

TSX: GRA
OTCQX: NNXPF

Nano Plore

**WORLD'S LARGEST
GRAPHENE PRODUCER**

Presentation
December 2024

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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

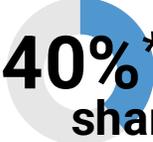


Graphene-enhanced Li-ion batteries manufacturer

"Blue chip customers"

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

Largest Graphene Producer



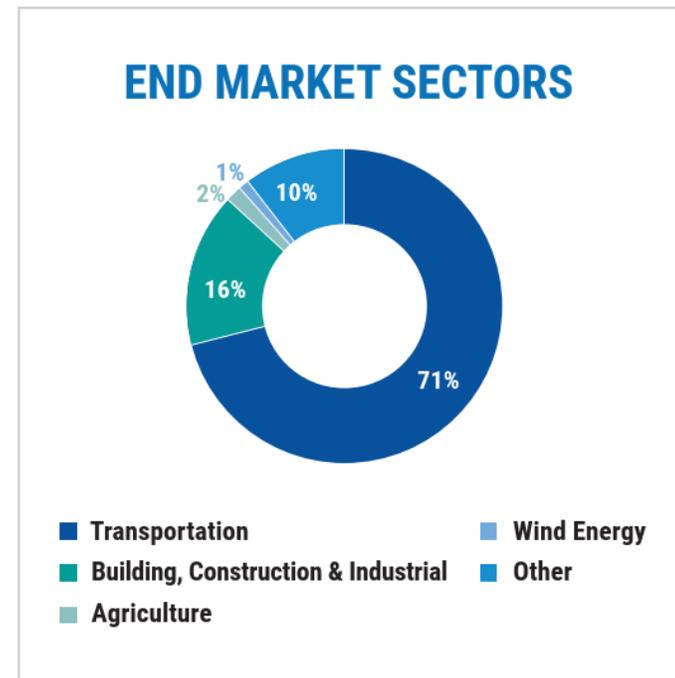
~40% share**

Worldwide Nameplate Capacity

11 Production plants



~500 employees

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



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

GIMLI²

BEAUCE^{1,2}

CAMBRIDGE²

MONTREAL¹

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



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

VALLORBE²



NEWTON²



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



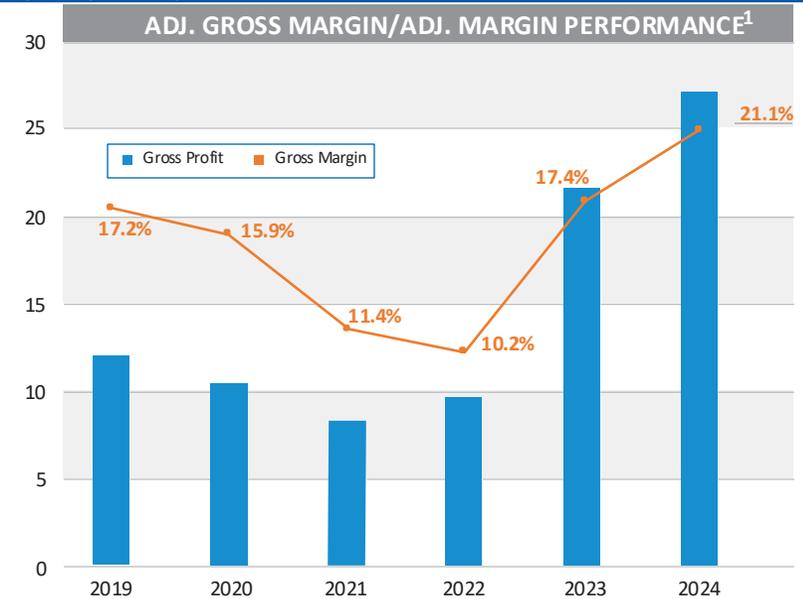
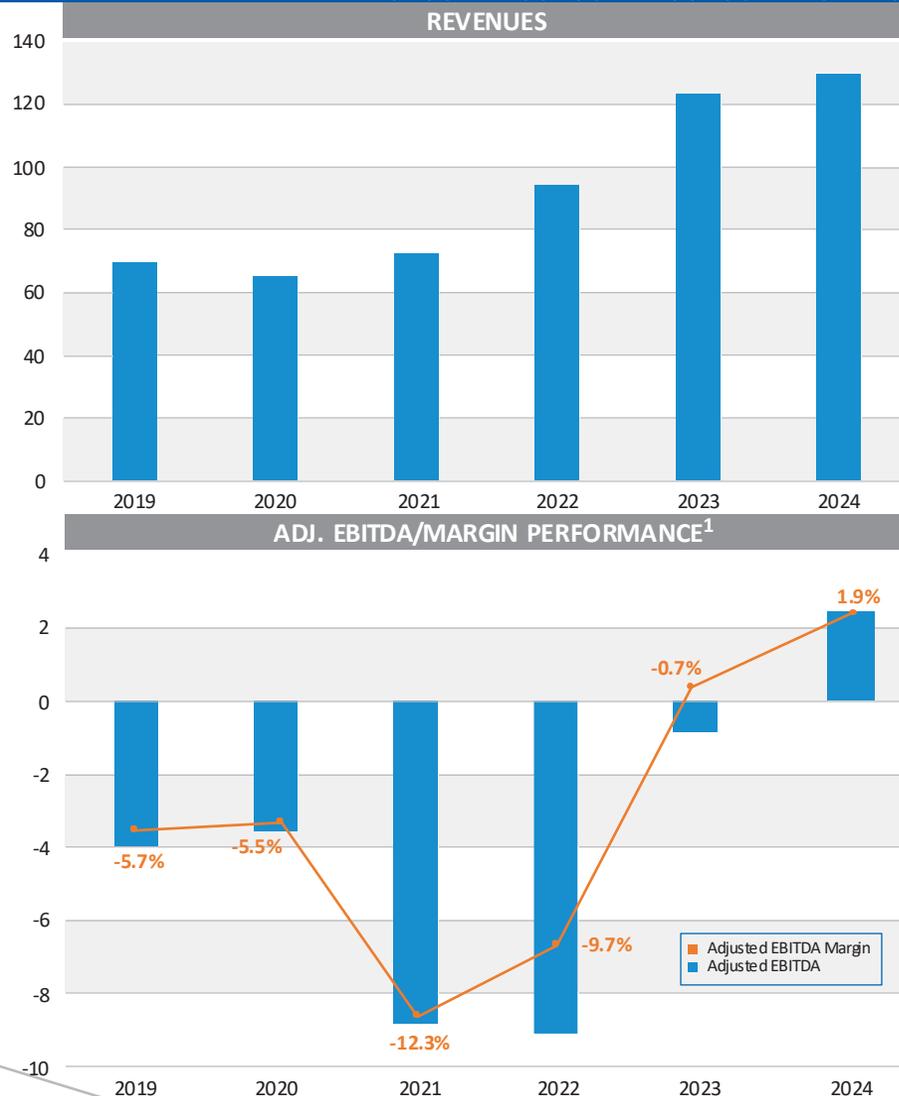
1 ISO 9001 certified, state-of-the-art graphene facility
2 Enhanced products in other form factors (masterbatch, compounded pellets and composite parts)

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 EBITDA¹

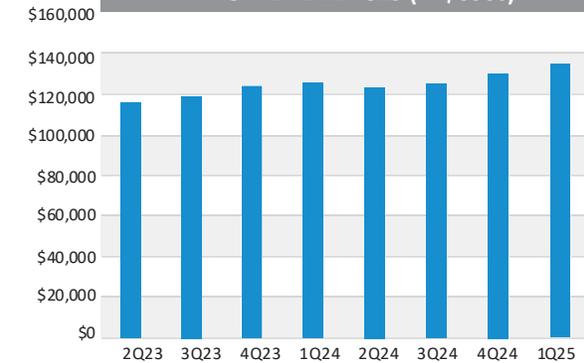
\$1.5M

Advanced Materials, Plastics & Composites segment

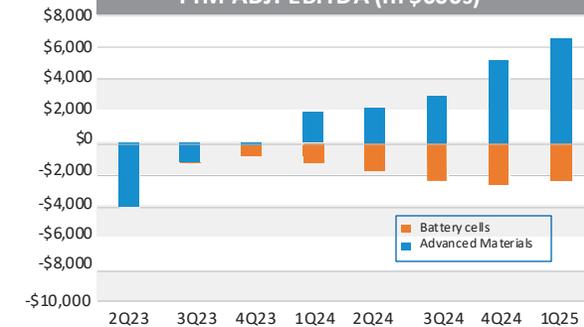
DRIVERS:

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

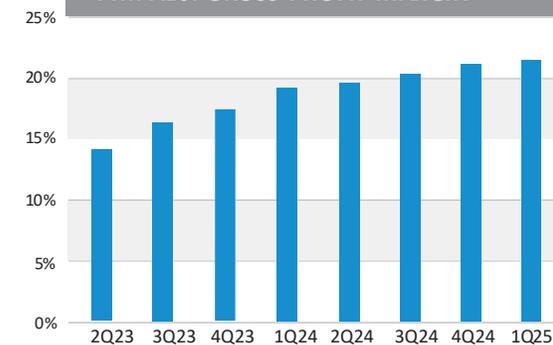
TTM TOTAL REVENUES (in \$000s)



TTM ADJ. EBITDA (in \$000s)¹



TTM ADJ. GROSS PROFIT MARGIN¹



¹ Non-IFRS measure – refer to IFRS equivalent graphics in appendix

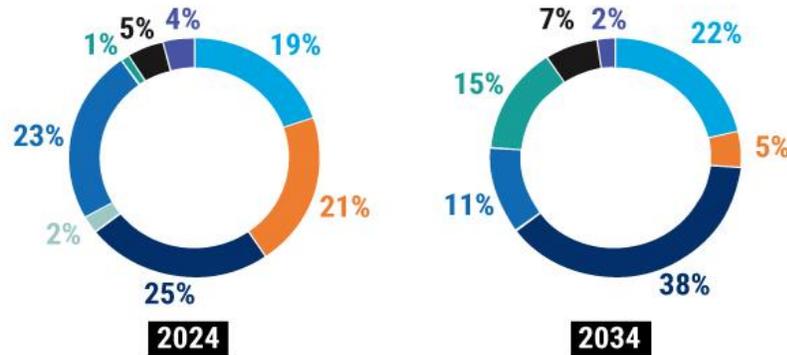
NANOXPLORE'S END MARKETS

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

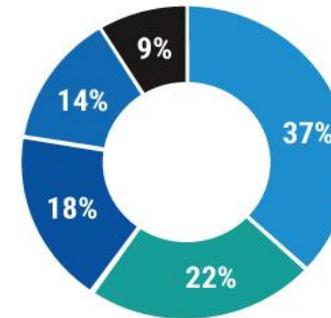
REVENUE BY APPLICATIONS



<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



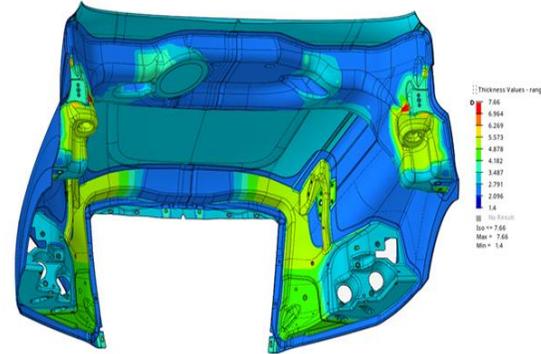
<https://www.fortunebusinessinsights.com/graphene-market-102930>



- **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

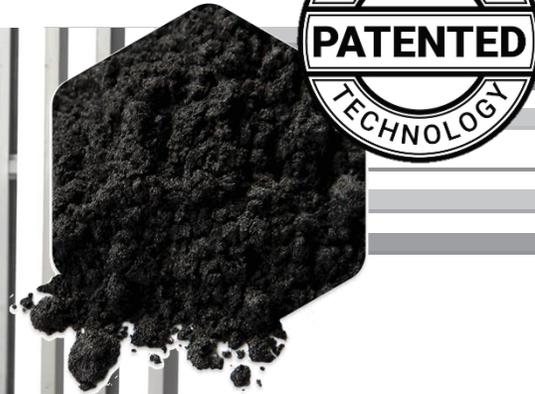


 **COMPRESSIVE STRENGTH**

 **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:

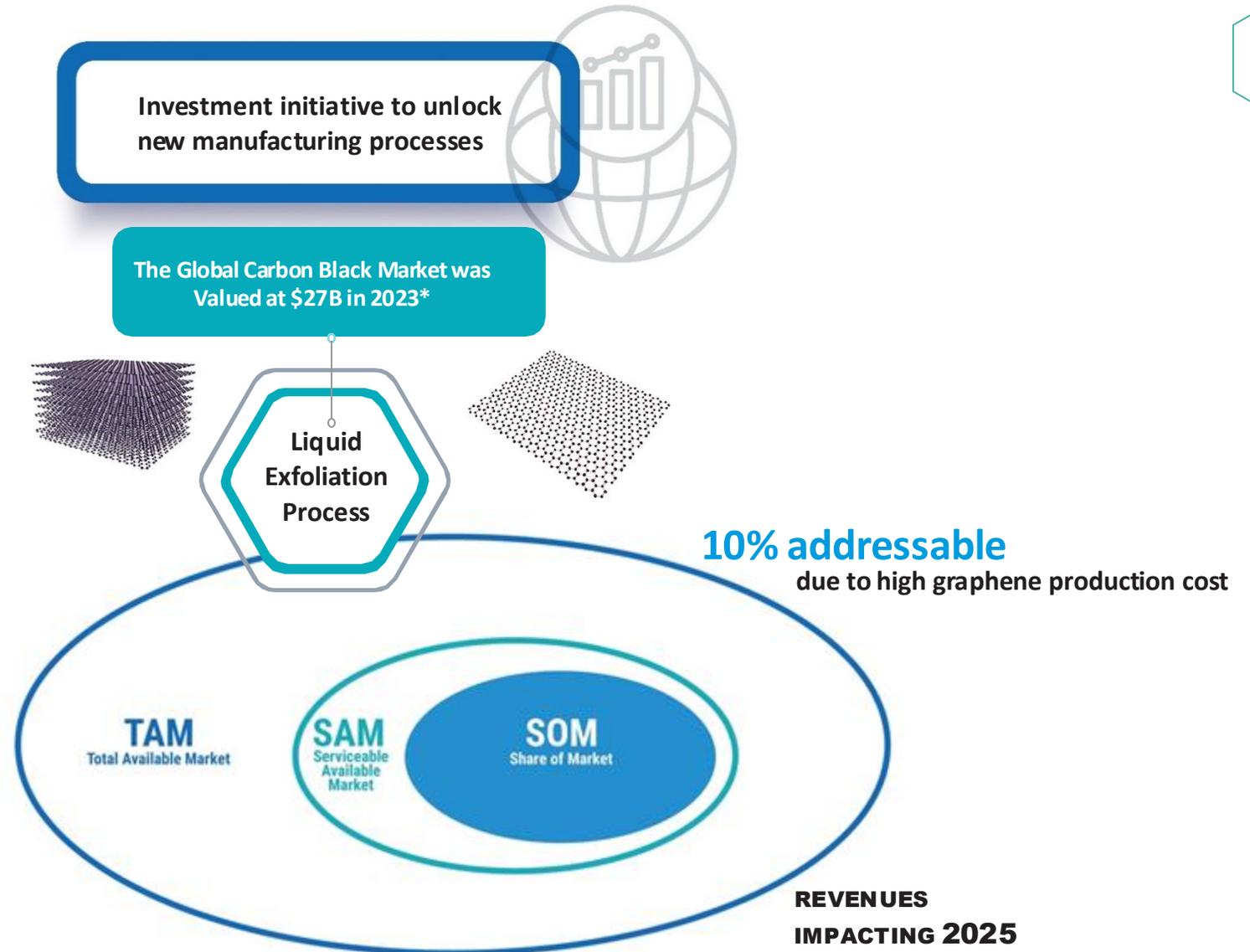
- Once graphene was proven to be a viable solution, NanoXplore addressed cost concerns by using Canuck recycled polypropylene as the carrier resin for the graphene masterbatch.
- This approach reduced production costs by more than 50% and provided ACI with a fully recycled, cost-effective solution for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

RESULTS & GROWTH:

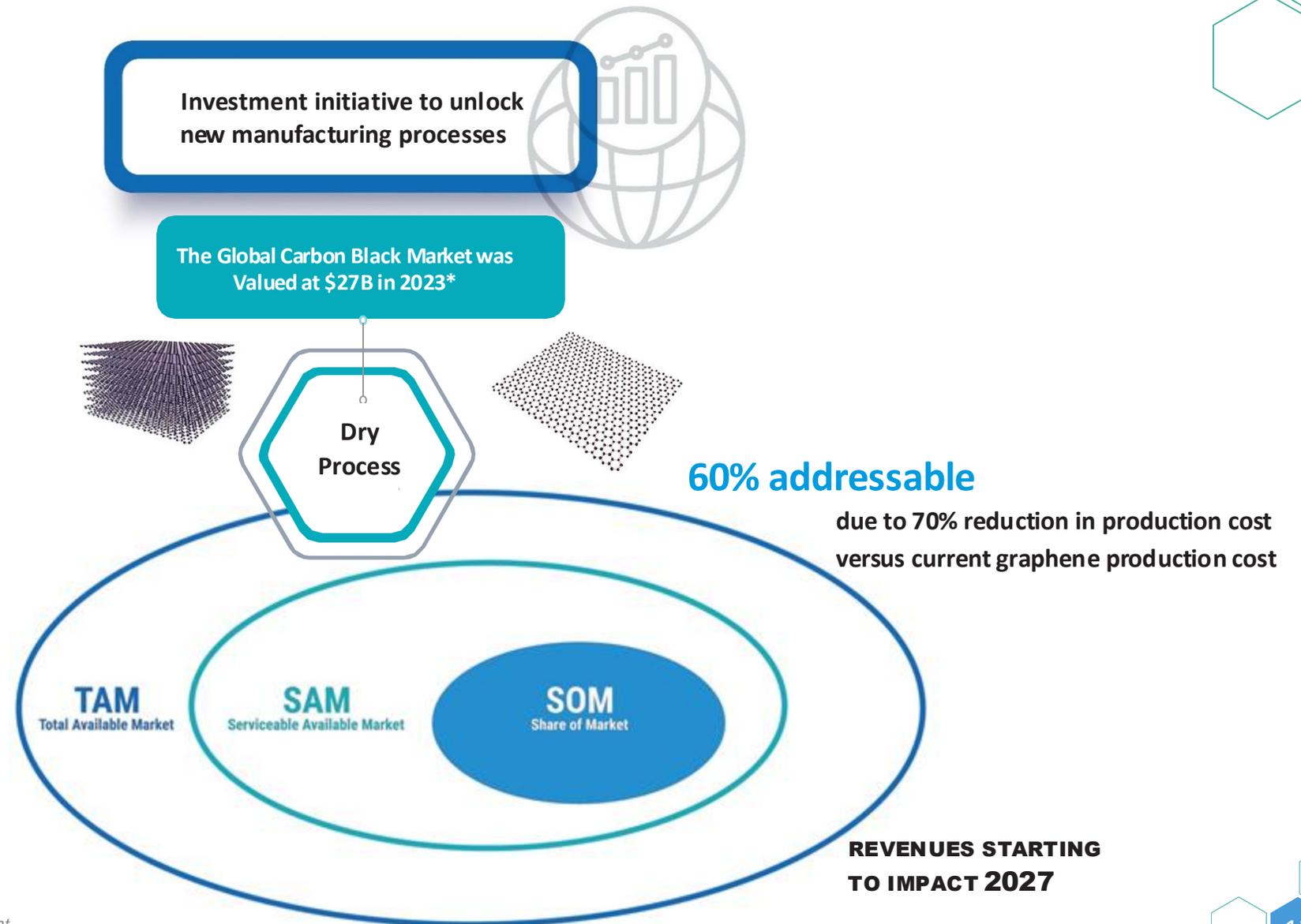
- Since May, ACI has been purchasing Recycled Graphene Masterbatch regularly every month, with plans to double the volume in 2025.
- NanoXplore has successfully promoted this solution to other recyclers, expanding its market to include polyethylene and other recycling sectors.



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**



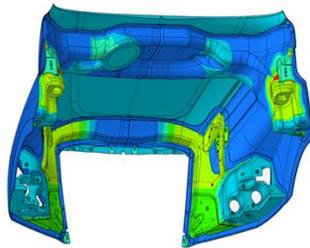
*AAM Production Pilot Line
Montreal operation*

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

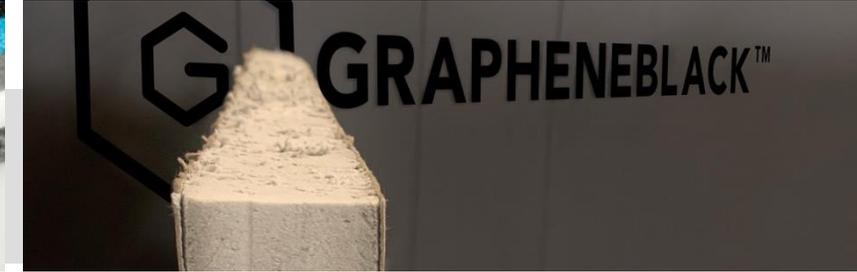
On hold and delayed until further improvements in underlying demand. In mean time focus is on Silicon tech and reducing losses through grants

KEY MILESTONES FOR 2025

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



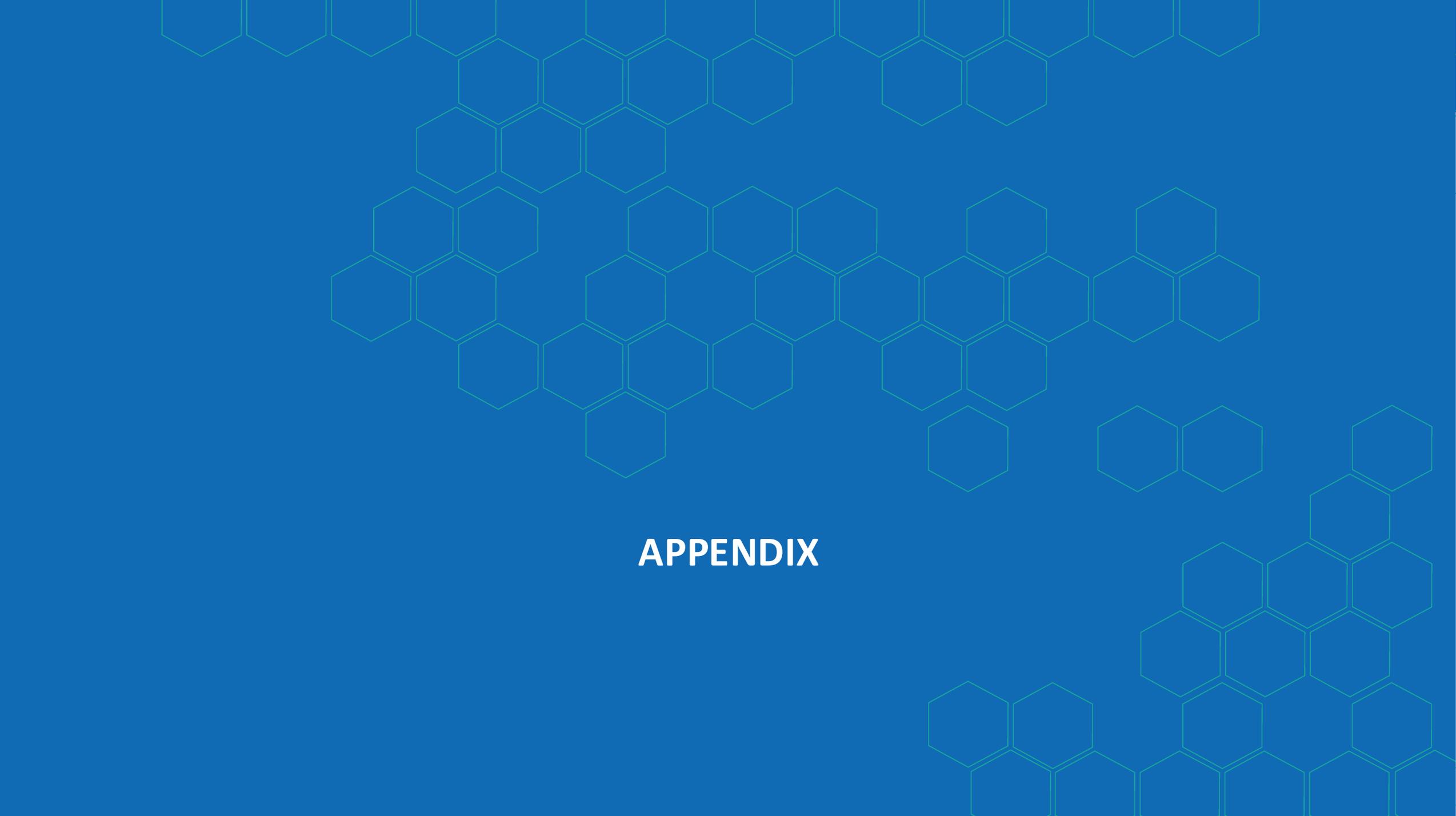
Ramp-up graphene powder & masterbatch sales (with foam + drilling fluid customers)



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



Renewable Energy Used throughout the process



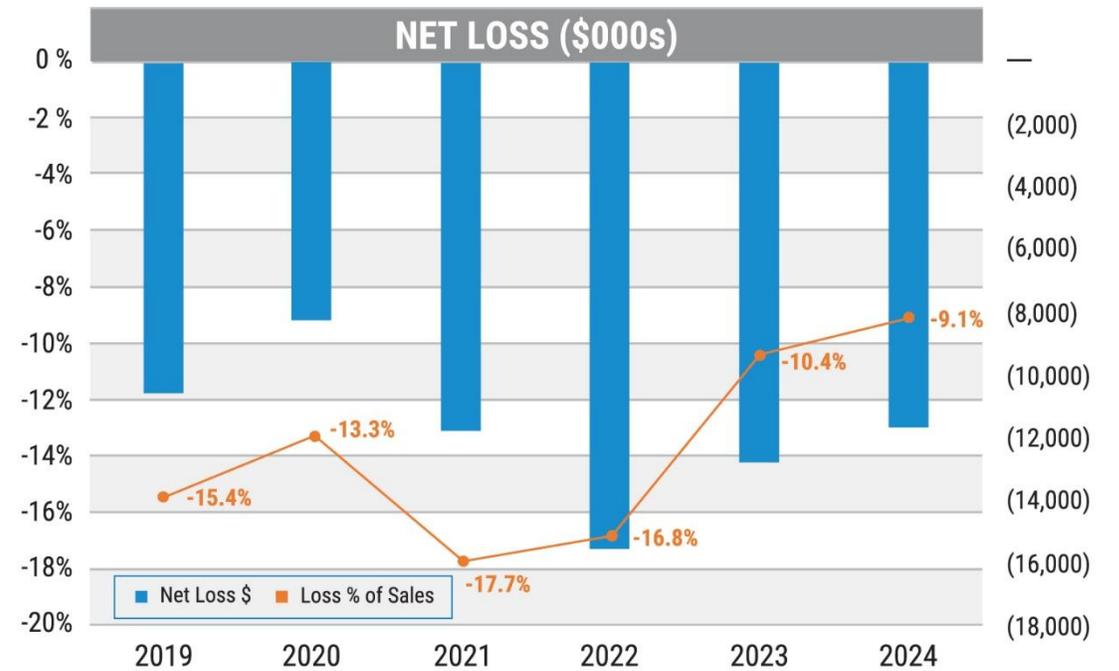
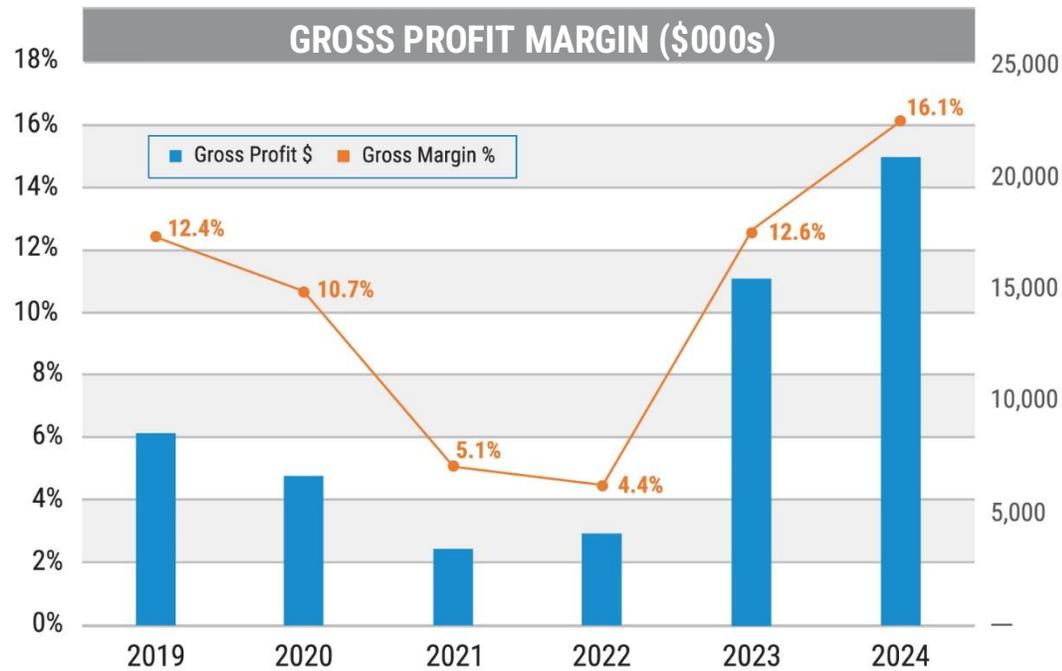
APPENDIX

NON-IFRS MEASURES

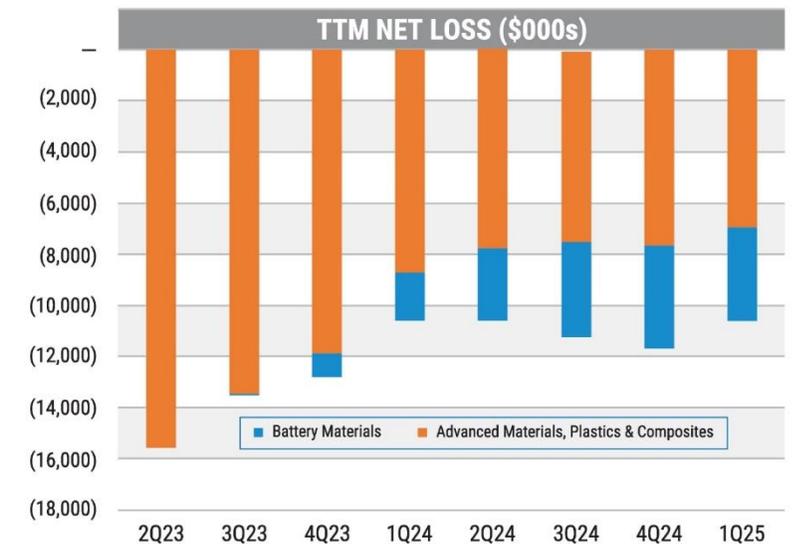
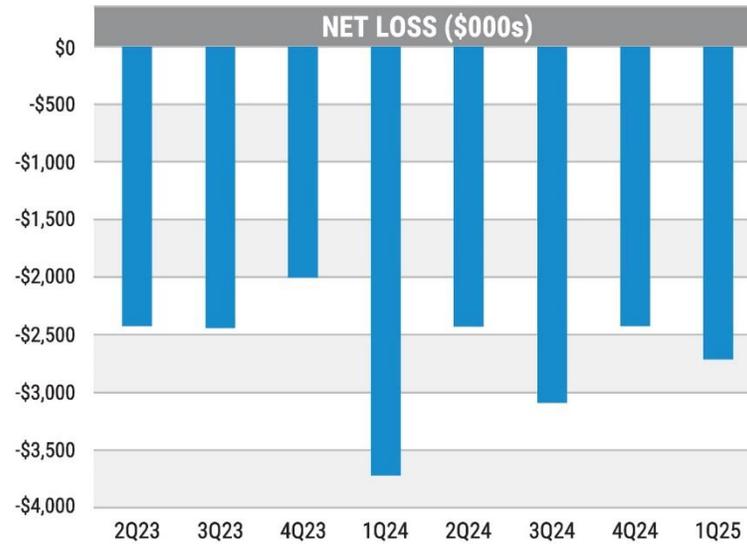
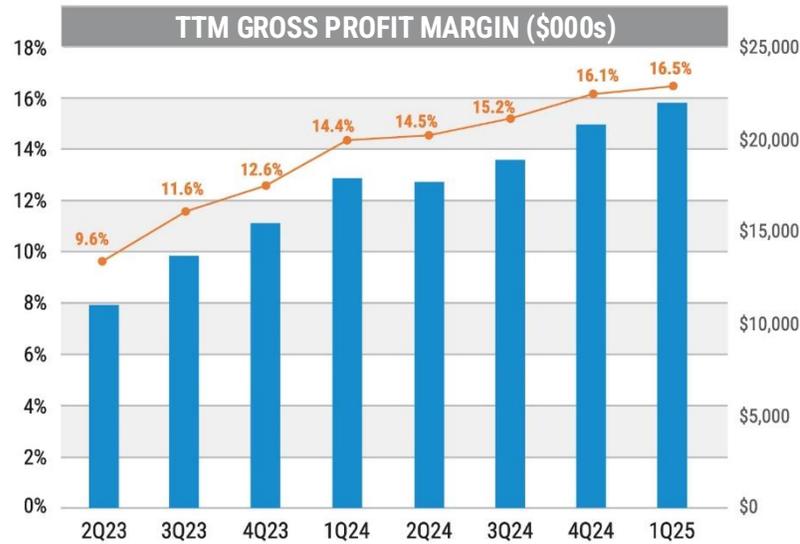
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ANNUAL IFRS EQUIVALENT



QUARTERLY IFRS EQUIVALENT





Performance Through Carbon Chemistry

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