



# NAATBatt Annual Meeting – Member Update 2023

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Michael Canada – Chief Operating Officer

22 Feb 2023

# Leveraging World Class Lithium-Metal Battery Expertise and Infrastructure Under One Roof – Tucson, Arizona

## KEY STATISTICS

- ✓ 225,000 Sq. Ft. Facility  
R&D, engineering, analytical lab, machine shop, cell testing and validation, 16,000 sq. ft. Dry Room
- ✓ 113+ Employees  
33 Engineers and Scientists, 10 PhDs
- ✓ 18,000 large-format cells produced to date

## UNIQUE CAPABILITIES

- ✓ Industrial Roll-to-Roll Coaters for Lithium Metal Deposition
- ✓ State-of-the-Art Cathode Coating
- ✓ Large Format Metallic Lithium Cell Assembly Pilot Line
- ✓ Cell Test Facility
- ✓ Battery Pack Development & Assembly



# Licerion® – a Pragmatic Solution to a Historic Problem

## Three integrated solutions

Protected  
Lithium  
Anode

- High Energy
- Dendrites
- Cell Life
- Consistency

Electrolytes

- Cell Life
- Fast Charge

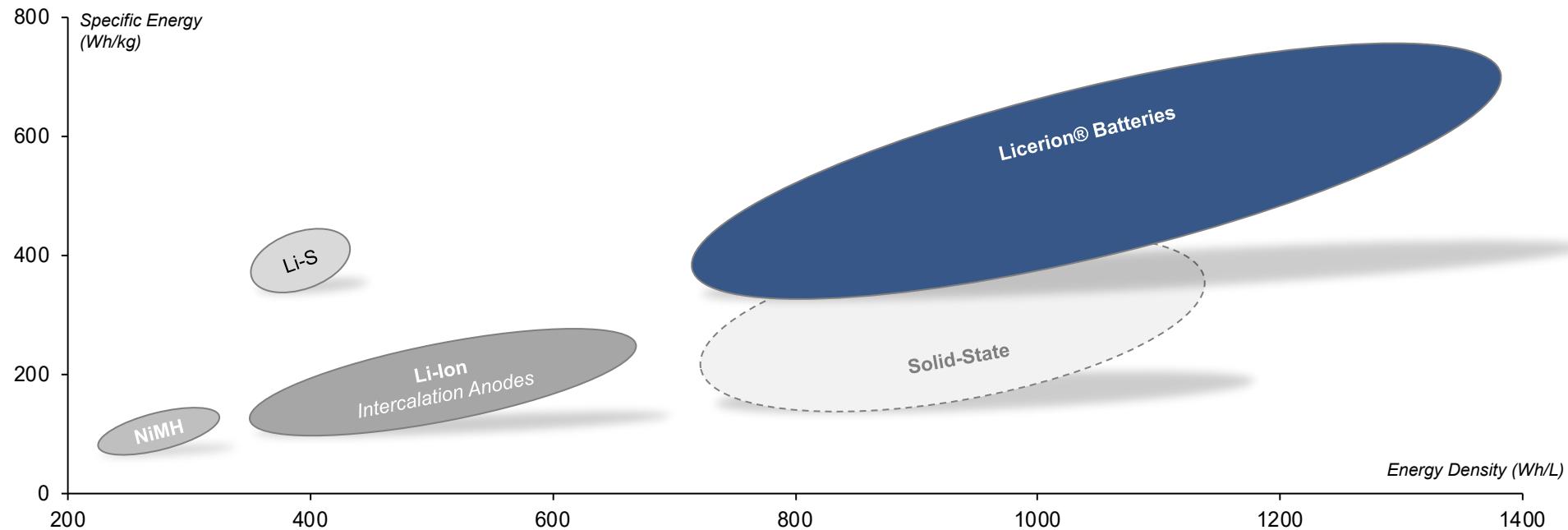
Cell Level  
Compression

- Thermal  
Runaway
- Dendrites
- Cell Swelling
- Cell Life
- Consistency

## One Groundbreaking Technology

- ✓ Best-in-world energy density
- ✓ Increased safety
- ✓ Increased cycle life
- ✓ Not limited by constraints of solid-state electrolytes on power, volume, and weight
- ✓ Ability to leverage current Li-ion manufacturing methods for 80% of the production process

# Licerion® is the Future of High Energy Density Li-Metal Batteries



## TRADITIONAL LITHIUM BATTERY

- Has reached the practical limits of its performance
- A decent stop-gap for vehicle electrification
- Unable to keep up with the demand for higher energy density

## SOLID-STATE

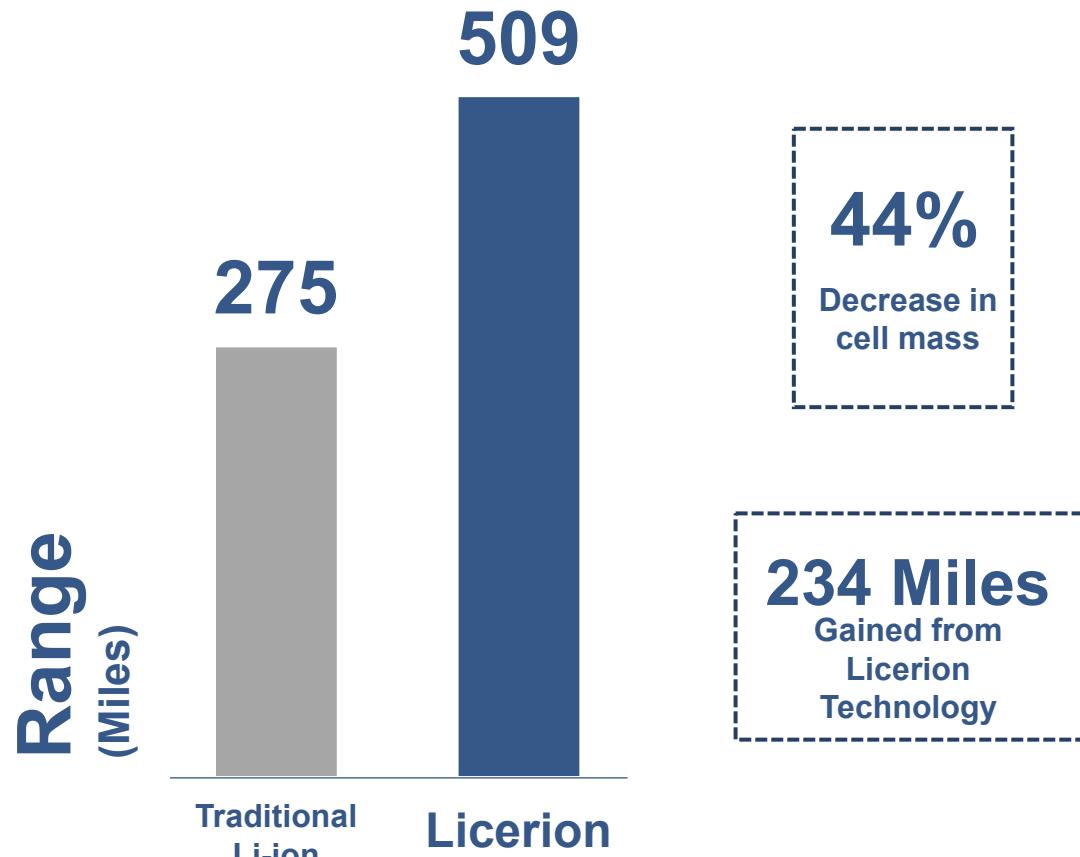
- Unproven manufacturing and engineering concepts
- Earliest commercialization potential in 10+ years
- Solid electrolyte requires more volume than liquid
- Power-limited

## LICERION®

- Highest energy density
- Achieves increased safety and desired cycle life
- Proven (not anticipated performance)
- Strategic leverage of traditional Li-ion manufacturing methods

# Benefits of Licerion® Technology to Class 8 Trucks

Lithium-Metal Batteries

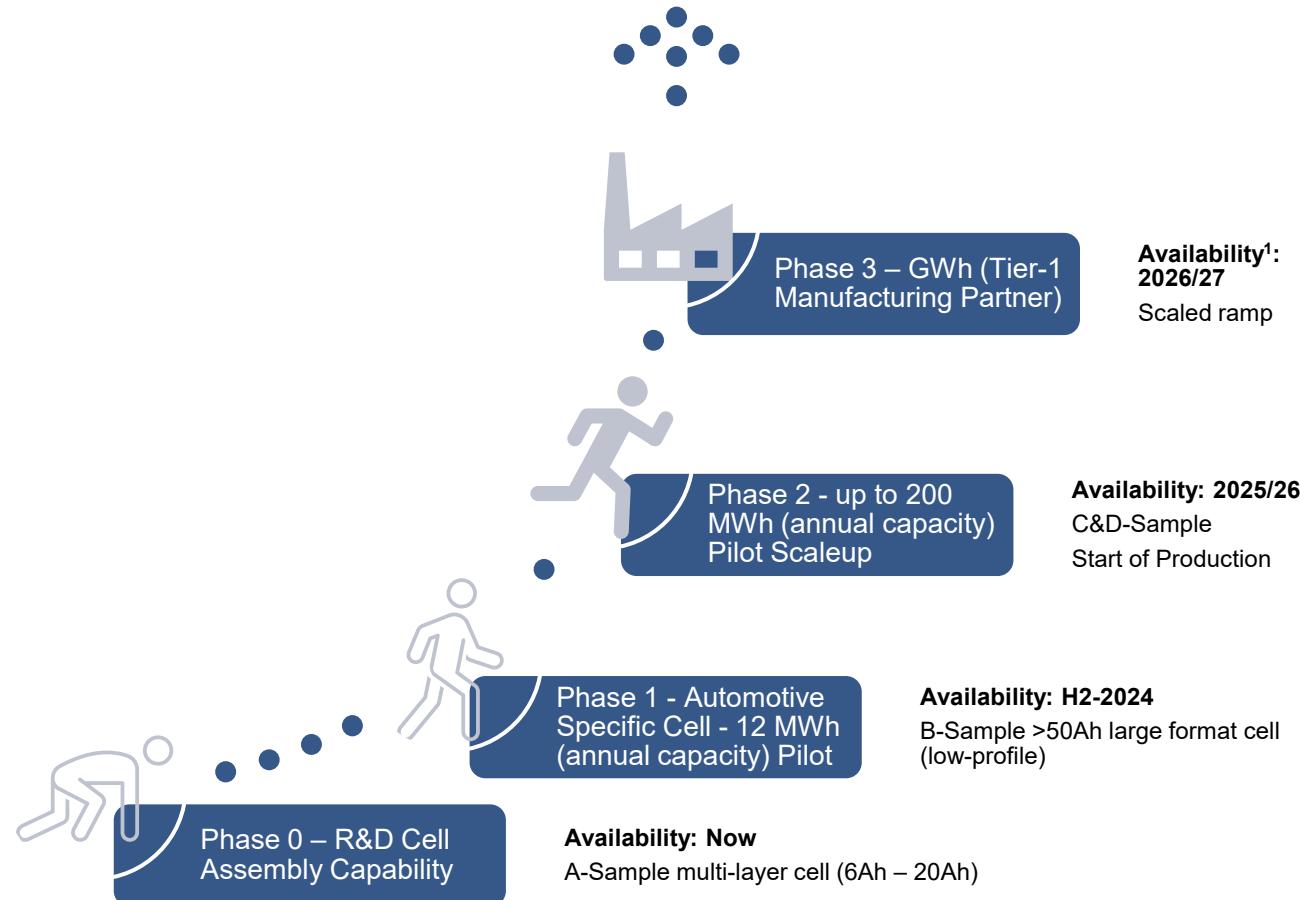


Battery Type	Specific Energy <i>at the cell level</i>	Cell Mass <i>in 565 kWh Battery Pack</i>	Driving Range <i>w/ 2,260 kg of Battery Cells</i>
Li-ion	250 Wh/kg	2,260 kg	275 miles
Licerion	450 Wh/kg	1,260 kg	509 miles
	+ 200 Wh/kg	- 1,000 kg	+ 234 miles
	<b>80% increase in specific energy</b>	<b>44% reduction in cell mass</b>	<b>85% more range</b>

Volvo VNR Electric Truck <sup>(1)(2)</sup>

# Commercialization Scaleup of Licerion® Li-Metal Batteries

Phased Commercialization Plan – Crawl, Walk, Run, Grow





# Sion Power – Building the Future of Batteries.

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