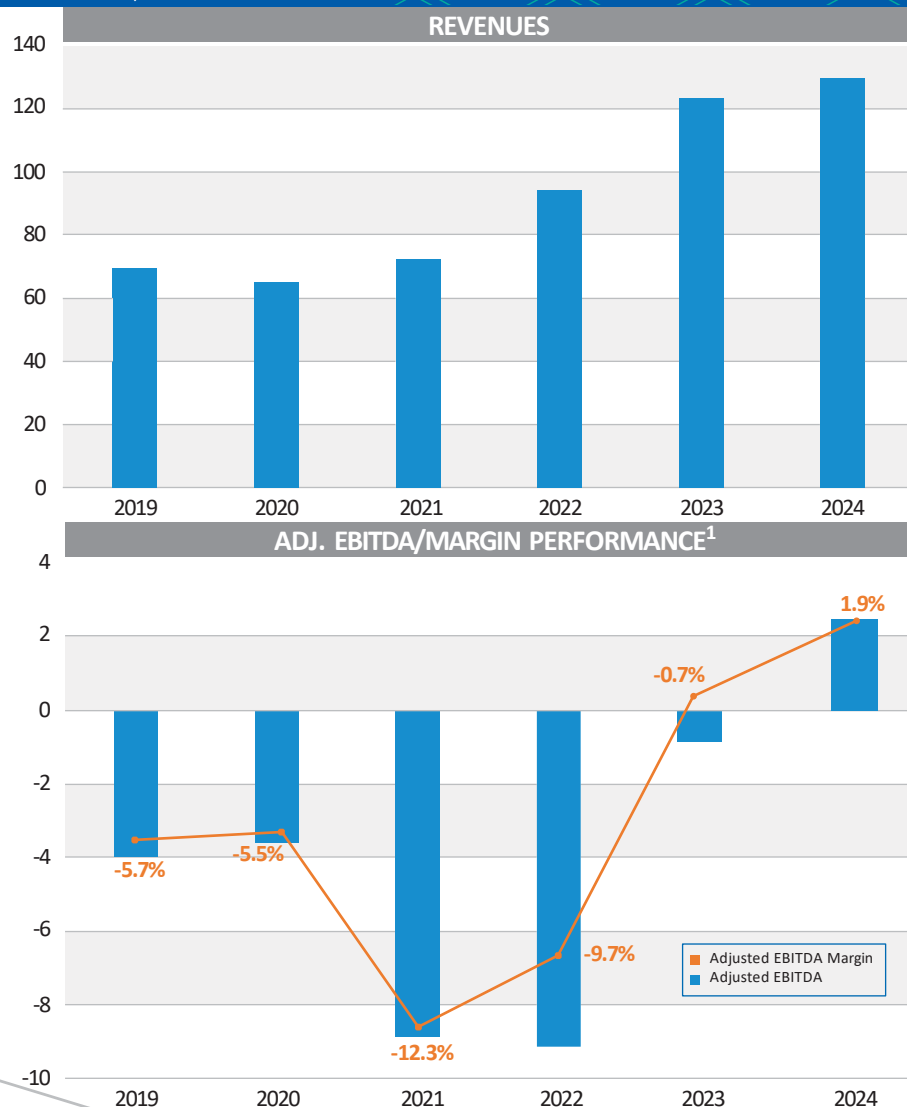


# NANOXPLORE'S PRODUCT PORTFOLIO



# HISTORICAL FINANCIAL PERFORMANCE

All amounts in \$ millions



Despite COVID, revenues grew at a 14.8% CAGR over the last 5 Years

We expect an acceleration in revenue growth due to:

- Strong demand for Graphene Enhanced SMC predominantly in transportation and industrial segment

Margins expansion as a consequence of:

- Product Mix
- Pricing power
- Raw material prices fluctuation passed-through
- Increased volume
- Increased productivity

# FQ1 2025 CORPORATE HIGHLIGHTS

## Quarterly Key Developments



### Graphene Enhanced SMC

Demand continues to be very strong, and our capacity is almost fully utilized.

As part of our 5-year strategic plan, we are expanding our capacity, mostly in the US, supported by booked contracts with existing and new customers.



### Graphene Sales Activities

Validation and testing activities are ongoing with new customers while we continue to supply existing ones.

## TOTAL REVENUES

**\$33.7M**

### DRIVERS:

- Positive product mix including graphene-enhanced products
- Higher volume

## ADJUSTED EBITDA<sup>1</sup>

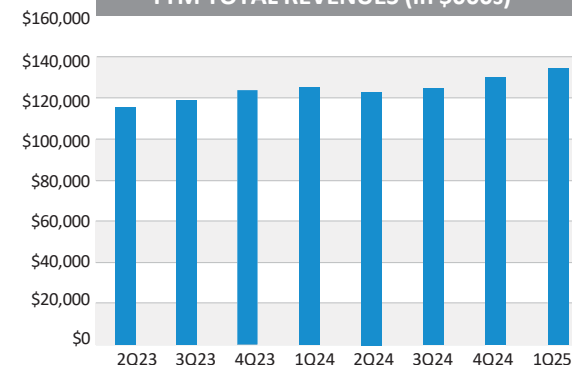
**\$1.5M**

### Advanced Materials, Plastics & Composites segment

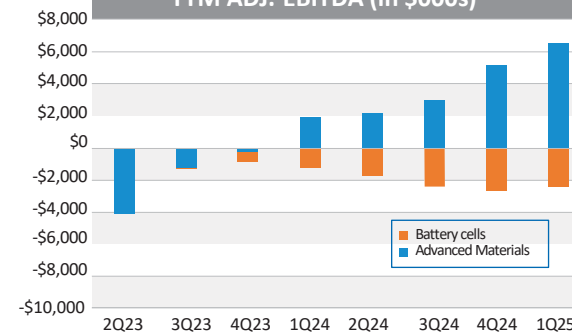
### DRIVERS:

- Gross margin expansion driven by:
- Higher revenues
- Higher margins product mix
- Improved productivity
- Cost control
- Advanced materials, plastics & composites segment

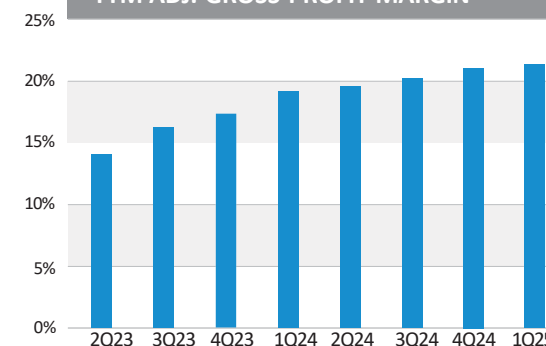
### TTM TOTAL REVENUES (in \$000s)



### TTM ADJ. EBITDA (in \$000s)<sup>1</sup>



### TTM ADJ. GROSS PROFIT MARGIN<sup>1</sup>



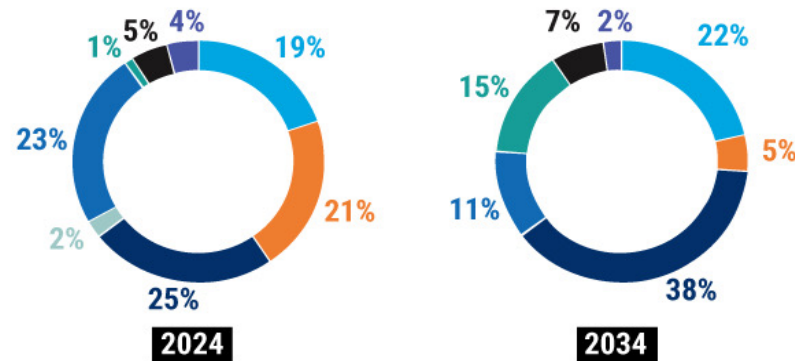
# NANOXPLORE'S END MARKETS

BASED ON BOTH IDTechEx & FORTUNE BUSINESS INSIGHTS

HIGH GROWTH END-MARKET BY INDUSTRIES INCLUDE TRANSPORTATION AND BY APPLICATION INCLUDE COMPOSITE WHICH ARE KEY GROWTH VERTICALS FOR NANOXPLORE

IDTechEx Research

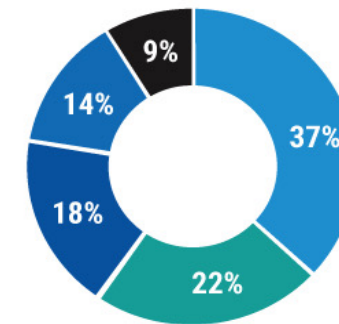
REVENUE BY APPLICATIONS



<https://www.idtechex.com/en/research-report/graphene-market-and-2d-materials-assessment-2024-2034-technologies-markets-players/967>

FORTUNE BUSINESS INSIGHTS

GLOBAL GRAPHENE MARKET SHARE, BY END-USE INDUSTRY, 2023



<https://www.fortunebusinessinsights.com/graphene-market-102930>


- Graphene is a new material, and we are clearly in the adoption phase as demonstrated by market studies that are **expecting a 10x growth in the industry over the next 10 years**. Fortune Business Insights is forecasting the **global graphene market to grow from approx. \$550M in 2024 to \$5.2B in 2034**. Graphene and its applied products exhibit application potential in various sectors including composites & coating, energy storage, biomedical technologies and water and wastewater treatment.
- Energy storage industry is anticipated to be one of the key forces driving adoption in future**. Graphene-based batteries exhibit superior rate and energy capacity compared to traditional lithium-ion batteries. Thus, growing demand for energy storage products by electric vehicles, wind power, and solar energy sectors is expected to provide a major boost over the forecasted period.
- Composite application is expected to represent the largest application over the forecasted period**. Graphene-based composites are used in the transportation, aerospace, and construction industries, as well as in coatings, metals, and plastics.
- Graphene is increasingly used as an additive in resin matrices and other materials for lightweighting and improve their mechanical properties such as thermal and electrical conductivity, durability, stiffness, flexibility, and fire and UV resistance**. These factors are anticipated to fuel the demand for composites in the coming years.




# ENHANCING GROWTH PROSPECT BY INCORPORATING GRAPHENE SOLUTIONS IN ACQUISITIONS

Stronger, Lighter, Higher Quality Parts Using







COMPRESSIVE STRENGTH



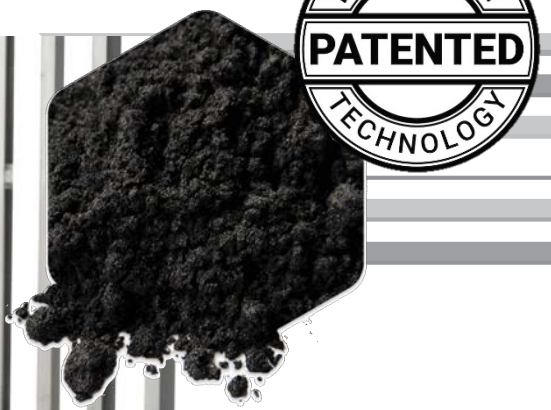
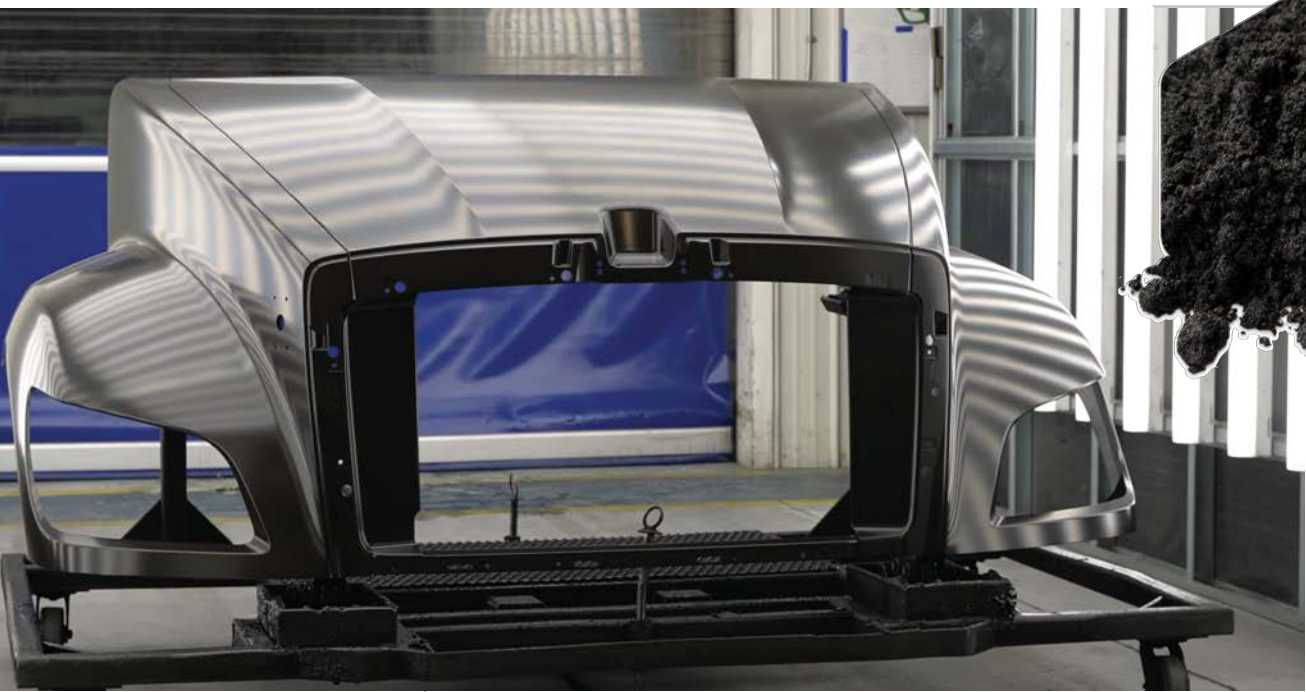
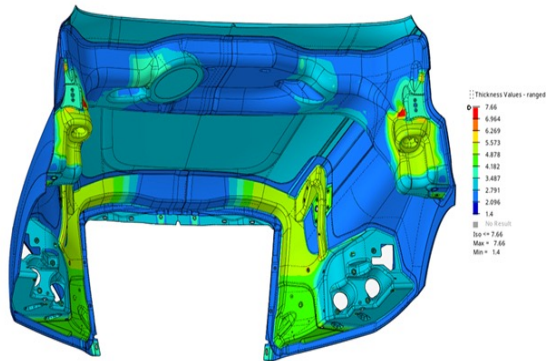
LIGHT WEIGHTING








PROCESSABILITY



UV RESISTANCE



-  Sustainability & Reduced Emissions
-  Avg. **15%** Light-weighting Potential
- Less SMC** Material
- Enhanced** Class A Surface Finish 
-  Better In-mold Flow
- Increase** EV vehicle range & Fuel Economy 

# ENHANCING GROWTH PROSPECT BY INCORPORATING GRAPHENE SOLUTIONS IN ACQUISITIONS

## THE CHALLENGE:

- ACI had accumulated a stockpile of low-cost medical waste plastic for recycling, but its strength performance did not meet customer specifications.
- This led to a growing inventory of unsellable material that needed a solution.

## THE SOLUTION:

- NanoXplore partnered with ACI for an 8-month project to evaluate graphene's potential to improve the strength of the waste plastic.
- By incorporating graphene at a relatively high addition rate, the strength performance improved by over 30%, meeting the specifications of a major ACI customer.

## OVERCOMING COST OBSTACLES:

- Once graphene was proven to be a viable solution, NanoXplore addressed cost concerns by using Canuck recycled polypropylene as the carrier resin for the graphene masterbatch.
- This approach reduced production costs by more than 50% and provided ACI with a fully recycled, cost-effective solution for their customer.

## RESULTS & GROWTH:

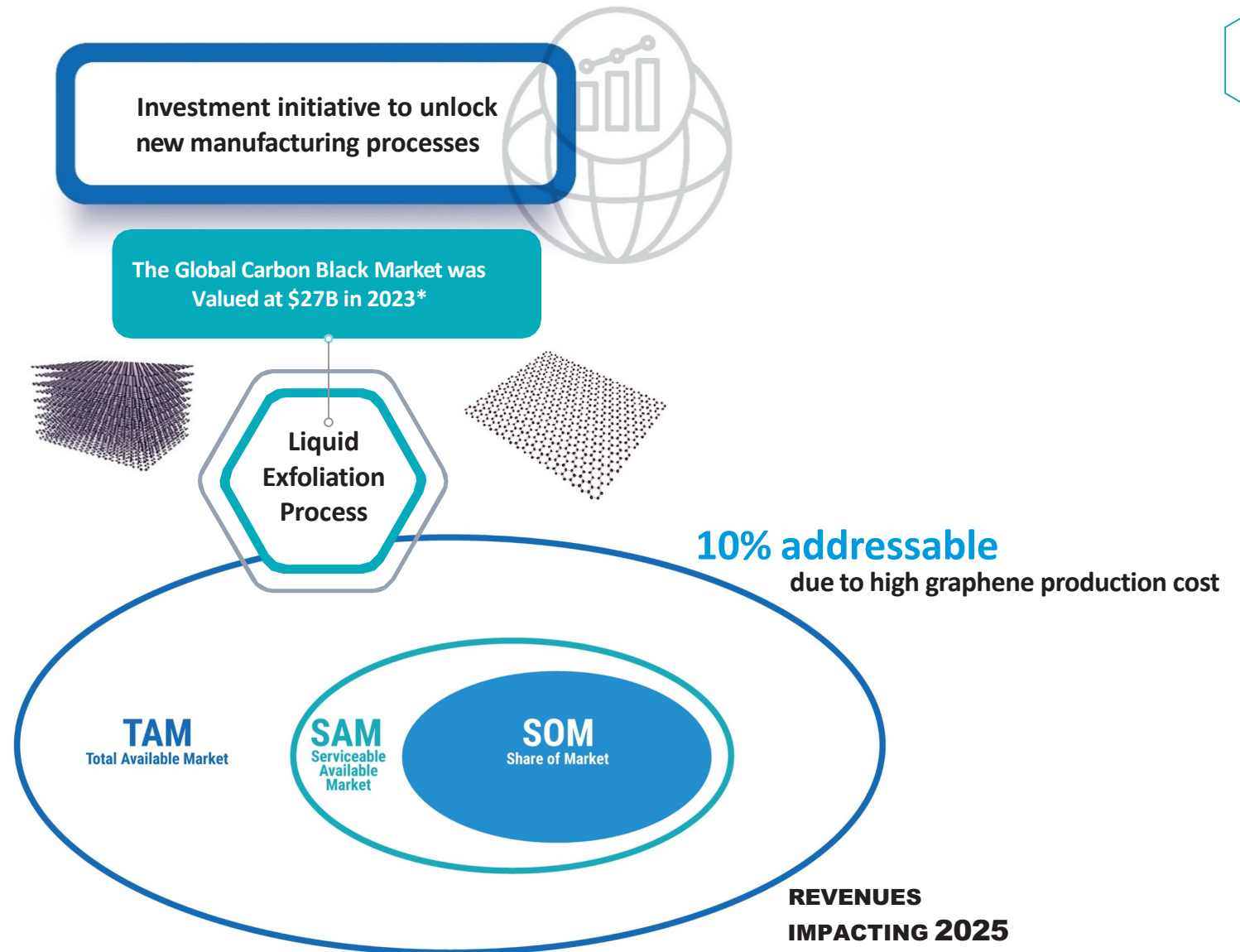
- Since May, ACI has been purchasing Recycled Graphene Masterbatch regularly every month, with plans to double the volume in 2025.
- NanoXplore has successfully promoted this solution to other recyclers, expanding its market to include polyethylene and other recycling sectors.



Scott Melton  
President  
ACI Plastics

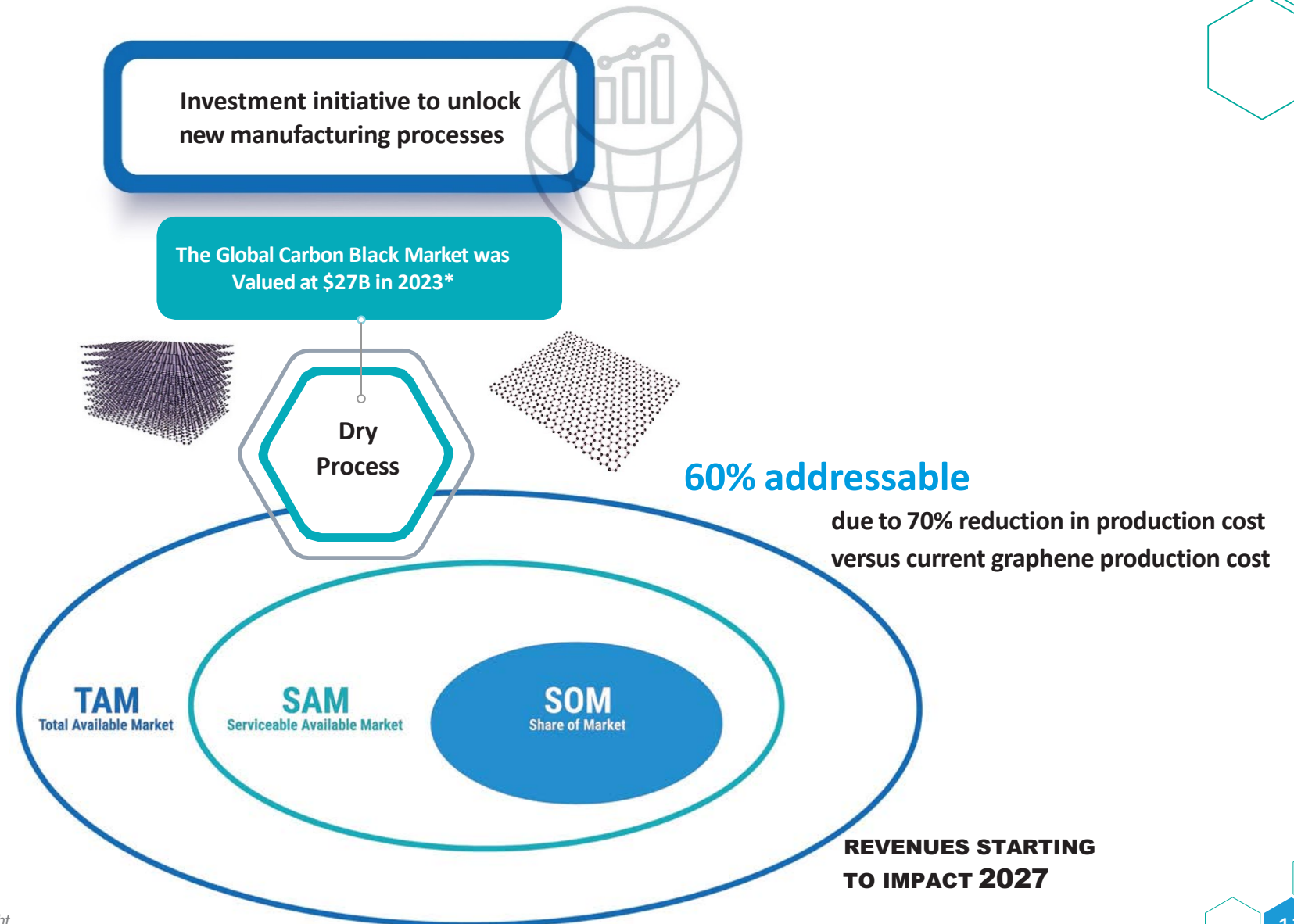
*NanoXplore's graphene has turned our skepticism into success, providing strength and affordability for sustainable products.*

# EXPANDING OUR GRAPHENE ADDRESSABLE MARKET





# EXPANDING OUR GRAPHENE ADDRESSABLE MARKET



# CSPG AND DRY GRAPHENE STRATEGY

## Coated Spherical Purified Graphite Active Anode Material (AAM)

- Strategic focus on co-production of dry-processed graphene and CSPG due to our patented process advantages.
- Cost advantage and flexibility: The conversion of waste graphite (CSPG byproduct) into high quality graphene, significantly reducing production costs for both products.
- This enables Dry-graphene to become cost competitive with Carbon Black, driving significant growth in our Serviceable Available Market (SAM).
- Enhances CSPG competitiveness through integrated manufacturing and efficient use of materials.
- Addresses a key sustainability challenge: Resolves waste management issues that our CSPG competitors face.
- Both products offer high growth potential and attractive profit margins. Filed a provisional patent protecting the innovative co-production process of graphene and CSPG, reinforcing our competitive edge and sustainability strategy.
- Dry-processed graphene technology is protected by a robust IP portfolio, including 21 granted patents and 3 pending applications across 9 countries.
- Market scarcity, particularly for CSPG in North America, strengthens strategic positioning.



**16,000T/Y capacity for  
8-20GWh battery production**



*AAM Production Pilot Line  
Montreal operation*

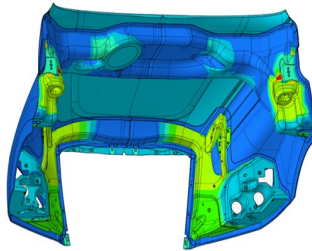


# 5 YEAR STRATEGY AT A GLANCE

We believe our products add value to these markets:

## Composite Expansion

Ongoing and will be completed by 2027 (on target)



Expanding SMC  
manufacturing  
capacity to 10Mlb/y

## CSPG & Dry Graphene Expansion

Project moving along and following normal course of business. Should be completed by end of 2026 (on target)

**SG-X** / Energy Storage  
Anode Materials

Coated Spherical Purified Graphite  
Active Anode Material  
for Li-ion Battery Cells



Building 16kt/y of graphene and  
anode production facility



## VoltaXplore Project

On hold and delayed until further improvements in underlying demand. In mean time focus is on Silicon tech and reducing losses through grants

# KEY MILESTONES FOR 2025

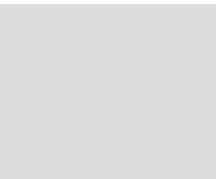
New programs to ramp up at our expanded SMC North Carolina operation



Ramp-up graphene powder & masterbatch sales (with foam + drilling fluid customers)



Continuation of commercial engagement for our new CSPG & Dry Graphene facility



**NanoXPlore**

TSX: GRA - OTCQX: NNXPF



Renewable Energy Used throughout the process



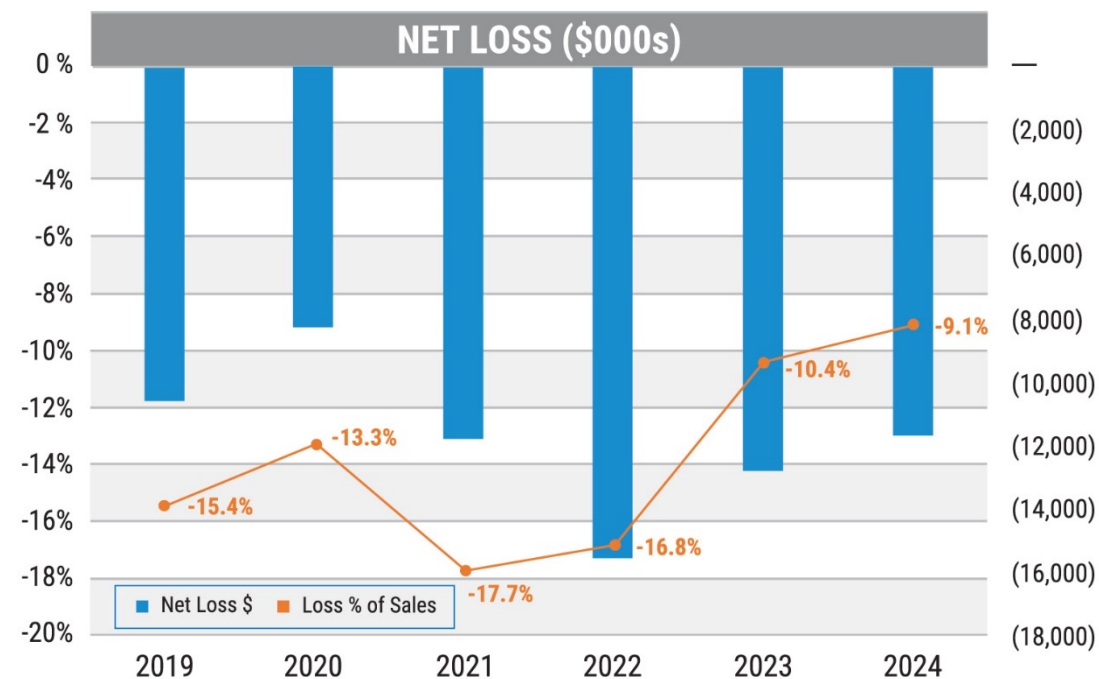
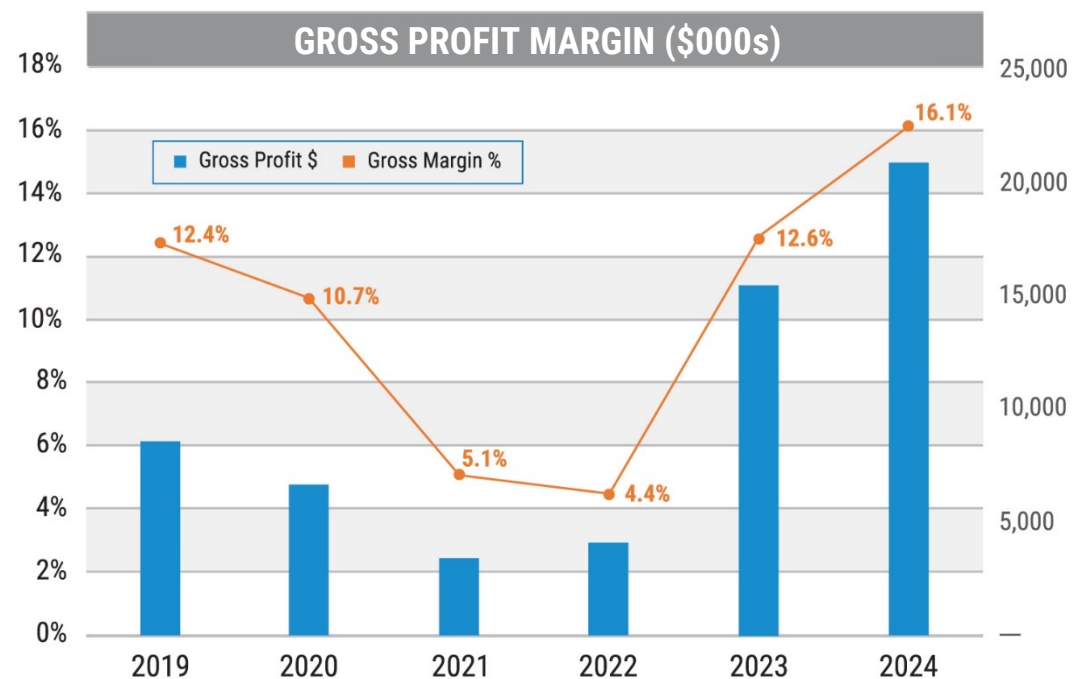
# **APPENDIX**

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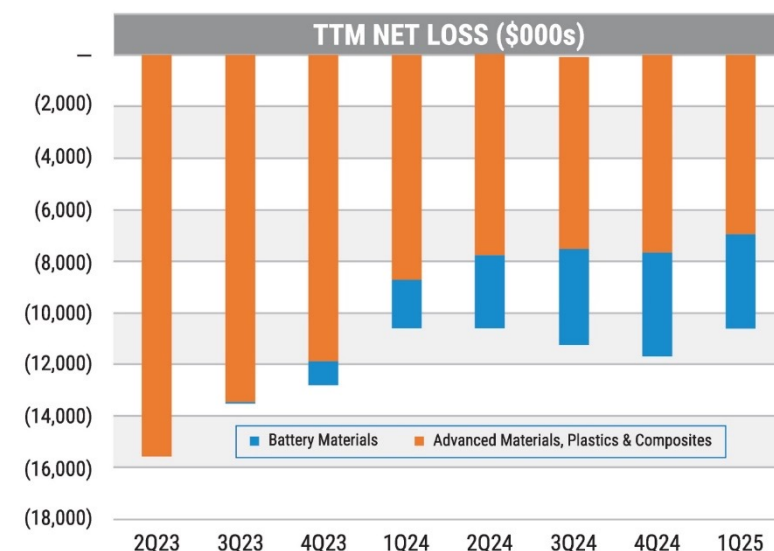
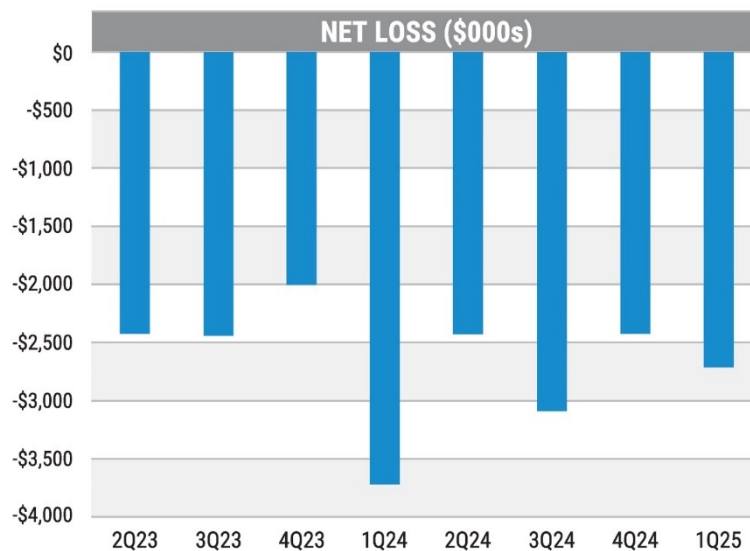
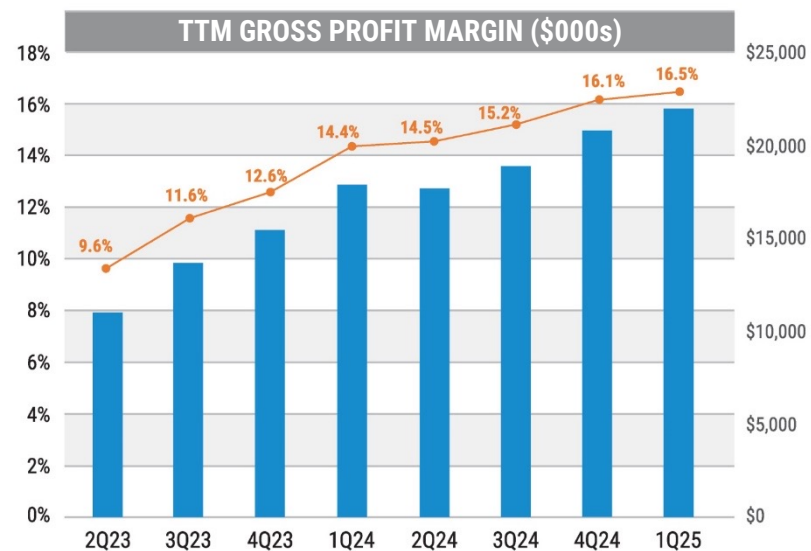
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# ANNUAL IFRS EQUIVALENT





# QUARTERLY IFRS EQUIVALENT





Performance Through Carbon Chemistry

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[www.nanoxplore.ca](http://www.nanoxplore.ca)

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