

The background of the slide is a photograph of a modern, multi-story industrial or commercial building. The building has large glass windows and a mix of grey and brown exterior panels. The words "NEO BATTERY" are visible on the upper part of the building's facade. In the foreground, there is a paved area with some greenery and a few people walking. The overall scene is brightly lit, suggesting daytime.

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

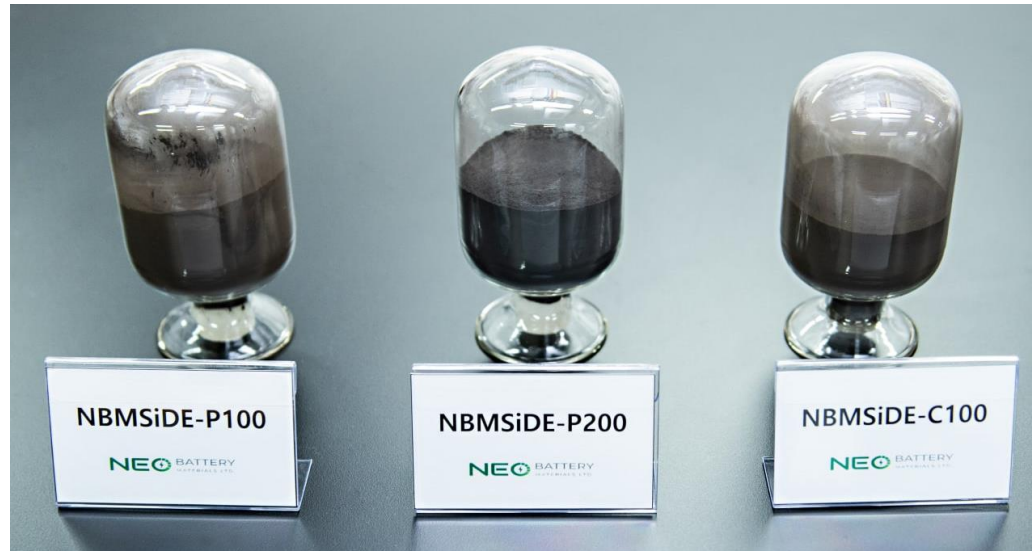
- Expertise in field of rechargeable batteries, sustainable battery materials & known as cobalt-free disordered-rock salt cathode materials
- High-impact author in Science and Nature Journals
- Received PhD from MIT and Assistant Professor of Materials Engineering at McGill University



Executive Summary

Is the Forerunner for Cost-Effective, Long-Lasting EV Battery Technology

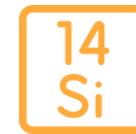
NBMSiDE™ - Silicon Anode Material



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 America LLC

To Open Ohio R&D Facility in 2H 2023 & 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

NBM Korea Co.

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



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

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

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



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

Launch of Flagship NBM Silicon
Anode Materials – **NBMSiDE™**

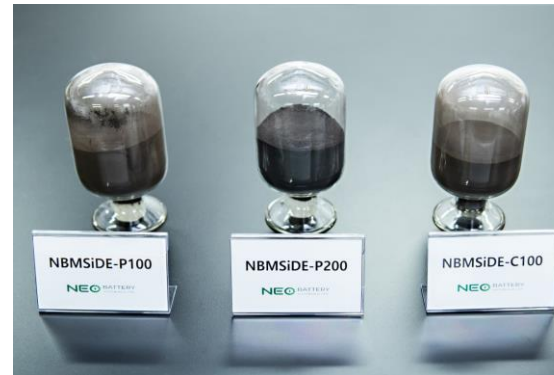
- 3 Types of Silicon Anode Materials
Developed for EV Li-Batteries
- Based on Metallurgical-Grade
Silicon with **High Specific Capacity**
of **> 2,500 mAh/g**
- Produced from Simple, Energy-
Efficient Single-Step Nanocoating
- Improved Life Span & Cycling
Stability of Silicon



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



MOMENTIVE™
inventing possibilities



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

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. 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 **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

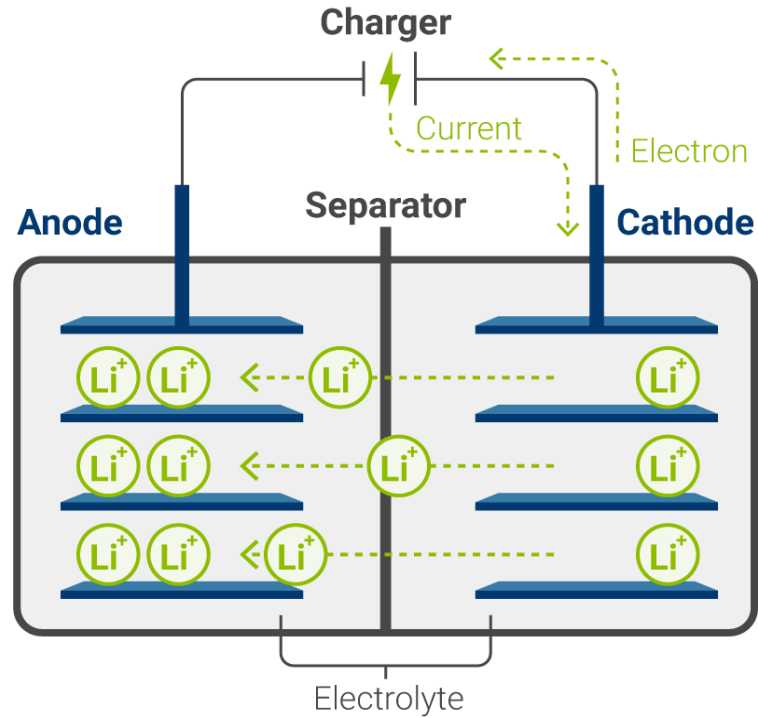
Consumers Not Receptive to Longer Charging or “Fueling” Time



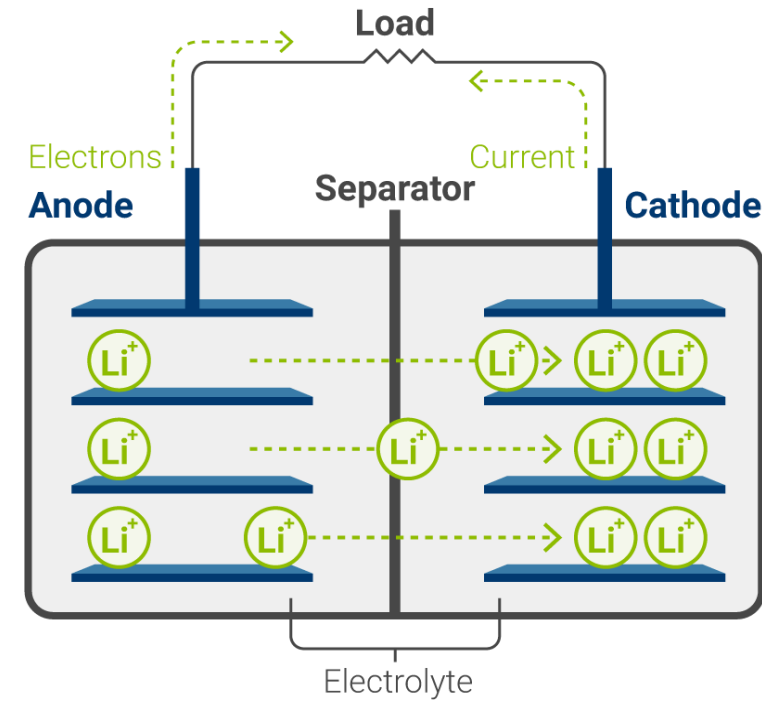
Limited Driving Range

“Range Anxiety” Driving EVs to Point A to B

Anatomy of Batteries



CHARGE MECHANISM

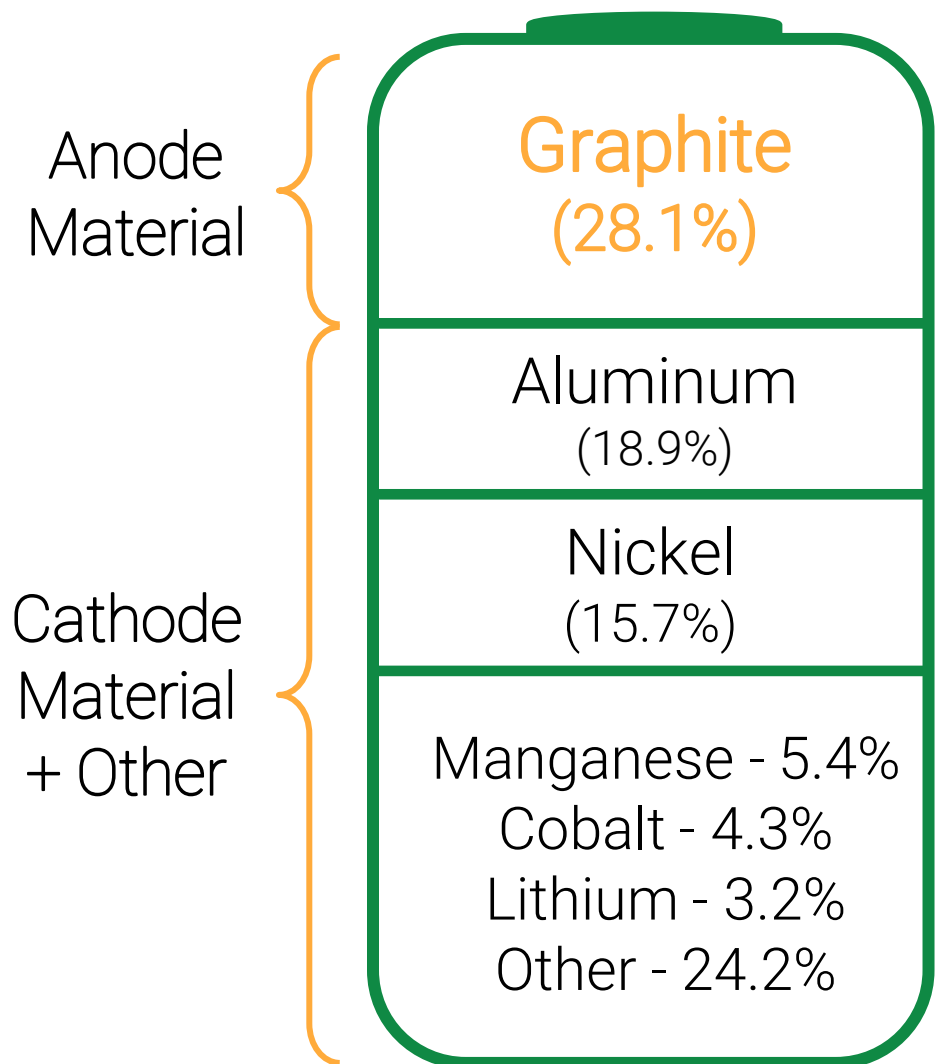


DISCHARGE MECHANISM

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



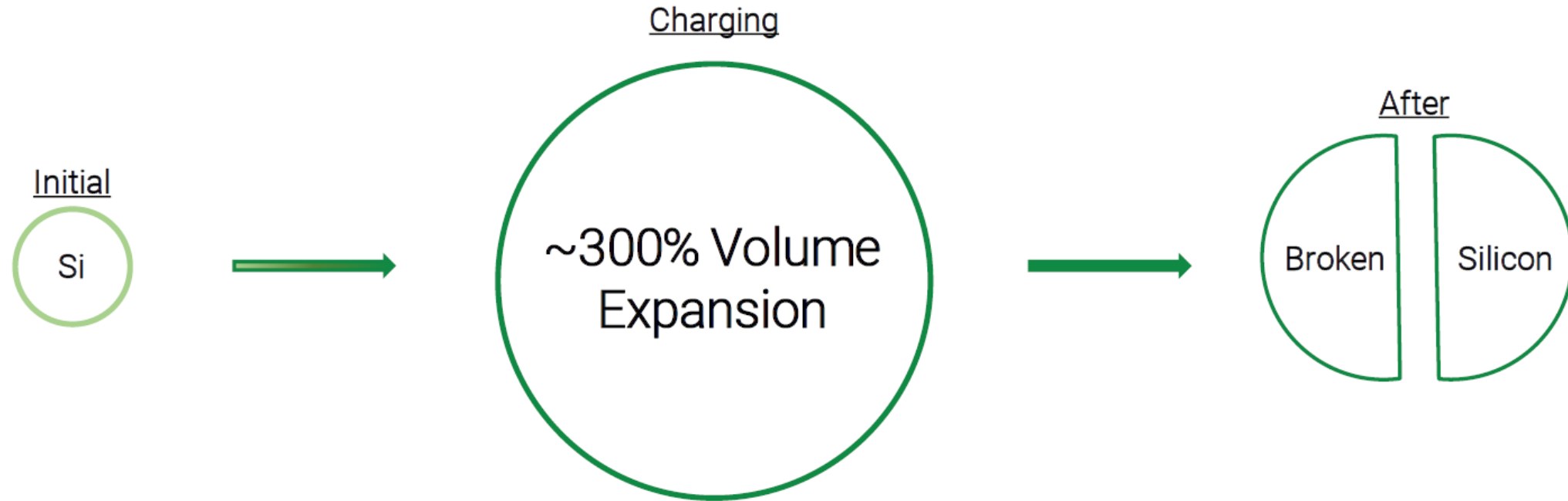
Solution: Silicon

 Ultra-Fast Charging

10x More Capacity Stored

 EV Battery Cost Reduction

Volume Expansion Breakdown Problem

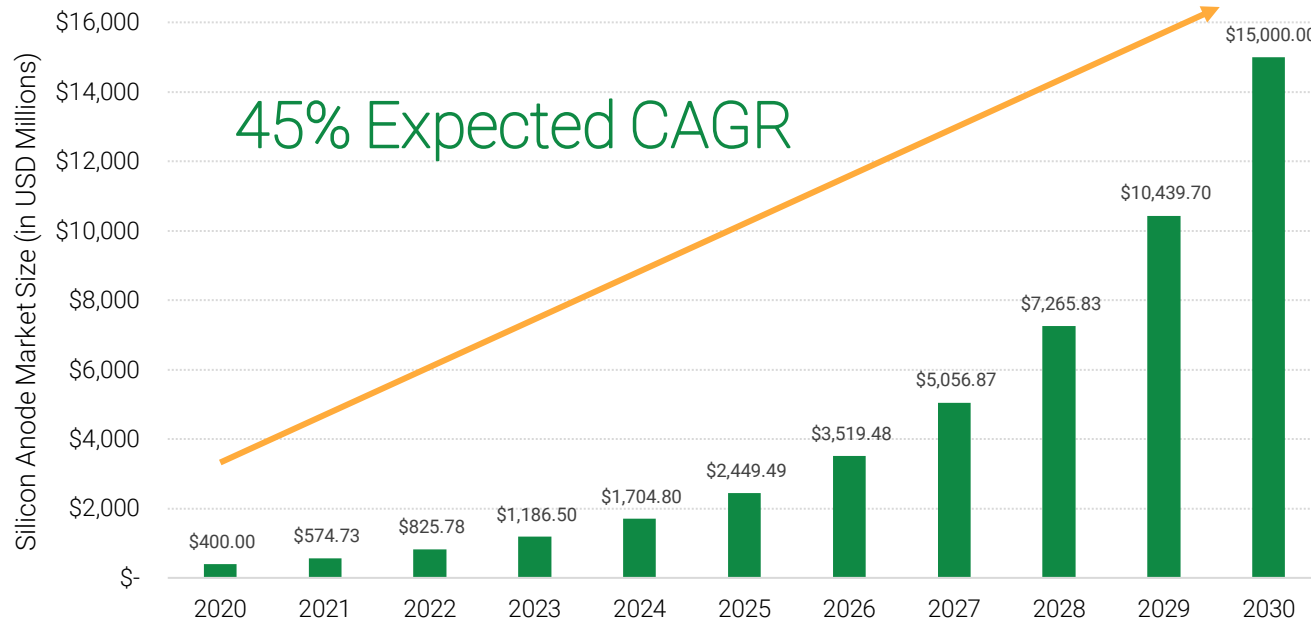


Poor Runtime, Slow Charging & Unusable

Silicon Anode Market

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

Silicon Anode Market Size & Growth



300K MT

Global Silicon Anode
Annual Production by 2030

Silicon Anode Competitors



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

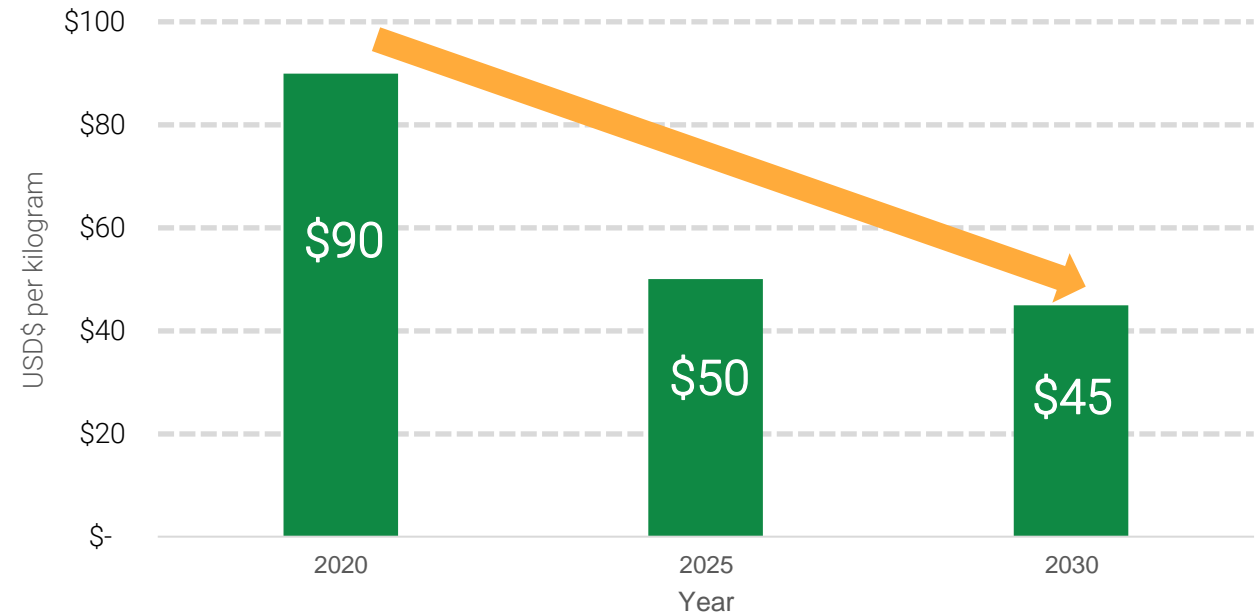
VS.

Average Silicon Price: USD 80 / kg



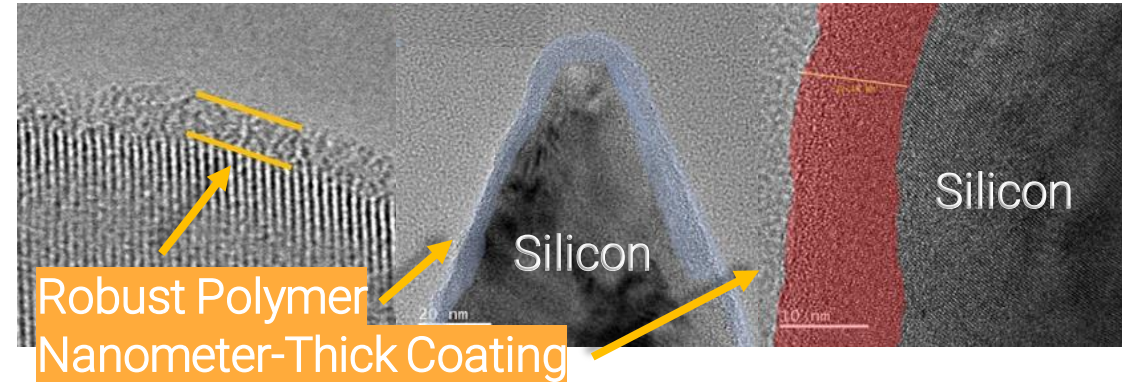
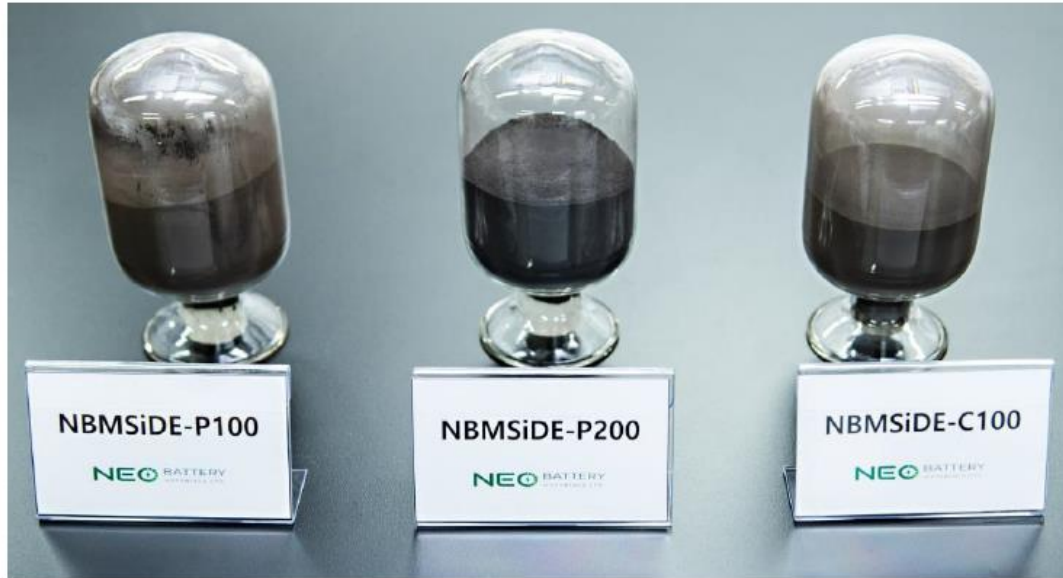
Only Added in High-End EV Models, or
Limited Amounts in Lower-End Vehicles

Average Silicon Anode Selling Price



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

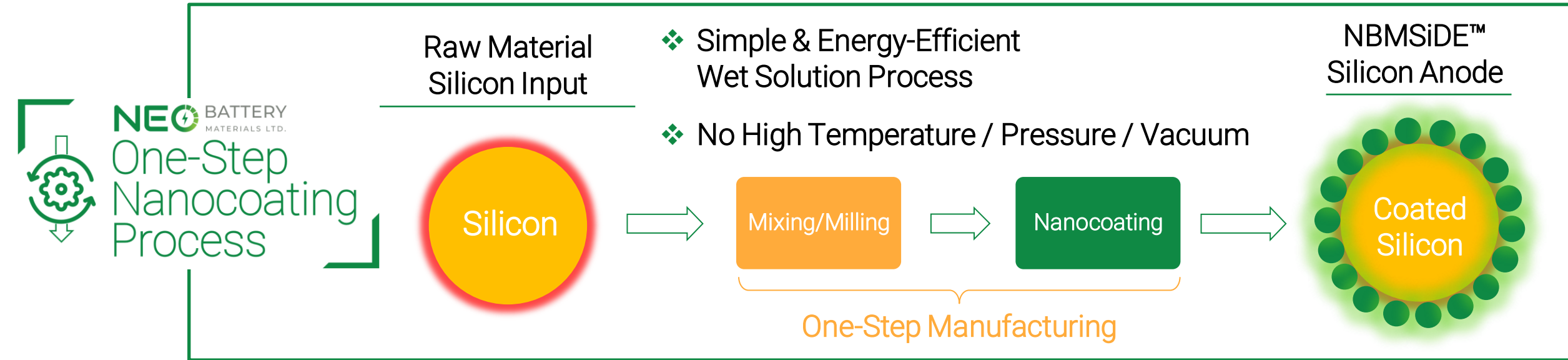
70% – 80%

More Initial Energy
Capacity Compared to
Competitors

5 Min

Safe Ultra-Fast
Charging
Realized in Tests

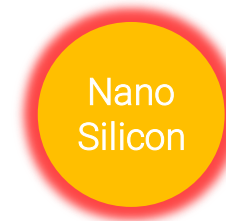
NBMSiDE™: Manufacturing Advantage



First to Use & Enable

10x Cheaper Input Feedstock
Metallurgical-Grade Silicon

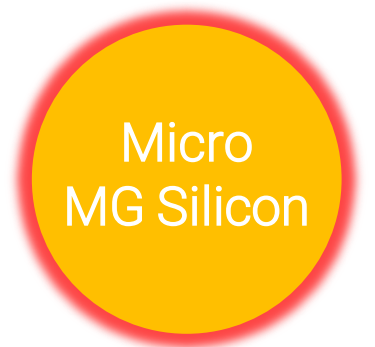
Industry



SiO_x, Si-C
Si Nanowire

VS.

NEO BATTERY
MATERIALS LTD.



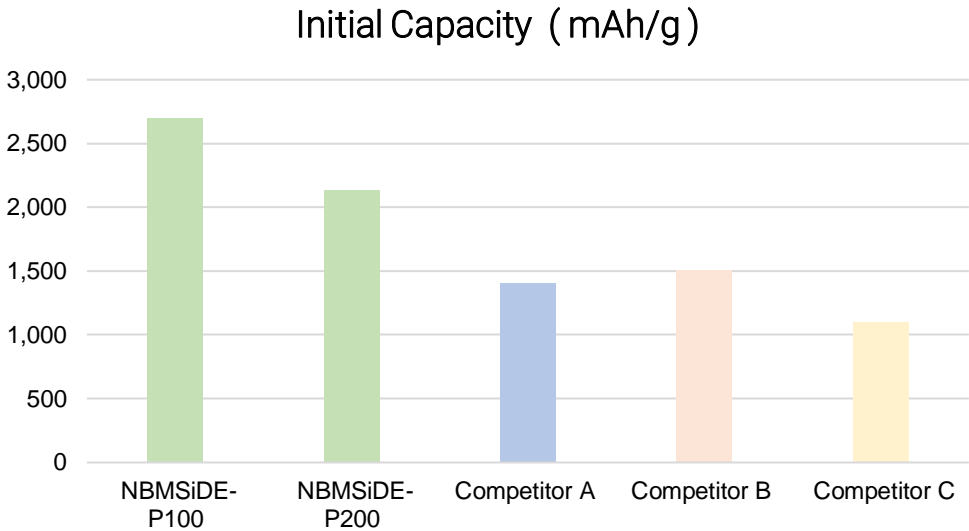
Long Lasting NBMSiDE Silicon Anodes for EVs – Minimal Volume Expansion During Use

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

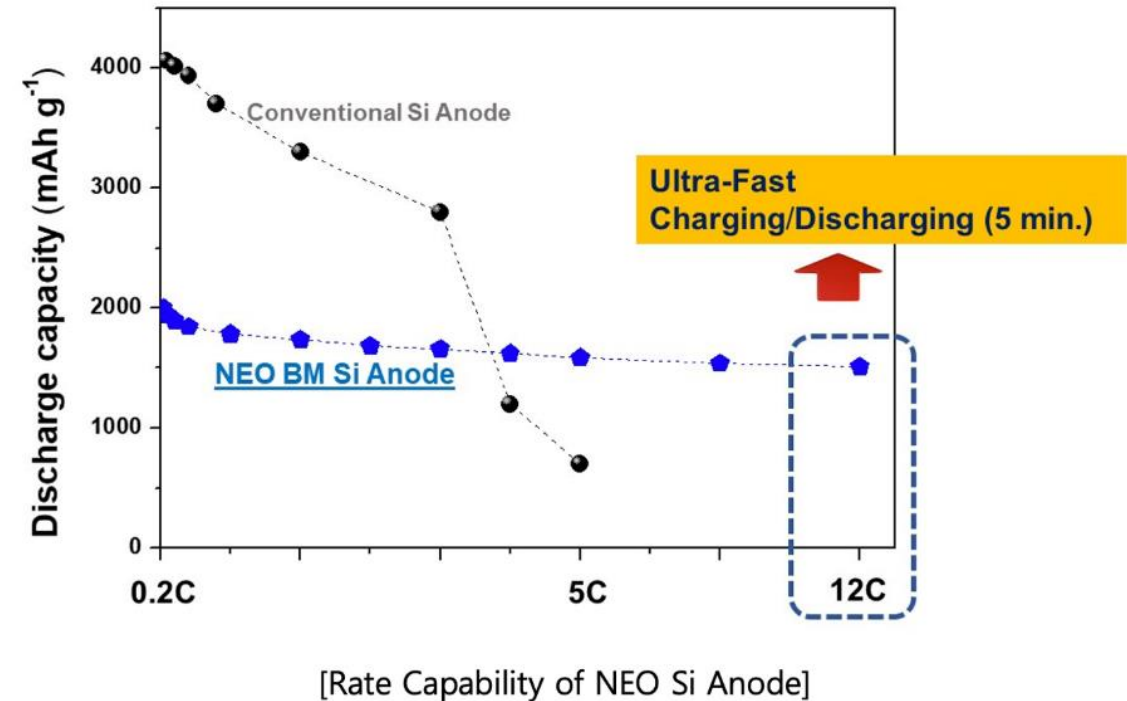
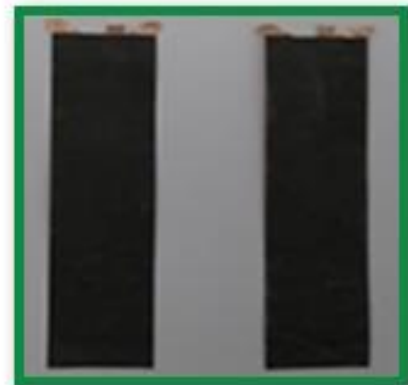
Conventional Si Anode



NBMSiDE™



Robust
NBMSiDE™



Solves Slow Charging Issue of
Batteries Today

Silicon Anode: Competitor Comparison

Cost Innovations Through Non-Vacuum, Wet Nanocoating System

NBMSiDE™

<div>Performance Levels</div> <div>High</div> <div>Mid</div> <div>Low</div>	<div>Silicon Carbide</div> <div></div> <div>Silicon : < 1 nm Supporting Matrix : Silicon Carbide/Carbon</div>	<div>Silicon/Carbon Composite</div> <div></div> <div>Silicon : ~ 10 nm Supporting Matrix : Carbon</div>	<div>Silicon Oxide (SiOx)</div> <div></div> <div>Silicon : ~ 5 nm Supporting Matrix : Silicon Oxide(SiOx)</div>	<div>Silicon Nanoparticles</div> <div></div> <div>Silicon : ~ 50 nm</div>	<div>Polymer-Coated Si Nanoparticles</div> <div></div> <div>Silicon : 30-50 nm Polymer Coating : Nano Scale</div>	<div>Polymer-Coated Nano/Micro-Sized Metal Silicon</div> <div></div> <div>Silicon : 500 nm ~ Polymer Coating : Nano Scale</div>	
	Process Method	Chemical Vapor Deposition	Mechanical Pulverization & Vacuum	Thermal Plasma Deposition	Laser Synthesis	Emulsion Solution Process	Mechanical Polishing with Solution Process
	Capacity	<div>Mid</div> 1330mAh/g	<div>Mid</div> 1450mAh/g	<div>Mid</div> 1330mAh/g	<div>High</div> 3300mAh/g	<div>High</div> 2600mAh/g	<div>High</div> 2200mAh/g
	ICE	<div>High</div> 91.8%	<div>Mid</div> 84.0%	<div>Mid</div> 84.2%	<div>Low</div> 77.0%	<div>Mid</div> 86.0%	<div>Mid</div> 85.0%
Cycle Life/Volume Expansion	<div>High</div>	<div>Low</div>	<div>Low</div>	<div>Mid</div>	<div>High</div>	<div>High</div>	
Features	<ul style="list-style-type: none">Ease of Control in Silicon Particle SizeUniform Silicon DispersionDry Process	<ul style="list-style-type: none">Difficult to Control Silicon Particle SizeNon-Uniform Silicon DistributionComplex Wet Process	<ul style="list-style-type: none">Low Electrical ConductivityExpensive Manufacturing Process	<ul style="list-style-type: none">Low Process EasePoor Dispersion of Silicon ParticlesExpensive Manufacturing ProcessRelatively Large Particle Size	<ul style="list-style-type: none">Uniform Silicon DispersionComplex Wet ProcessInexpensive 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	<div>Low</div>	<div>Mid</div>	<div>Low</div>	<div>Low</div>	<div>Low</div>	<div>High</div>	

Commercialization Pathway

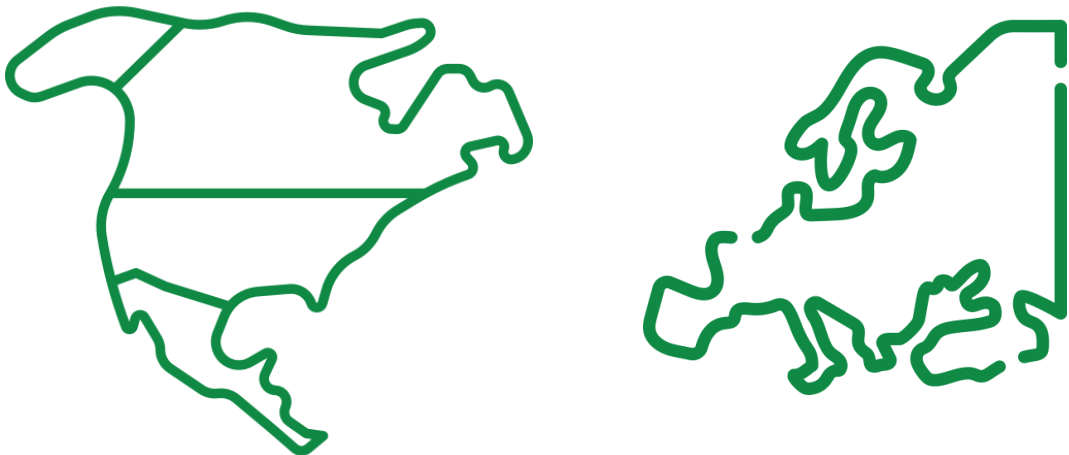
Business Model

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

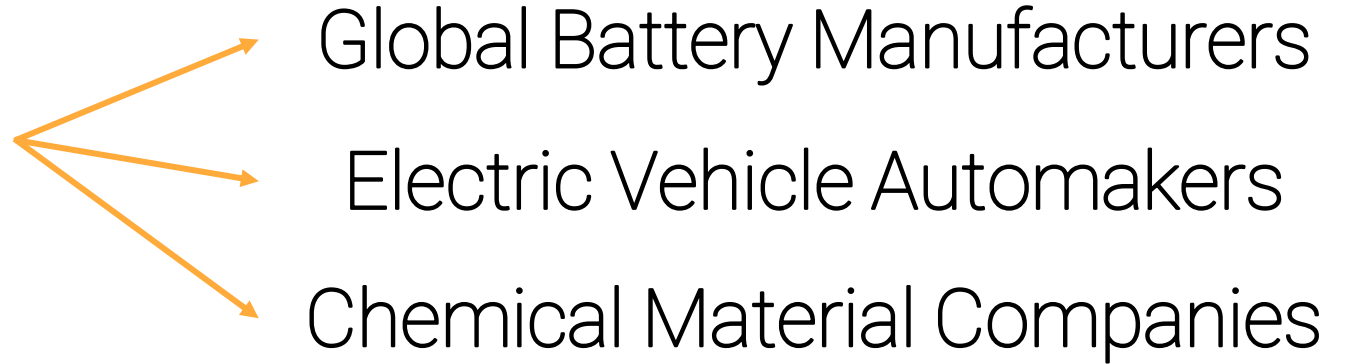


Validation Pipeline + Major Catalysts

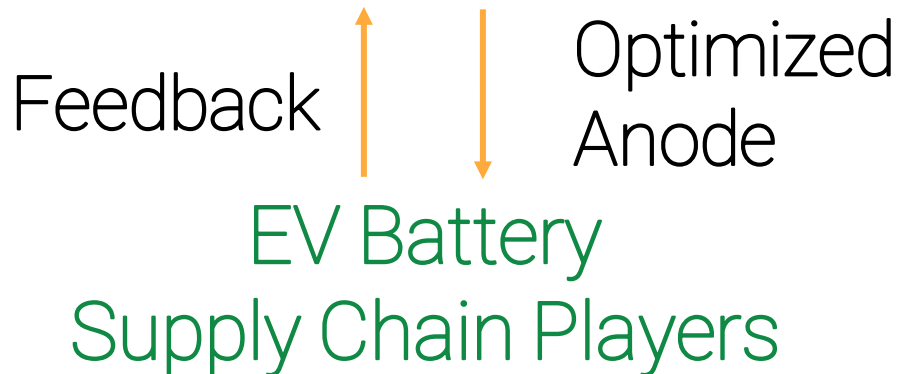
Business Development & Network

~60

Relationships Established
within Battery Industry



NBMSiDE™ Validation



Expected Milestones



Commercial Plant Progress



Binding Contract
with Preferred
Contractor +
Ground Break in
Mid-August 2023

- ❖ Plant Completion by First Half of 2024
- ❖ Initial Site Clearance & Civil Engineering
- ❖ Detailed Design Process

Commercial Plant Economic Analysis

South Korean Silicon Anode Commercial Plant Construction

Phase Expansion Timeline	Phase I - 2024	Phase II - 2025	Phase III - 2026	Phase IV – 2027-28
Maximum Annual Production Capacity (in tonnes per annum)	240 TPA	1,000 TPA	2,500 TPA	5,000 TPA

Commercialization Details

- With initial 240 TPA capacity, NBMSiDE™ will supply

~160K EVs

- Final Annual Capacity Estimated:

5,000 T = 3.5M EVs

- Optimization with Large Battery Manufacturers and Chemical Material Companies

Financial Criterion	Value	Financial Criterion for Phase IV	Value
Average Selling Price	US\$ 50,000 / tonne	Pre-Tax NPV @ 8% Cost of Capital	US\$ 434.4 M
Max. Revenue – Phase I	US\$ 12.0 M	Post-Tax NPV @ 8% Cost of Capital	US\$ 316.2 M
Max. Revenue – Phase II	US\$ 50.0 M	Pre-Tax IRR	40.6 %
Max. Revenue – Phase III	US\$ 125.0 M	Post-Tax IRR	33.3 %
Max. Revenue – Phase IV	US\$ 250.0 M	Pre-Tax Payback Period	4.5 Years
Total CAPEX for Phase I to IV	US\$ 80.6 M	Post-Tax Payback Period	5.0 Years
Average Annual OPEX – Phase IV	US\$ 72.8 M	EV Battery Supply at Phase IV	3.5 M EVs

Financing & Expansion Strategy

Financial Position



South Korean
Non-Dilutive Funding



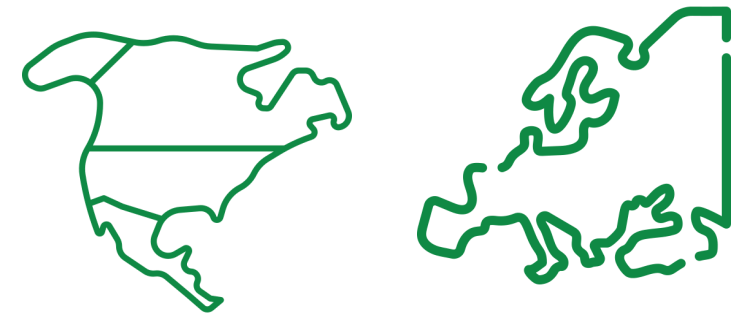
Strategic Debt
Financing +
Investments



Joint Venture
Activities

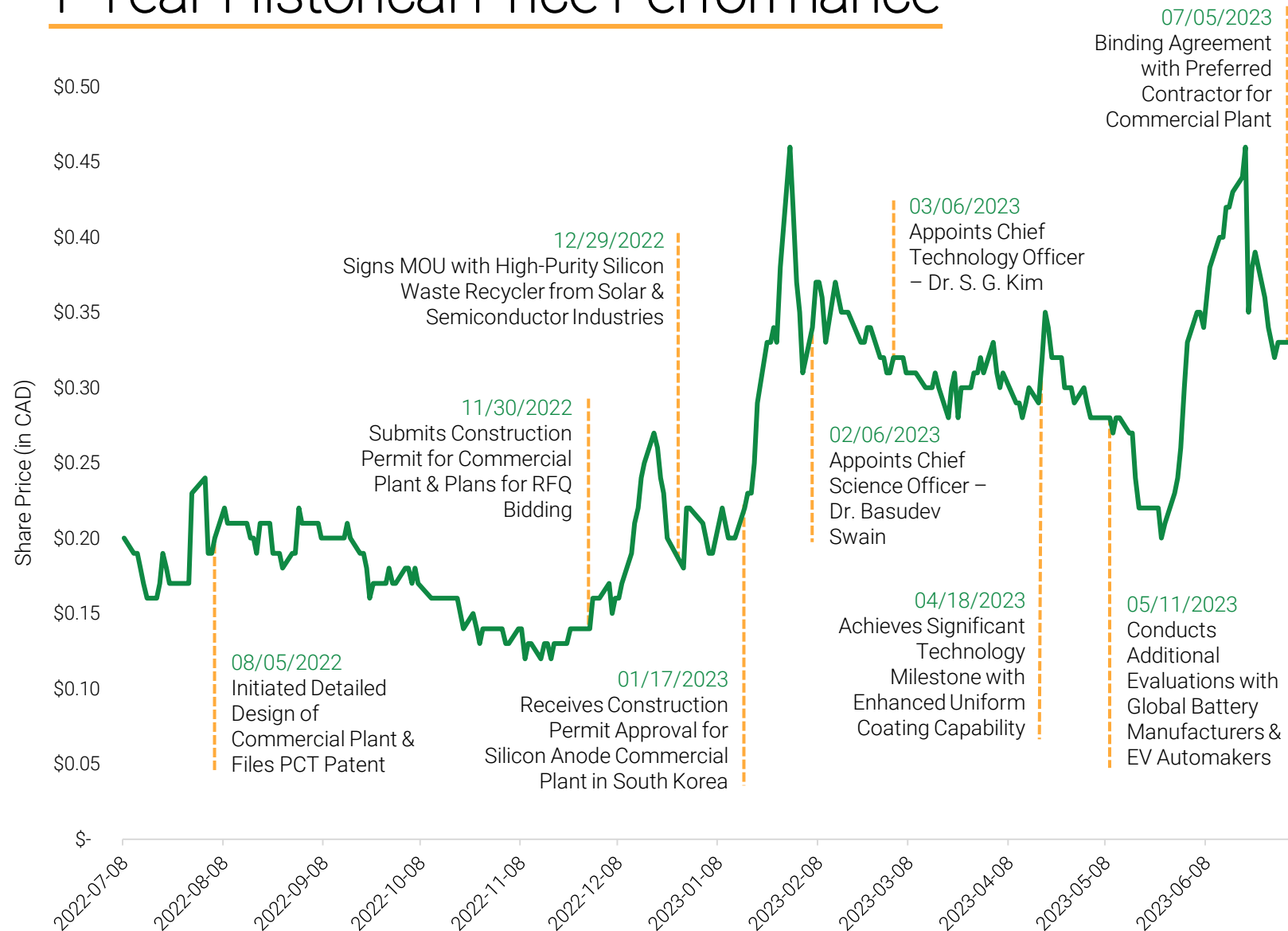


Funded Expansion



Share Performance & Structure

1-Year Historical Price Performance



Financial Overview

(as of July 10, 2023)

Current Share Price	\$ 0.40
52-Week Low	\$ 0.12
52-Week High	\$ 0.50
Basic Shares Outstanding	101.17mm
Warrants	7.04mm
Options	6.23mm
Fully Diluted Shares Outstanding	114.44mm
Market Capitalization (Basic)	\$ 40.47mm
Market Capitalization (FDSO)	\$ 45.78mm

For More Information:

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