

The background of the slide is a rendering of a modern industrial building with large glass windows and a grey facade. The words "NEO BATTERY" are visible on the building's exterior. In the foreground, there is a paved area with some greenery and a few people walking. The overall scene is set during the day with a clear sky.

NEO BATTERY MATERIALS LTD.

Achieving the 1000-Mile EV Battery
with Silicon Anode Materials

Cautionary Statements Regarding Forward Looking Information

This presentation contains "forward-looking information" within the meaning of the applicable securities legislation. All information contained herein that is not clearly historical in nature may constitute forward-looking information. Generally, such forward-looking information can be identified notably by the use of forward-looking terminology 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". Forward-looking information is subject to known and unknown risks, uncertainties and other factors that may cause the actual results, level of activity, performance or achievements of the Company to be materially different from those expressed or implied by such forward-looking information, including but not limited to: (i) volatile stock prices; (ii) the general global markets and economic conditions; (iii) the possibility of write-downs and impairments; (iv) the risk associated with exploration, development and operations of minerals; (v) the risk associated with establishing title to mineral properties and assets; (vi) the risks associated with entering into joint ventures; (vii) fluctuations in mineral prices; (viii) the risks associated with uninsurable risks arising during the course of exploration, development and production; (ix) competition faced by the resulting issuer in securing experienced personnel and financing; (x) access to adequate infrastructure to support mining, processing, development and exploration activities; (xi) the risks associated with changes in the mining regulatory regime governing the Company; (xii) the risks associated with the various environmental regulations the Company is subject to; (xiii) risks related to regulatory and permitting delays; (xiv) the reliance on key personnel; (xv) liquidity risks; (xvi) the risk of litigation; and (xvii) risk management.

Forward-looking information is based on assumptions management believes to be reasonable at the time such statements are made, including but not limited to, continued exploration activities, no material adverse change in mineral prices, exploration and development plans to proceed in accordance with plans and such plans to achieve their stated expected outcomes, receipt of required regulatory approvals, and such other assumptions and factors as set out herein. Although the Company has attempted to identify important factors that could cause actual results to differ materially from those contained in the forward-looking information, there may be other factors that cause results not to be as anticipated, estimated or intended. There can be no assurance that such forward-looking information will prove to be accurate, as actual results and future events could differ materially from those anticipated in such forward-looking information. Such forward-looking information has been provided for the purpose of assisting investors in understanding the Company's business, operations and exploration plans and may not be appropriate for other purposes. Accordingly, readers should not place undue reliance on forward-looking information. Forward-looking information is made as of the date of this presentation, and the Company does not undertake to update such forward-looking information except in accordance with applicable securities laws.

Leadership with Proven Track-Record



Mr. Spencer Sungbum Huh

Director, President & Chief Executive Officer

- More than 25 years of financial and operational experience in Canada and South Korea
- GTM and strategic management for mining, medical device, and high-tech companies
- Previously with TD, BMO, and publicly-listed companies



Dr. Seong Gi Kim

Chief Technology Officer

- Former Executive Vice President and Head of R&D of Hanwha Solutions – Multibillion Korean Conglomerate
- Global R&D leader at second largest silicon product manufacturer – Momentive Performance Materials
- Ph.D. from University of Toronto & Held roles in Dow Chemical, LG Innotek, and Samsung Fine Chemicals



Mr. Sung Rock Hwang

Director, Chief Operating Officer

- Over 30 years of experience working for Samsung SDI as Executive Director and Chief of Purchasing
- Expertise in supply chain management, procurement planning, and advanced battery business development



Dr. Dongmok Whang

Scientific Advisor

- Expertise in fabrication and manufacturing of low-dimensional nanomaterials and graphene for lithium-ion battery and ESS applications
- Co-owns patents with Samsung Electronics; Professor at Sungkyunkwan University with Post-Doc at Harvard University



Dr. Basudev Swain

Chief Science Officer

- Over 20 years experience in Li-ion battery materials and recycling development
- Critical R&D role in sustainable mass-production system commercialization
- Held key research positions in South Korea, Japan, and Singapore



Dr. Jinhyuk Lee

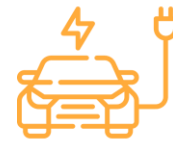
Scientific Advisor

- Expertise in field of rechargeable batteries, sustainable battery materials & known as cobalt-free disordered-rock salt cathode materials
- High-impact author in Science and Nature Journals
- Received PhD from MIT and Assistant Professor of Materials Engineering at McGill University



NEO BATTERY MATERIALS LTD. **Is the Forerunner for Cost-Effective, Long-Lasting EV Battery Technology**

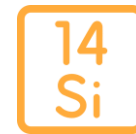
NBMSiDE™ - Silicon Anode Material



**Longer EV Driving Range
with Ultra-Fast Charging**



**Energy-Efficient, Inexpensive
Manufacturing Process**



**First-Mover to Use
Cheapest Silicon Raw Material**

~60 NDAs

with **Global Battery Cell
Manufacturers & EV Automakers**
for Collaboration + Supply



LG Chem



**Hanwha
Solutions**

Management Team with
Proven Track-Record
in Battery Industry

>70%

Reduction in Silicon Anode
Downstream Selling Price
Compared to Competitors

NBM Silicon Anode Global Expansion Plan

Aims to Become Among the Top 10 Suppliers of Silicon Anode Materials

NEO Battery Materials Ltd.

To Open **R&D Facility in 2024** & Construct **Commercial Plants in Ontario & B.C. by 2026**

NBM Korea Co.

5K Ton Final Capacity South Korean Commercial Plant to Be Completed by **First Half of 2024**

NBM America LLC

To Open **Ohio R&D Facility in 2024** & Construct **Ohio Commercial Plant by 2026** & Subsequently in Kentucky, Tennessee, and LA

Europe

Considering **Multiple Locations** for **Commercial Plant Expansion** in Europe with JV Partners

Stage 1: Product Validation

Ongoing 20+ Active Evaluations with Global Battery Manufacturers & EV Automakers To Establish Strategic Partnerships

Stage 2: First Commercial Plant

To Commercialize Proprietary Silicon Anode Technology by the First Half of 2024 & To Undertake Mass Production Validation

Stage 3: Global Expansion

To Duplicate Commercial Plant in Canada, U.S., and Europe to Operate as Global Silicon Anode Supplier in the EV Battery Industry

Key Developments



YONSEI UNIVERSITY

Licensing Agreement with University-Industry Foundation of **Yonsei University**

Granted **exclusive worldwide license** for three patents regarding proprietary nanocoating technology for silicon anode materials

2021



240 TPA Commercial Plant Site Approval in Gyeonggi-Do

- Secured **2.5 Acres** of Land in Oseong Foreign Investment Zone
- Expected Final Production Scale-Up to **2,000 - 5,000 TPA** of NBMSiDE™
- Various Lease, Tax, and Economic Development Subsidies Included

2022



Completion of NBM Korea R&D Scale-Up Centre for In-House Production

- Installed **Pilot-Scale Equipment** to Manufacture Silicon Anode Materials
- Capable of **Independent Production & Evaluation** of Coin Full Cells

2023



U.S. Ohio Expansion Strategy through NBM America Ltd.

- Aim for **U.S. Production of Silicon Anode Materials & Value-Added Projects**
- Non-Dilutive Funding Efforts from State-Level Programs, DoE, DoD, IRA, and other Federal-Level Programs



Appoints **Dr. S. G. Kim** as Chief Technology Officer

- Former **Executive Vice President & Head of R&D** at Hanwha Solutions' Advanced Materials Division
- Responsibilities from New Chemical Product Development to Commercial Plant Construction
- Previous **Global R&D Head** at Momentive Performance Materials; PhD from University of Toronto

Appoints **Mr. Sung Rock Hwang** as Chief Operating Officer

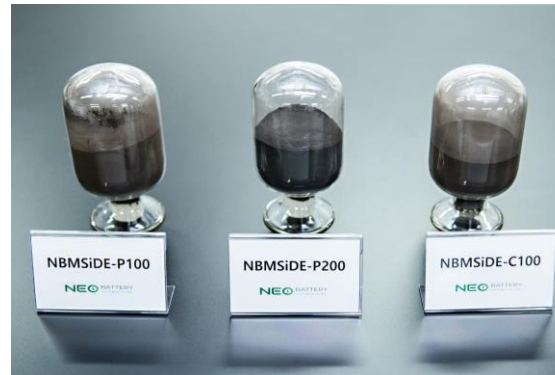
Former Executive Director and Chief of Purchasing at **Samsung SDI** (Mkt. Cap: CAD \$56.3B)



SAMSUNG SDI

Launch of Flagship NBM Silicon Anode Materials – NBMSiDE™

- 3 Types of Silicon Anode Materials Developed for EV Li-Batteries
- Based on Metallurgical-Grade Silicon with **High Specific Capacity of > 2,500 mAh/g**
- Produced from Simple, Energy-Efficient Single-Step Nanocoating
- Improved Life Span & Cycling Stability of Silicon



Construction Permit Approval for South Korea Commercial Plant

Proceed to Next Stages of Construction that Includes Civil Engineering, Site Clearance & Contractor Invitation for Bid Process

Appoints **Dr. Basudev Swain** as Chief Science Officer

- Expert in Green Material Science Engineering & Lithium-Ion Battery Recycling
- Research & Project Management Roles for Over 20 Years
- Former Senior Researcher in R&D Institutes

Q: What Stops Consumers
from Purchasing Electric
Vehicles?



Problem with EVs



Inflating EV Prices

Rising Battery Metals & Materials Price are Discouraging Mass Adoption



Slow Charging Time

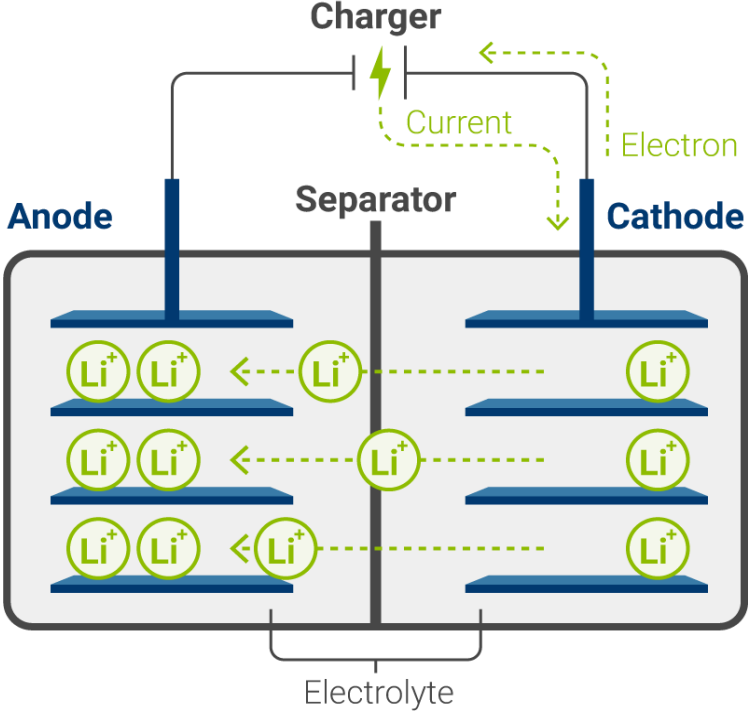
Consumers Not Receptive to Longer Charging or “Fueling” Time



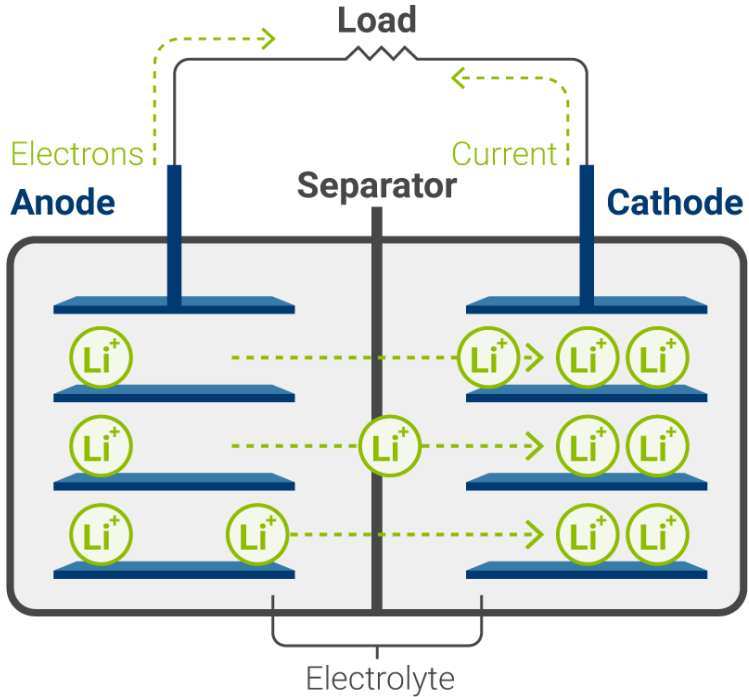
Limited Driving Range

“Range Anxiety” Driving EVs to Point A to B

Anatomy of Batteries



CHARGE MECHANISM

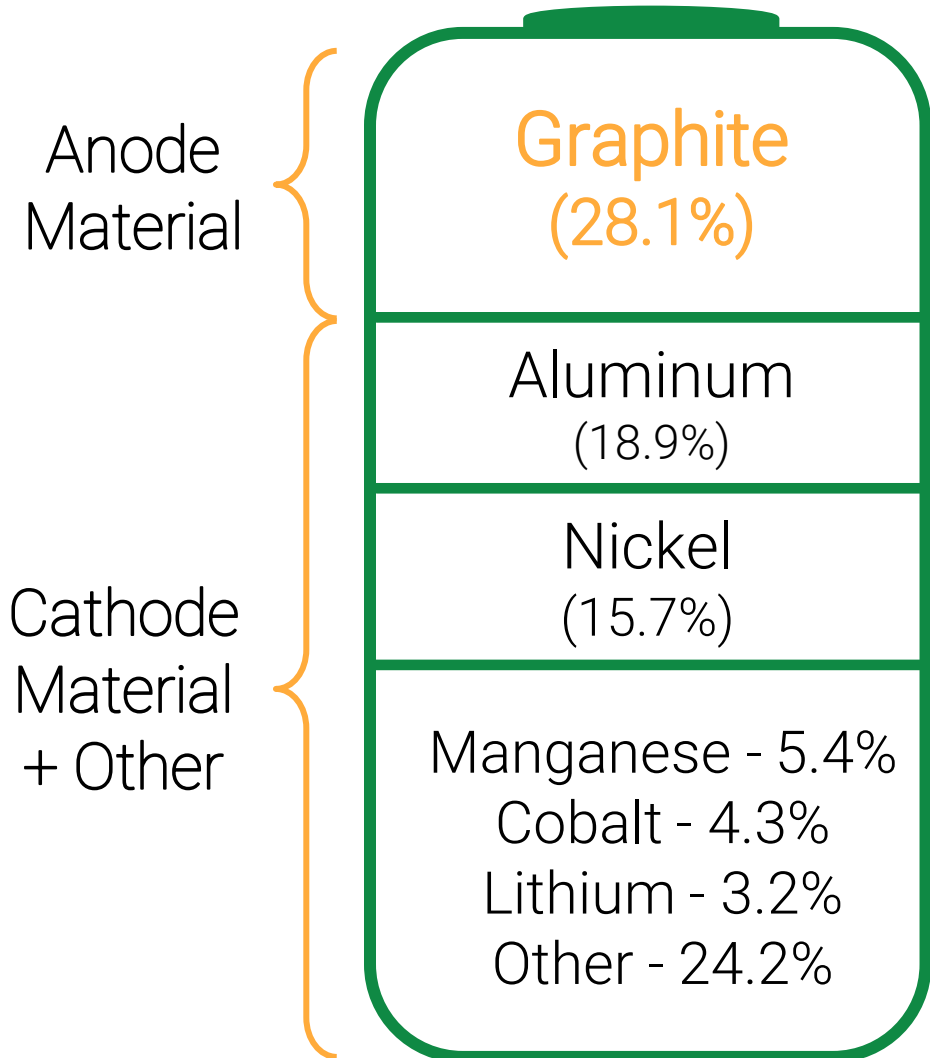


DISCHARGE MECHANISM


Lithium-Ions Move from Positive Electrode (Cathode) to Negative Electrode (Anode) During Charging and Back During Discharging/Use

Solution: Integrate Silicon with Graphite

Source of Problem




Solution: Silicon



Ultra-Fast Charging

10x More Capacity Stored

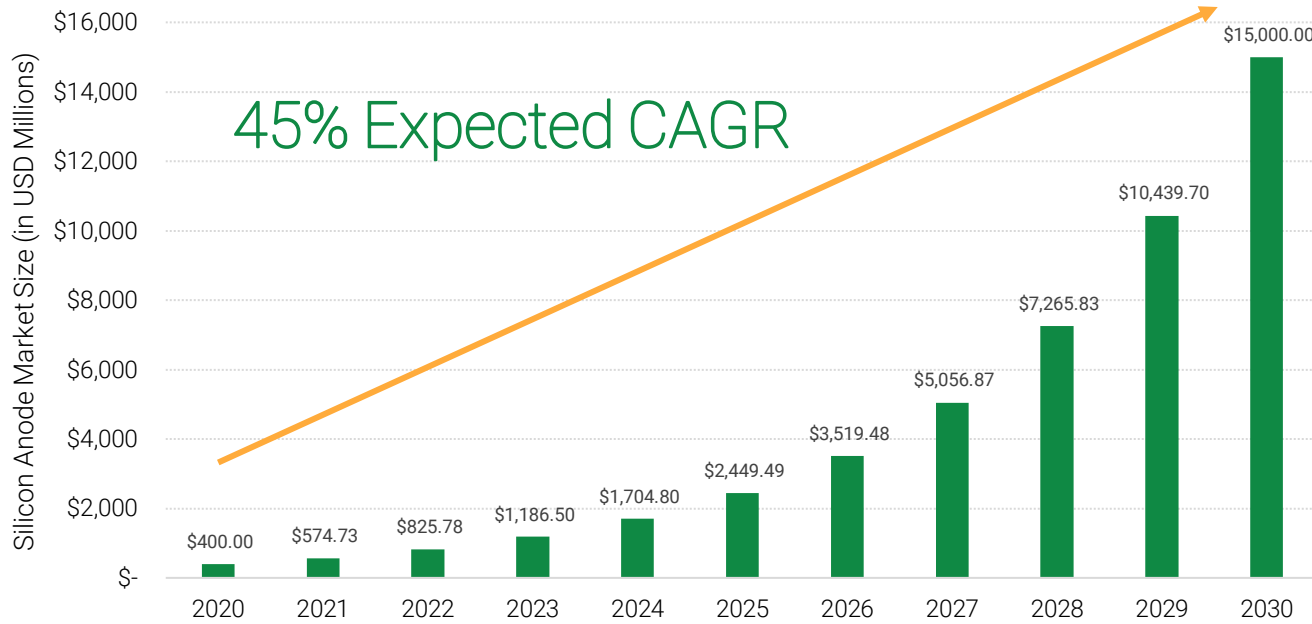


EV Battery Cost Reduction

Silicon Anode Market

Energy Density of the Lithium-Ion Battery is **Highly Dependent** on the **Anode Material**

Silicon Anode Market Size & Growth



Silicon Anode Competitors



300K MT
Global Silicon Anode
Annual Production by 2030

**No Dominant
Competitor/Technology**

Lack of Scalability + Unattractive Selling Price

1. Expensive Manufacturing
2. High-Cost Inputs

Silicon and Graphite Price Comparison

Average Graphite Price: USD 10 / kg

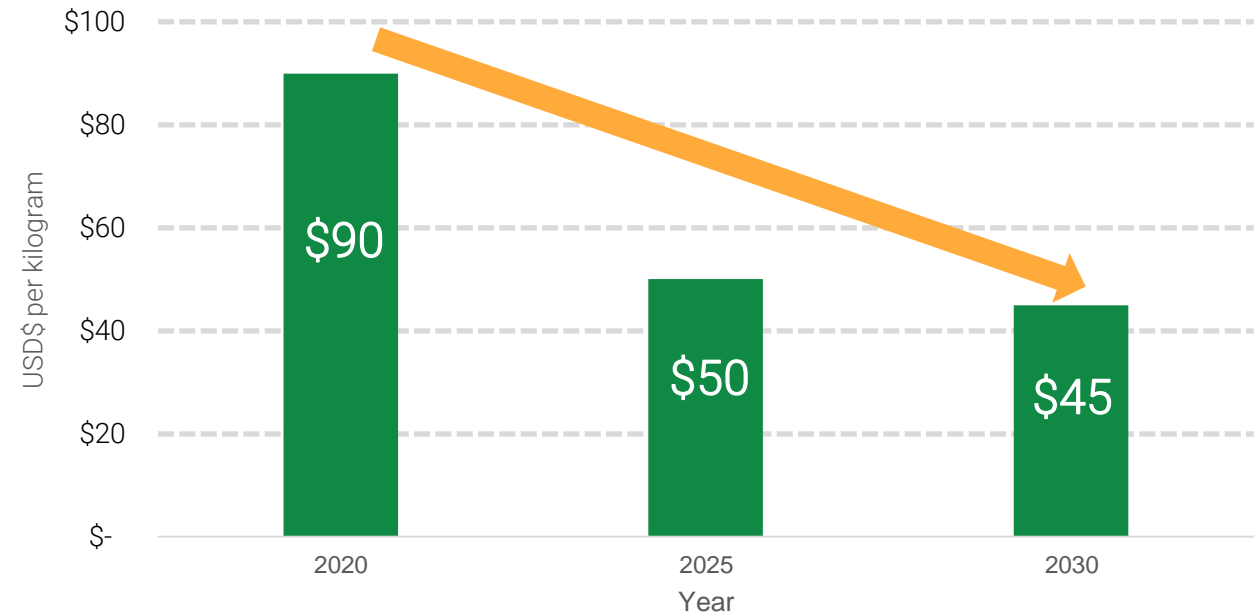
vs.

Average Silicon Price: USD 80 / kg

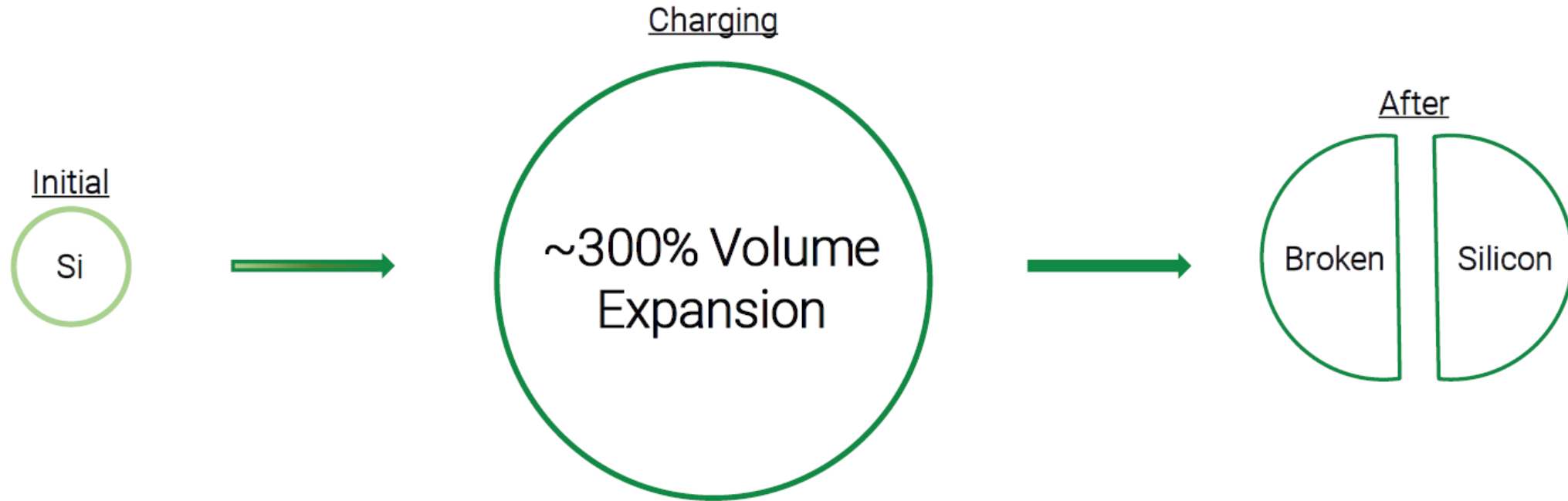


Only Added in High-End EV Models, or Limited Amounts in Lower-End Vehicles

Average Silicon Anode Selling Price



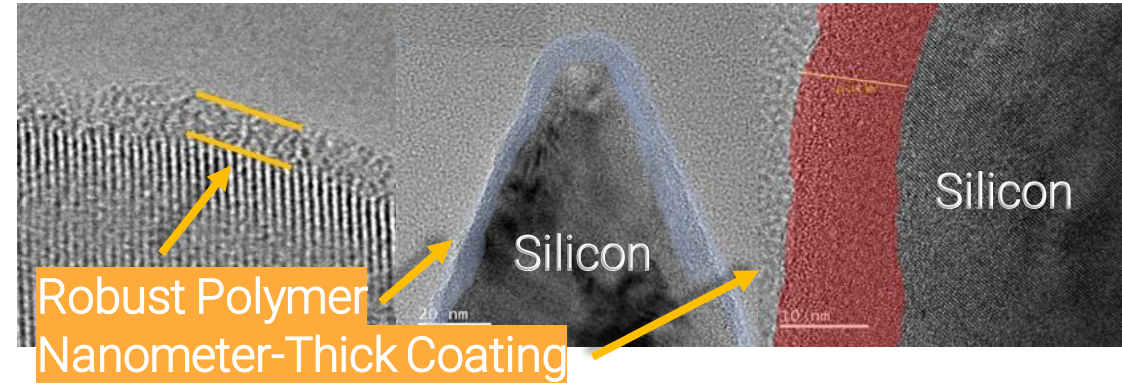
Volume Expansion Breakdown Problem



Poor Runtime, Slow Charging & Unusable

NBM Silicon Anode Technology

NBMSiDE™: Cost-Effective Silicon Anode



Nanocoating Layers Effectively Resolve Volume Expansion Problem to Enable Automotive-Level Use

8 Patents

Issued & Pending Across South Korea, United States & WIPO PCT

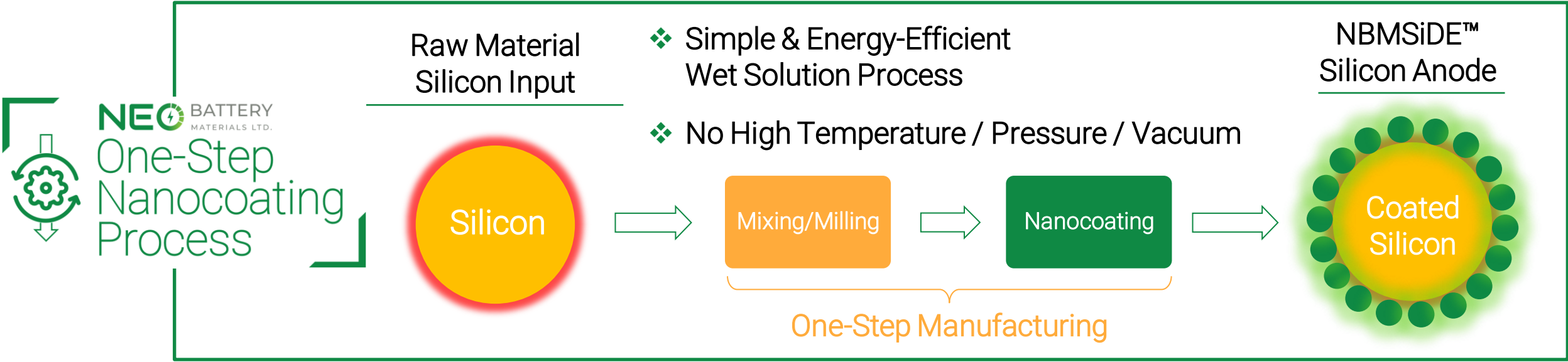
70% – 80%

More Initial Energy Capacity Compared to Competitors

5 Min

Safe Ultra-Fast Charging Realized in Tests

NBMSiDE™: Manufacturing Advantage



First to Use & Enable

10x Cheaper Input Feedstock
Metallurgical-Grade Silicon

Industry



SiO_x, Si-C
Si Nanowire

VS.

NEO BATTERY MATERIALS LTD.



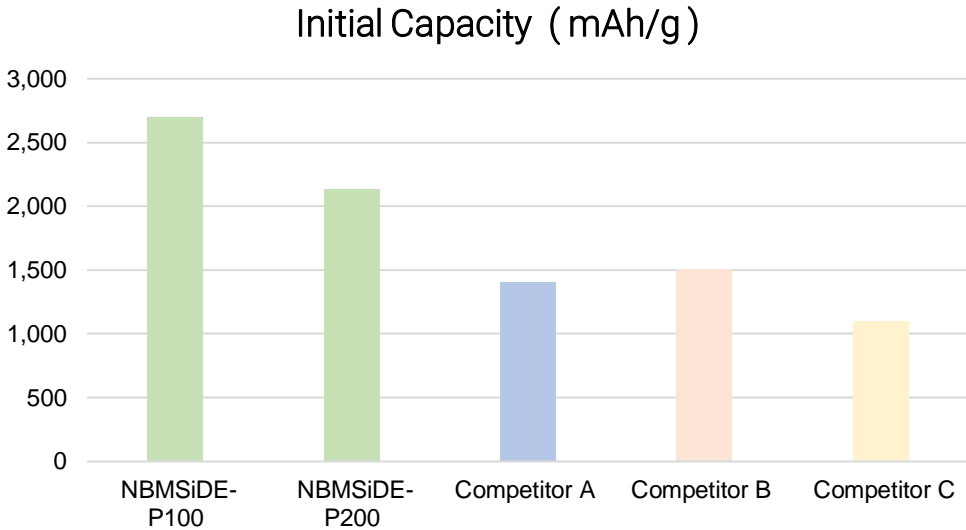
Long Lasting NBMSiDE Silicon Anodes for EVs – Minimal Volume Expansion During Use

Silicon Anode Performance Comparison Chart

Products	Initial Capacity (mAh/g)	Initial Coulombic Efficiency (%)	Type	Manufacturing Cost
NBMSiDE P100	2,695	89.4	Metal Si	Low
NBMSiDE P200	2,130	86.0	Metal Si	
Competitor A	1,408	80.0	SiOx	High
Competitor B	1,506	88.1	Si-C	Medium
Competitor C	1,108	89.4	Si-C	Medium

70% – 80%

Higher Initial Energy Capacity compared to Competitors



NBMSiDE™: Performance Advantage

Robust Durability & Ultra-Fast Charging – Performance Reliability & Charging-Time Relief

Robust Structural Durability for Electronics Applications

Ultra-Fast Charging through Nanocoating



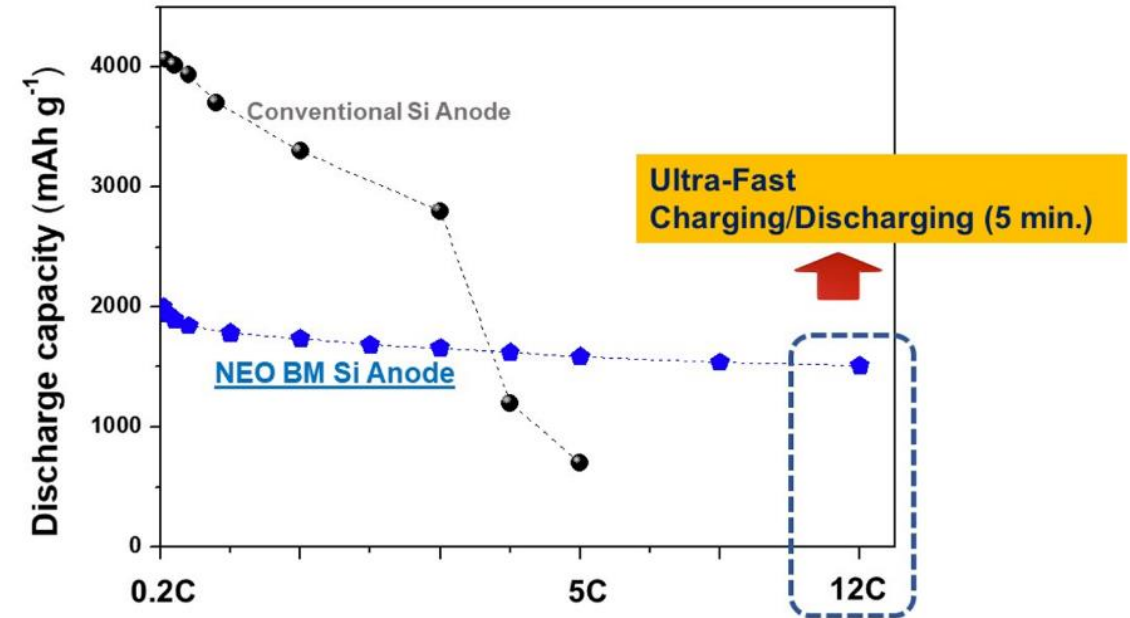
Conventional Silicon Anode



NBMSiDE™



Robust NBMSiDE™



[Rate Capability of NEO Si Anode]

Solves Slow Charging Issue of Batteries Today

Silicon Anode: Competitor Comparison

Cost Innovations Through Non-Vacuum, Wet Nanocoating System

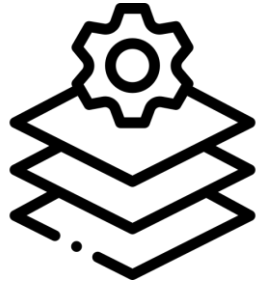
NBMSiDE™

	Silicon Carbide	Silicon/Carbon Composite	Silicon Oxide (SiOx)	Silicon Nanoparticles	Polymer-Coated Si Nanoparticles	Polymer-Coated Nano/Micro-Sized Metal Silicon
Performance Levels						
High						
Mid						
Low						
	<p>Silicon : < 1 nm Supporting Matrix : Silicon Carbide/Carbon</p>	<p>Silicon : ~ 10 nm Supporting Matrix : Carbon</p>	<p>Silicon : ~ 5 nm Supporting Matrix : Silicon Oxide(SiOx)</p>	<p>Silicon : ~ 50 nm</p>	<p>Silicon : 30-50 nm Polymer Coating : Nano Scale</p>	<p>Silicon : 500 nm ~ Polymer Coating : Nano Scale</p>
Process Method	Chemical Vapor Deposition	Mechanical Pulverization & Vacuum	Thermal Plasma Deposition	Laser Synthesis	Emulsion Solution Process	Mechanical Polishing with Solution Process
Capacity	Mid 1330mAh/g	Mid 1450mAh/g	Mid 1330mAh/g	High 3300mAh/g	High 2600mAh/g	High 2200mAh/g
ICE	High 91.8%	Mid 84.0%	Mid 84.2%	Low 77.0%	Mid 86.0%	Mid 85.0%
Cycle Life/Volume Expansion	High	Low	Low	Mid	High	High
Features	<ul style="list-style-type: none"> Ease of Control in Silicon Particle Size Uniform Silicon Dispersion Dry Process 	<ul style="list-style-type: none"> Difficult to Control Silicon Particle Size Non-Uniform Silicon Distribution Complex Wet Process 	<ul style="list-style-type: none"> Low Electrical Conductivity Expensive Manufacturing Process 	<ul style="list-style-type: none"> Low Process Ease Poor Dispersion of Silicon Particles Expensive Manufacturing Process Relatively Large Particle Size 	<ul style="list-style-type: none"> Uniform Silicon Dispersion Complex Wet Process Inexpensive Manufacturing Process (No High Temperature, Pressure, or Vacuum) 	<ul style="list-style-type: none"> Simple Wet Process (Grinding & Coating) Inexpensive Manufacturing Process (No High Temperature, Pressure, or Vacuum) Difficult for Uniform Coating
Cost Effectiveness	Low	Mid	Low	Low	Low	High

Commercialization Pathway

Business Model

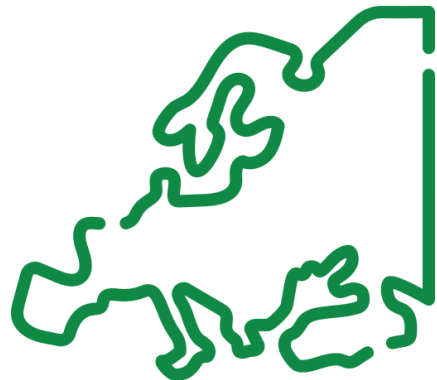
1. In-House Manufacturing + JV Expansion



[Initial Step]
South Korean Commercial Plant
→ Full Capacity: 5,000 T/year

[Next Step]

North America + Europe Expansion
with JV Partners



2. Process Licensing Agreements



Licensing Agreement

Battery Manufacturers



Commercialization Developments

South Korean Silicon Anode Commercial Plant Construction

Original Planned Pilot Plant Capacity

10 Tons per Year



24x Increase

New Commercial Plant Initial Capacity

240 Tons per Year

From Optimization & Positive Results

Commercialization Details

- With initial capacity, NBMSiDE™ loading of

5% = 160K EVs

- Final Annual Capacity Estimated:

5,000 T = 3.5M EVs

- Optimization with Large Battery Manufacturers and Chemical Material Companies

Targeted Completion: First Half of 2024



Commercial Plant Progress



Received
Construction Permit
Approval + Final
Negotiation with
Preferred Contractor

- ❖ Initial Site Clearance & Civil Engineering
- ❖ Contractor Bid for Construction
- ❖ Detailed Design Process

Validation Pipeline + Milestones

NBMSiDE™ Validation



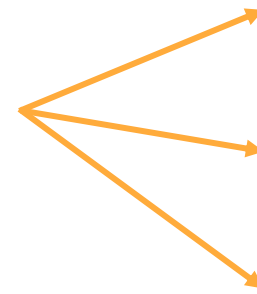
Expected Milestones

- Joint Development Agreement
- Offtake Agreement
- Collaboration Agreement
- Joint Venture

Business Development & Network

~60

Relationships Established
within Battery Industry



- Global Battery Manufacturers
- Electric Vehicle Automakers
- Chemical Material Companies

Financing & Expansion Strategy

Financial Position



South Korean
Non-Dilutive Funding



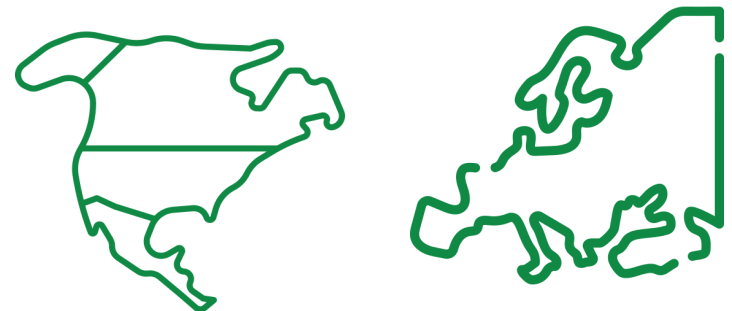
Strategic Debt
Financing +
Investments



Joint Venture
Activities

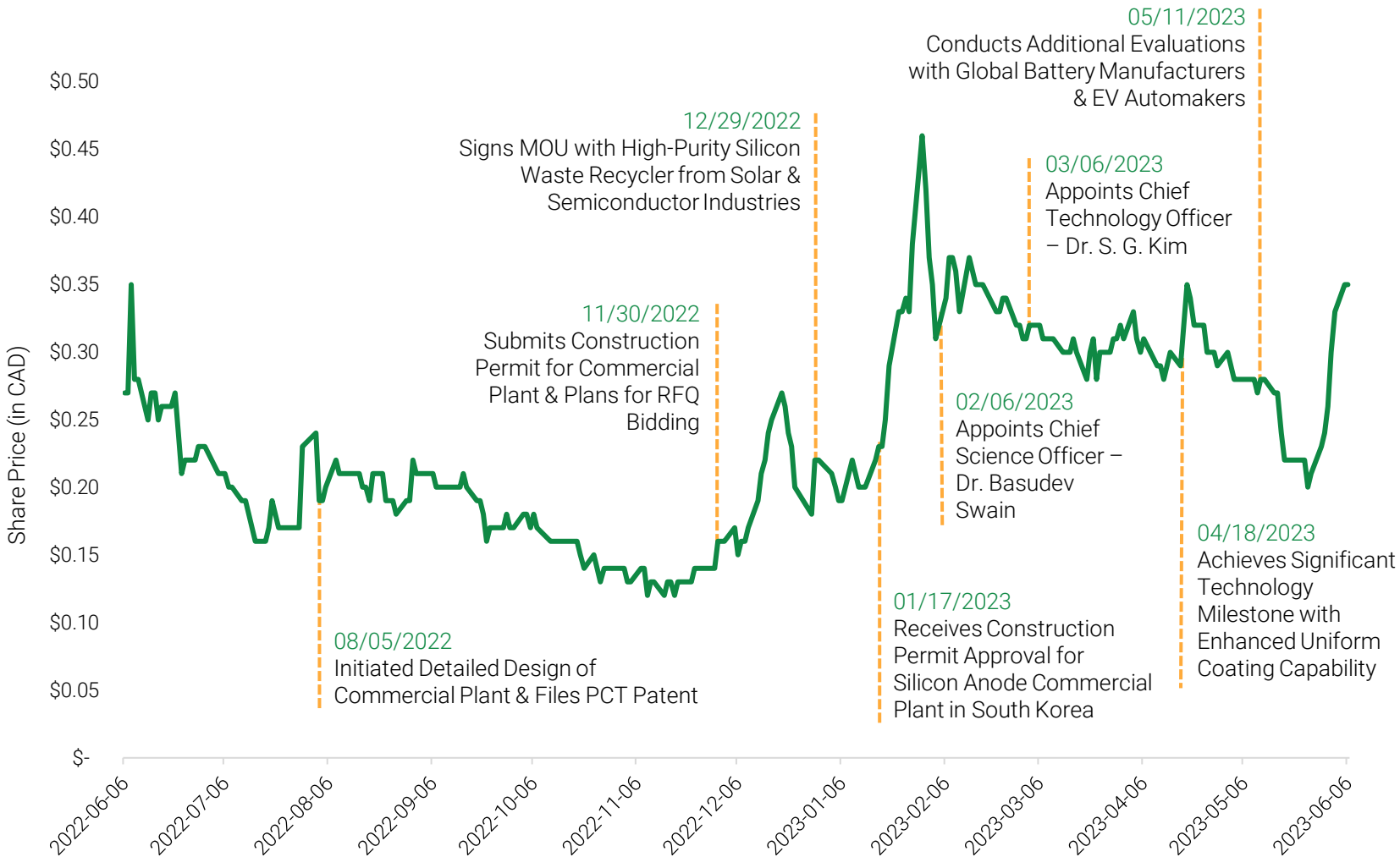


Funded Expansion



Share Performance & Structure

1-Year Historical Price Performance



Financial Overview

(as of June 5, 2023)

Current Share Price	\$ 0.35
52-Week Low	\$ 0.12
52-Week High	\$ 0.50
Basic Shares Outstanding	100.97mm
Warrants	7.24mm
Options	6.23mm
Fully Diluted Shares Outstanding	114.44mm
Market Capitalization (Basic)	\$ 35.34mm
Market Capitalization (FDSO)	\$ 40.05mm

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