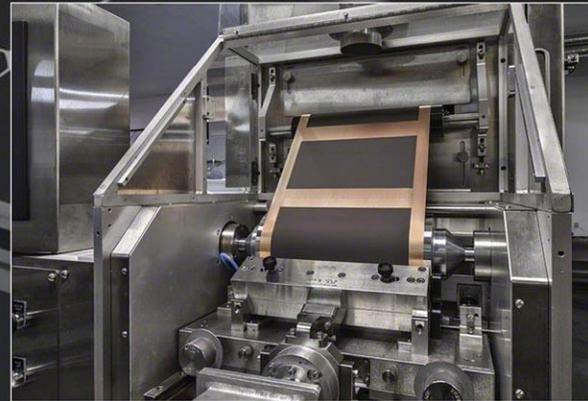
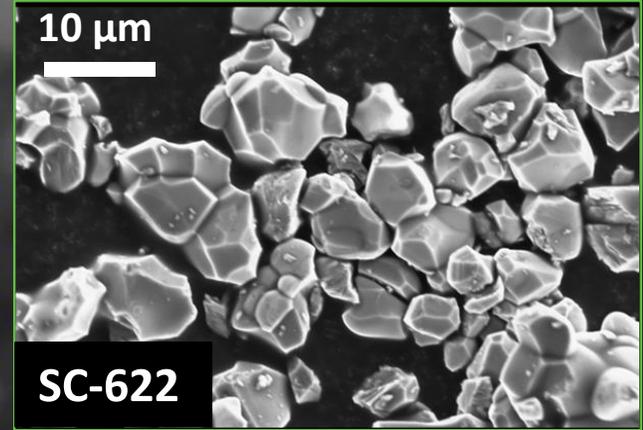


NOVONIX

NOVONIX LIMITED (ACN 157 690 830)

WEBINAR PRESENTATION



WHAT'S NEXT?

Novonix's Technology Roadmap

12 JUNE 2020

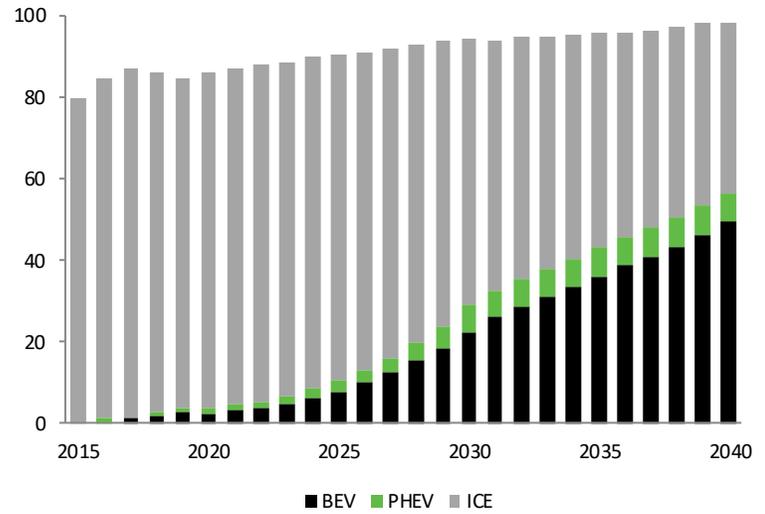


NOT FOR DISTRIBUTION OR RELEASE IN THE UNITED STATES

Renewables and Green Energy Demand Driving Battery Materials Growth 10x by 2030

More Electric Vehicles

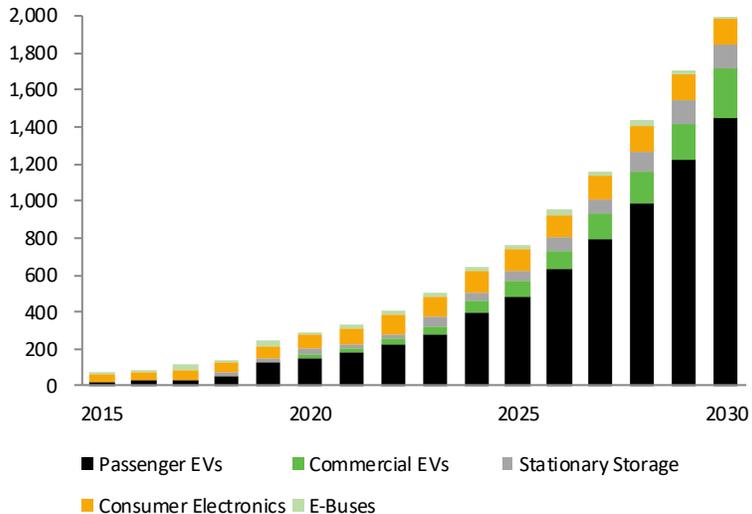
EV Sales, Millions



- Annual passenger EV sales to rise to 10 million per year in 2025, 28 million in 2028 and 56 million by 2040

More Batteries

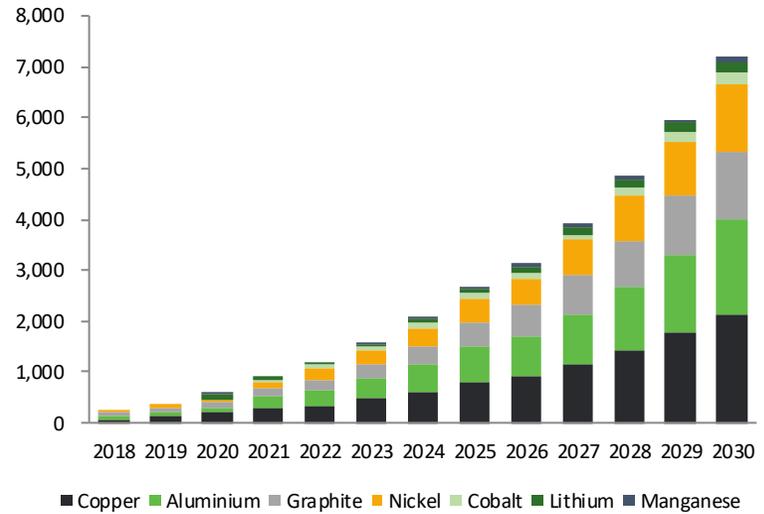
Annual Lithium-Ion Battery Demand, GWh



- To fill this demand for EV growth, there are 99 LIB megafactories in the pipeline with over 2,000 gigawatt hours (GWh) of capacity for 2028

More Battery Materials

Materials Demand, Thousand Metric Tons



- As a result, demand for high performance battery materials is expected to grow >7x

Total addressable market of anode and cathode materials is going from ~US\$10B today to US\$50B – US\$100B in the next 5 - 10 years

Source: Avicenne Energy 2020

Company Overview



- NOVONIX Limited (ASX: NVX)
- Investigating application for listing on the North American OTC Market: OTCQX® Best Market



Battery Technology Solutions

- Founded in 2013 & acquired in 2017
- Technology accelerates R&D from years to weeks
- Partnership with Dalhousie University
- Battery testing, design, and prototyping services
- Sales to battery & OEM multinationals in 15 countries
- Owner of DPMG manufacturing technology



PURE graphite Anode Materials

- JV founded in 2017, fully acquired 2019
- US-made high capacity long-life synthetic anode
- Conditional sales agreement w Samsung SDI Dec19
- Non-binding MOU agreement with SANYO Jan20
- Commercial production started
- Deploying DPMG technology soon



Cathode Materials

- **Coming soon**
- Leveraging NOVONIX DPMG technology
- Moving to pilot scale
- Ground floor patents in for new tech
- Single crystal cathode breakthrough



The Quest for the Million-Mile Battery

Million-Mile Battery requires three critical elements:

Requirement

NOVONIX

Long-life
Anodes

- **PUREgraphite Anode** – developed & scaling

Long-life
Cathodes

- **NOVONIX DPMG Single Crystal Cathode** – under development, IP filed

Long-life
Electrolytes

- **NOVONIX Electrolyte** – demonstrated performance and IP being filed

NOVONIX has all three elements in-house

CAR NEWS

GM VS TESLA FOR THE MILLION-MILE BATTERY

22 MAY
2020



ALEX RAE

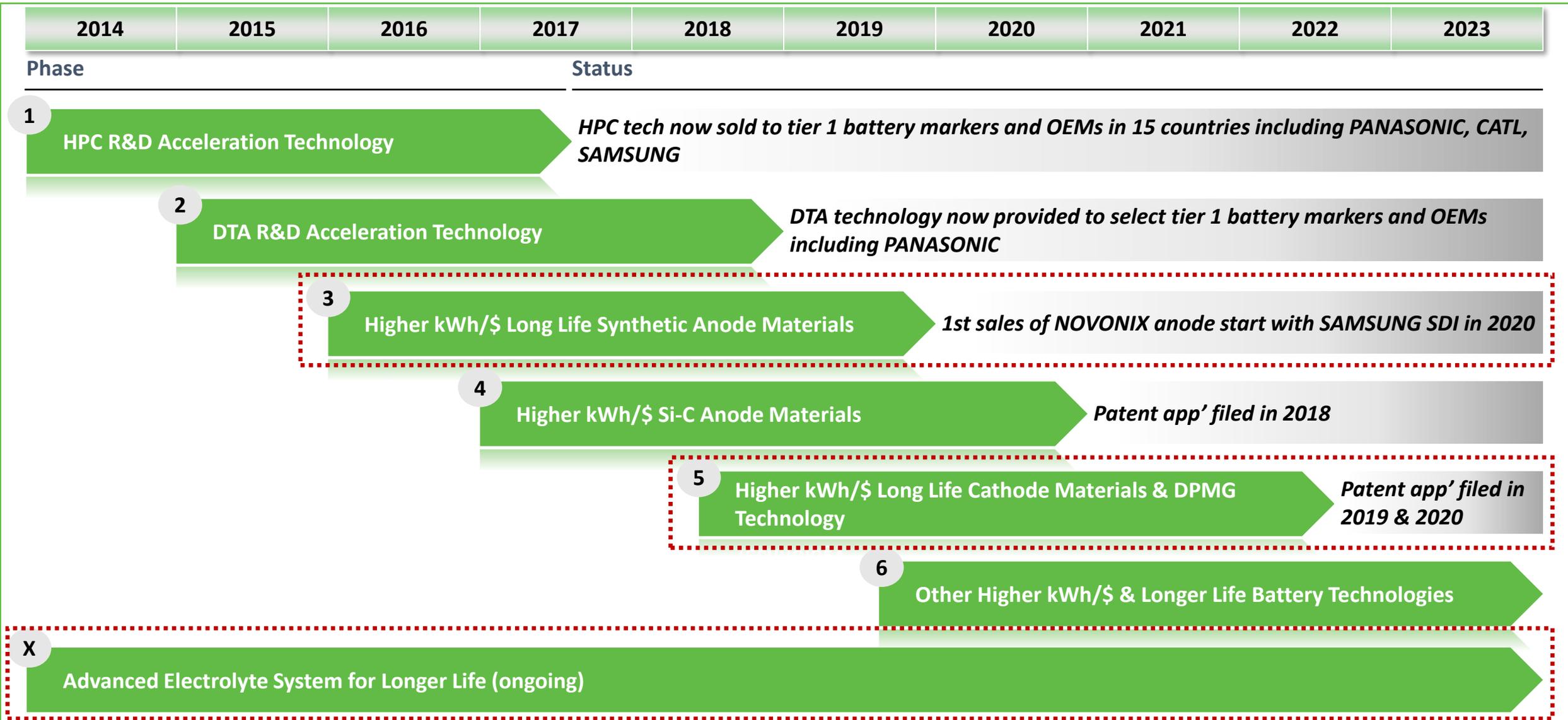
NEWS A day ago

General Motors' million-mile battery is 'almost there'

Tesla Battery Day update flags launch of million mile battery in China first

MAY 15, 2020 · 8 COMMENTS · 4 MINUTE READ · BRIDIE SCHMIDT

Group Technology Roadmap



Why Customers Want NOVONIX Anode Material (1 of 2)

Key Customer Decision Drivers for Synthetic Graphite Anode Material

We Deliver the Performance Required

- Improved coulombic efficiency and cycle life compared to industry leading materials (including a Tesla Model S cell)

We are Competitive on Cost

- Re-engineered product and process
- Globally competitive energy input

We Guarantee Safety

We are the Green Alternative

- Low emission energy sources
- No chemical purification

We Manufacture in the USA

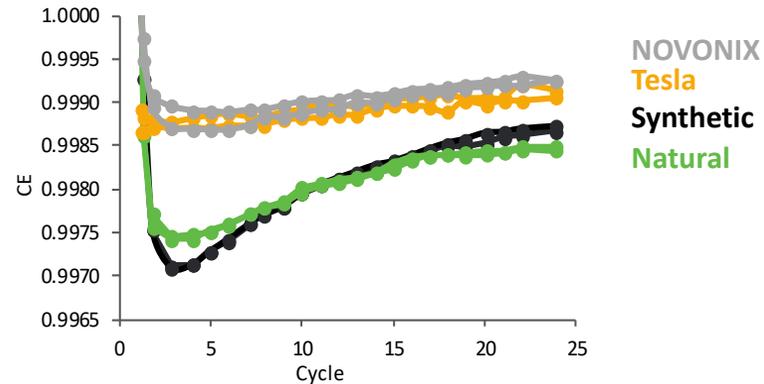
- Supply diversification

Performance Measures	Why Important	NOVONIX PUREgraphite	Chinese Synthetic	Japanese Synthetic	Natural
Capacity (mAh/g)	Increases Battery Energy Density	350	340–350	350–355	350–360
1st Cycle Efficiency (%)	Increases Battery Energy Density	93	88	91	90
Cycle Life	Electric Vehicles and Energy Storage Systems require very long cycle life	V. High	Medium	High	Low
Cost	Need to lower \$/kWh of energy storage for EV and energy storage system markets	\$\$\$	\$\$	\$\$\$\$	\$\$
Safety / Purity / Quality	High safety and reliability are critical aspects for electric vehicle and energy storage system batteries	V. High	Medium	High	Low
Emissions and Chemicals	Batteries support sustainability, but the input materials must also be made in an environmentally friendly manner	V. Low	High	High	High

Why Customers Want NOVONIX Anode Material (2 of 2)

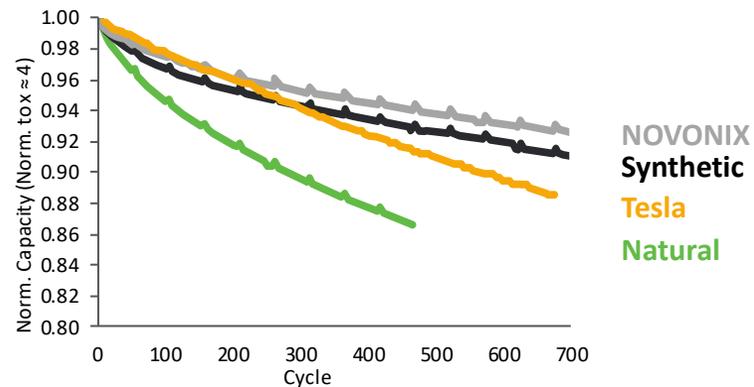
Our Synthetic Graphite Anode Material Clearly Beats Competitors in Head-to-Head Testing

Improved Coulombic Efficiency (CE)



- NOVONIX offers improved Coulombic Efficiency (CE) compared to industry leading materials (including a Tesla Model S cell)
- CE measures the electrochemical stability of the materials in the battery
- The higher the CE, the longer the battery life

Improved Capacity Retention



- NOVONIX offers improved capacity retention compared to industry leading materials (including a Tesla Model S cell) as expected from higher coulombic efficiency
- Better capacity retention means less range loss over time for an electric vehicle

Phased Growth Plan For PUREgraphite

	Phase 1 (Initial Ramp-up)	Phase 2 (Medium Scale)	Phase 3 (Large Scale)
Timeline	<ul style="list-style-type: none"> • 2020 - 2021 	<ul style="list-style-type: none"> • 2022 – 2025 	<ul style="list-style-type: none"> • 2026 - 2030
Capacity	<ul style="list-style-type: none"> • Ramp to 2K tons/yr 	<ul style="list-style-type: none"> • Ramp to 25K tons/yr 	<ul style="list-style-type: none"> • Ramp to 100K tons/yr
Customers⁽¹⁾	<ul style="list-style-type: none"> • SAMSUNG SDI • +1 - 2 International • +1 - 2 U.S. Domestic 	<ul style="list-style-type: none"> • SANYO • 2 - 4 International • 2 - 4 U.S. Domestic 	<ul style="list-style-type: none"> • Large scale partnerships
Production footprint	<ul style="list-style-type: none"> • Chattanooga, TN USA 	<ul style="list-style-type: none"> • Chattanooga, TN USA • Europe 	<ul style="list-style-type: none"> • Continue to co-locate with battery manufacturers
Revenue⁽¹⁾	<ul style="list-style-type: none"> • Ramp to annualized rate of AUD\$20m+ pa 		
Capex⁽¹⁾	<ul style="list-style-type: none"> • AUD\$25m+ 		

(1) These are indicative targets for the business, are subject to significant risks and do not constitute a form of forecast or a form of guidance for the business.

NOVONIX Has Agreements with the Two Largest Battery Makers, These Manufacturers Represent 40% of the Global Li-ion Battery Market in 2018⁽¹⁾

SAMSUNG Supply Agreement and R&D Collaboration

- Initial supply of 500 tons of synthetic graphite anode material commencing 2020 (subject to SAMSUNG's required quality assurance processes)
- Working toward longer term supply agreement
- **R&D collaboration agreement on new materials**
- Conditional on supplier audit and QA



SANYO Commercial Collaboration

- Non-binding MOU to assess anode materials and supply for EV and ESS following positive test results in Japan



SANYO Electric Co., Ltd. is a subsidiary of Panasonic Corporation

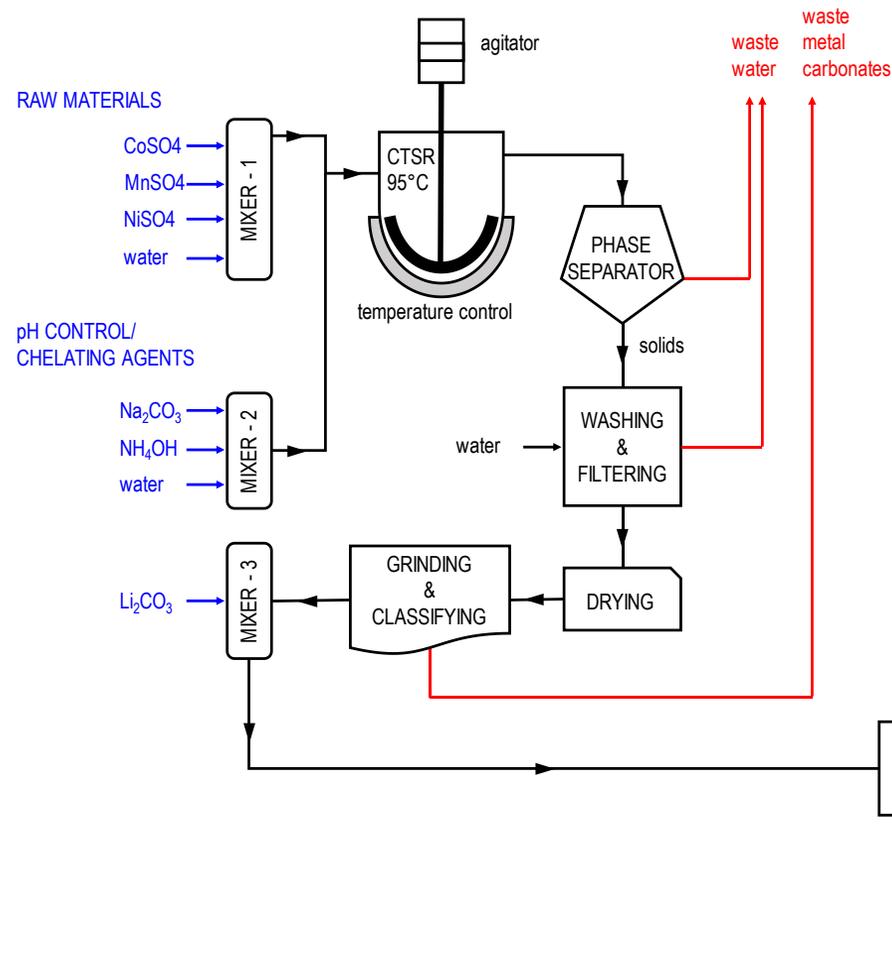
Panasonic Corporation is a worldwide leader in the development of diverse electronics technologies and solutions for customers in the consumer electronics, housing, automotive, and B2B businesses

Source: (1) Avicenne Energy 2019.

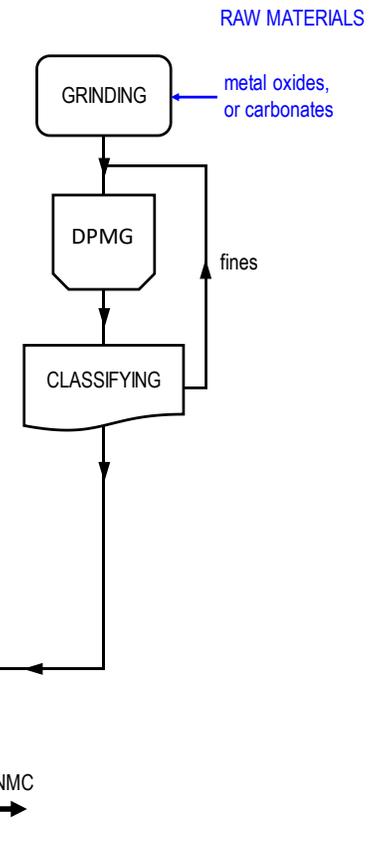
NOVONIX's DPMG Technology Offers Low Cost Cathode Synthesis

- Cathode materials represent about 30% of the cost of a battery cell
- Cathode material market is US\$7B, and growing 13% YOY
- Current precursor synthesis process (CSTR) is complex, wasteful and costly
- NOVONIX's DPMG involves dry synthesis of high nickel materials at a significantly lower cost

Current Precursor Synthesis Process



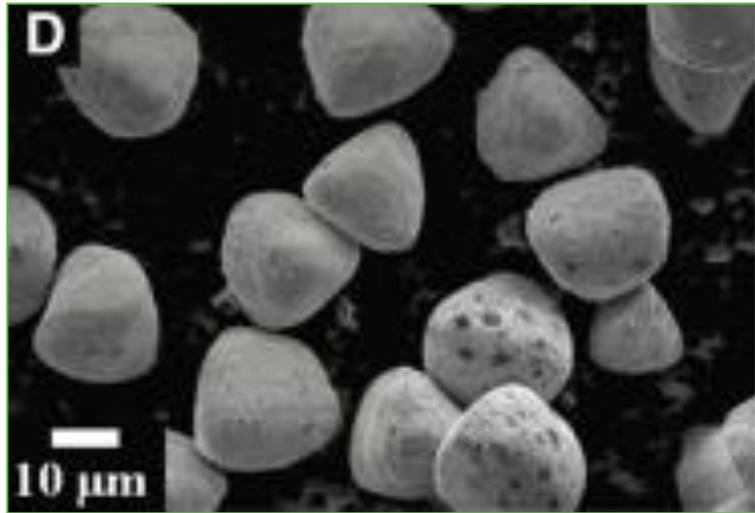
NOVONIX DPMG



DPMG Commercialisation Plan

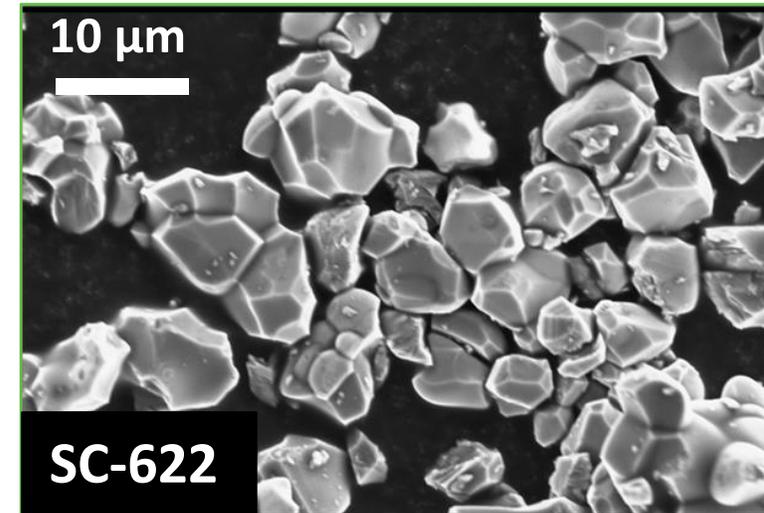
DPMG Work Underway

- Pilot scale demonstration
- Optimizing conditions for different particles:
 - High nickel and cobalt free materials, and
 - Coatings/dopants for performance improvement
- First patent application filed around polycrystalline and core-shell type materials



Polycrystalline vs Single Crystal Material

- Process for also making single crystal (SC) NMC that meets industry standards for crystal structure, morphology, capacity and first cycle efficiency
- Scaling to demonstrate cycle life performance and optimized design
- Second patent application filed around single crystal processing technology



Single Crystal Cathode – New Manufacturing Method

Importance of Single Crystal

- Single Crystal Cathode (SCC) is emerging as a key factor in the million-mile battery
- GM and TESLA are publicly pursuing SCC
- Prof. Jeff Dahn and team at Dalhousie University proving it can be done & TESLA filing related patents
- Developed by Prof. Mark Obrovac and team at Dalhousie University
- Patents filed by NOVONIX with 100% royalty-free rights
- Dry synthesis method with potential to significantly lower cost and reduce waste

Single Crystal vs Polycrystalline

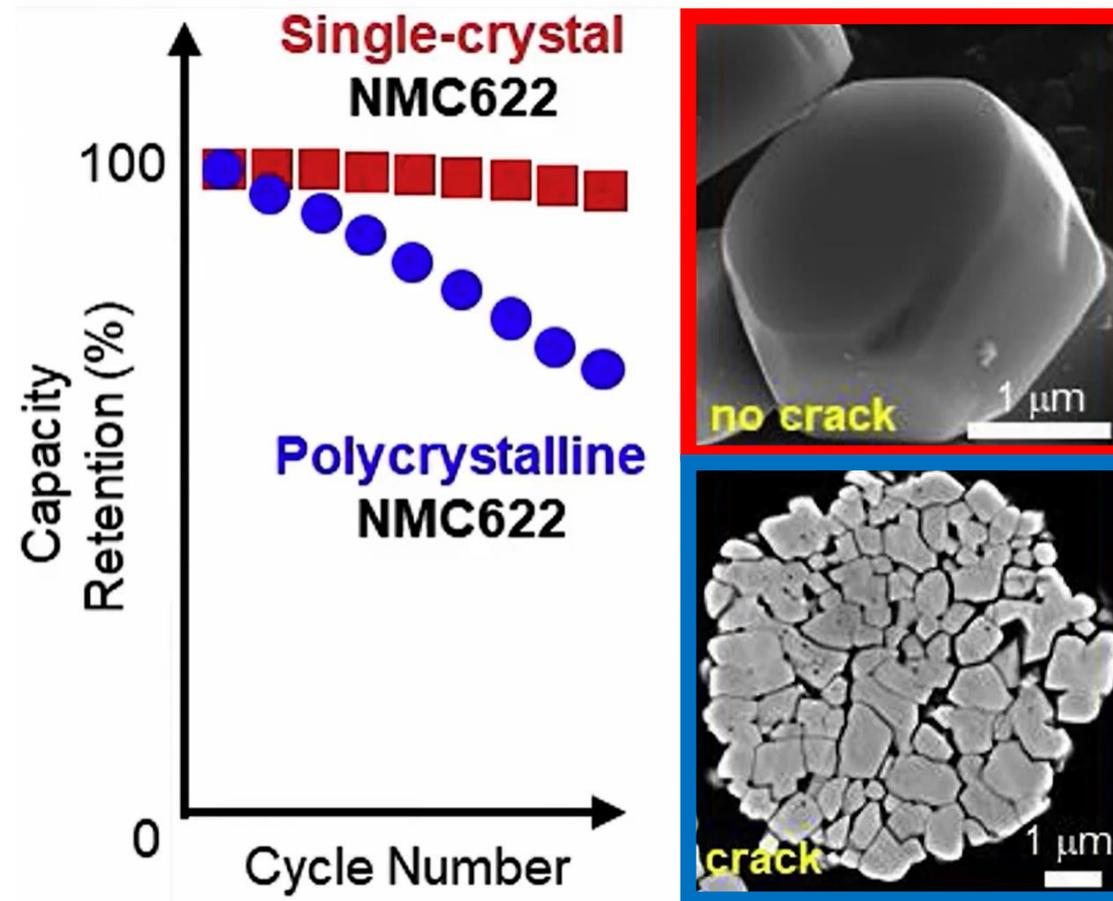
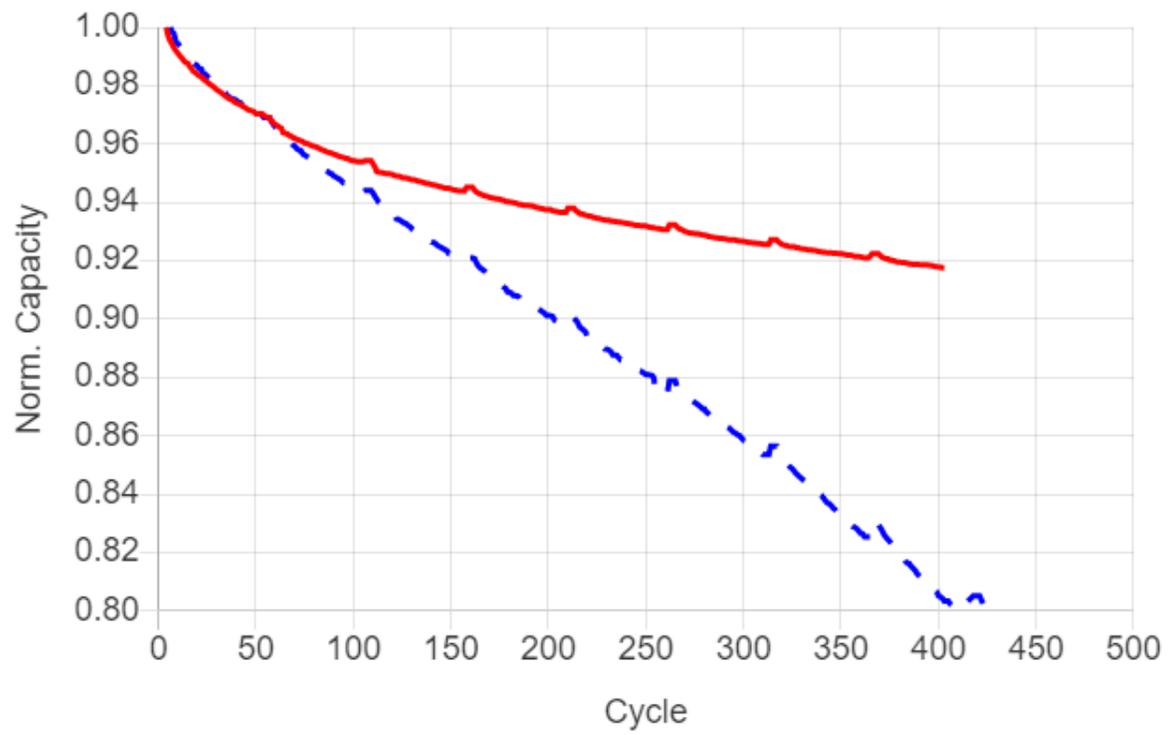


Image source: <https://doi.org/10.1016/j.ensm.2020.01.027>

Commercial Single Crystal vs Polycrystalline Performance

Description



- Single Crystal NMC622
- Polycrystalline NMC622

Commercial materials cycling in NOVONIX pouch cells at 40°C to 4.3V

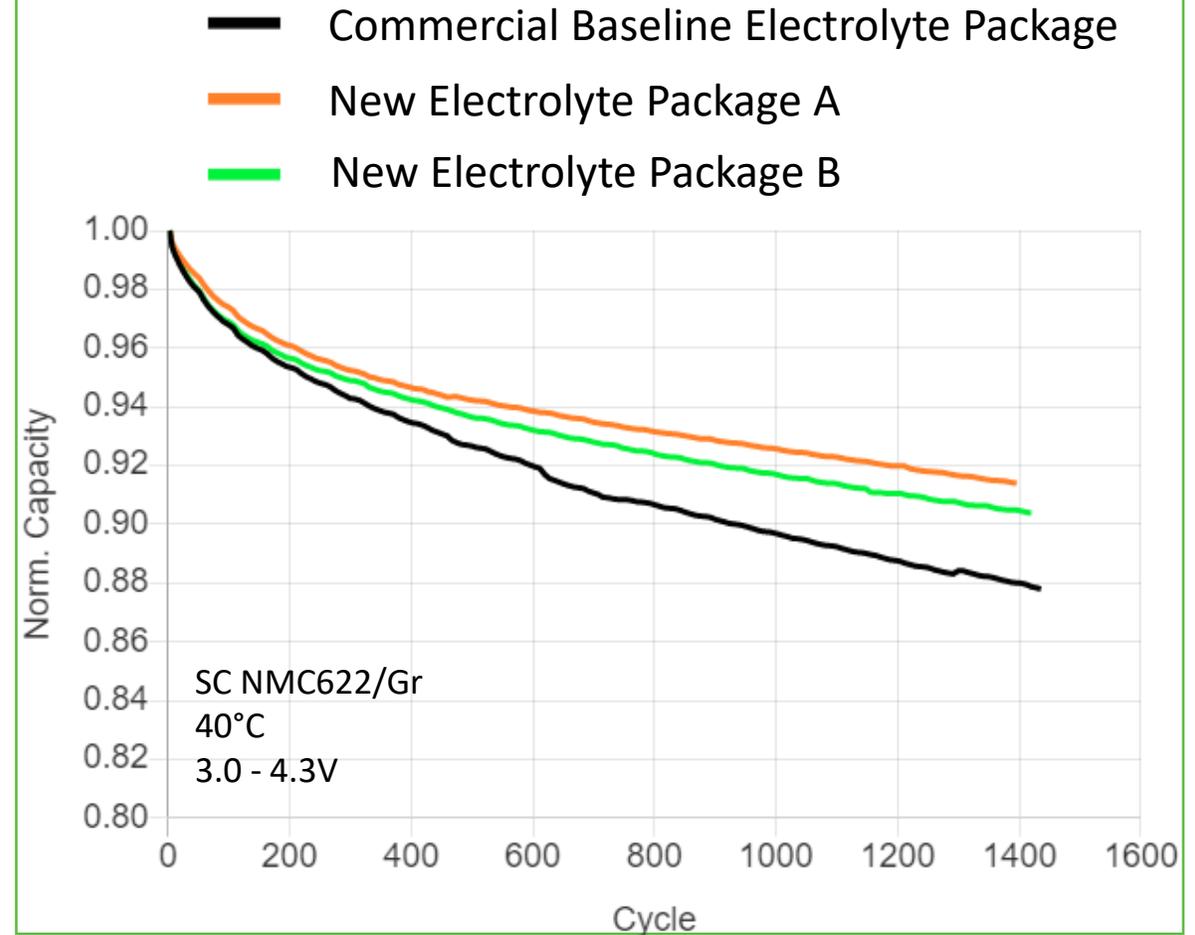
Single Crystal Materials Support Longer Cycle Life

NOVONIX's Electrolyte Program

Background

- NOVONIX BTS received government support to develop advanced electrolytes for better cycle life and high-power applications
- Strong scientific team with background in electrolyte development
- Working with state-of-the-art industry electrode materials and electrolyte blends to demonstrate improved performance
- NOVONIX electrolytes outperform benchmark electrolytes under long term cycling at 40°C
- IP starting to be filed from results of this work around high performing electrolyte packages

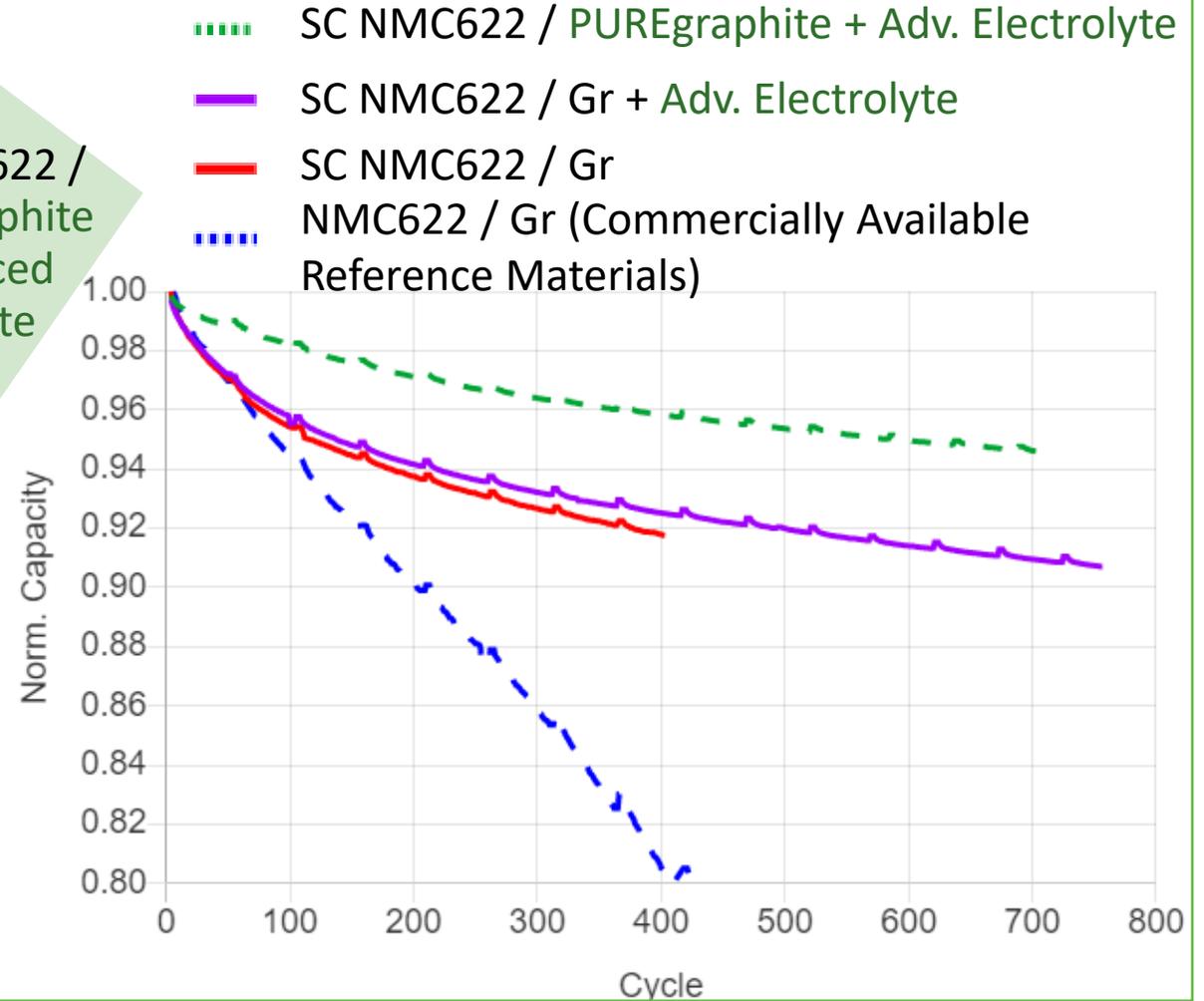
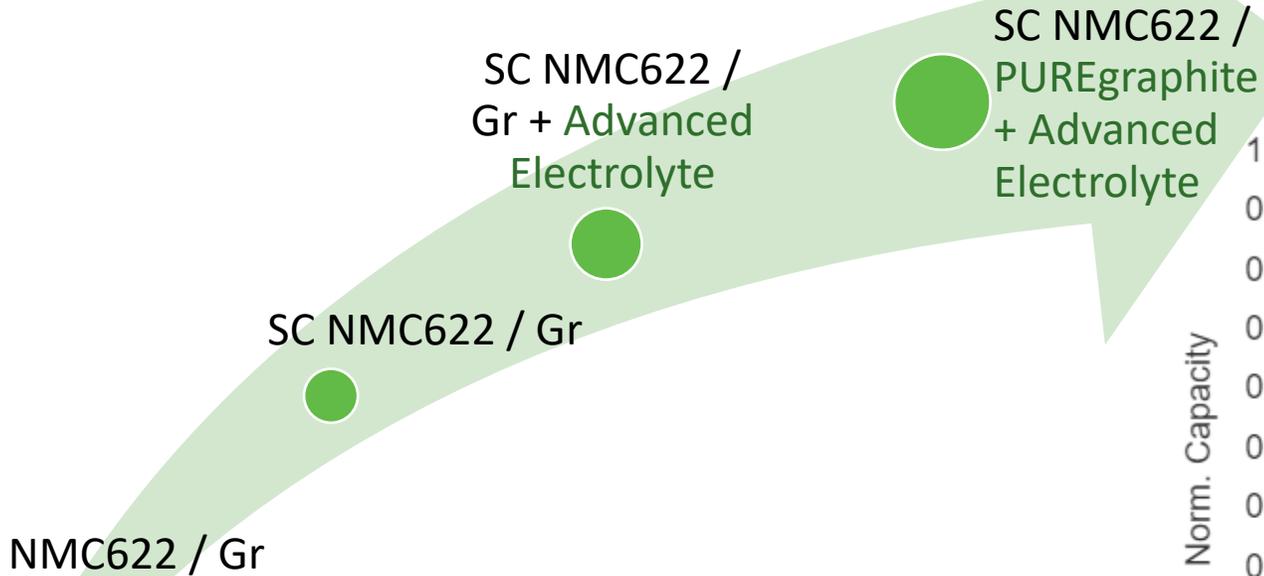
Performance Improvements



NOVONIX's Battery Cell Technology

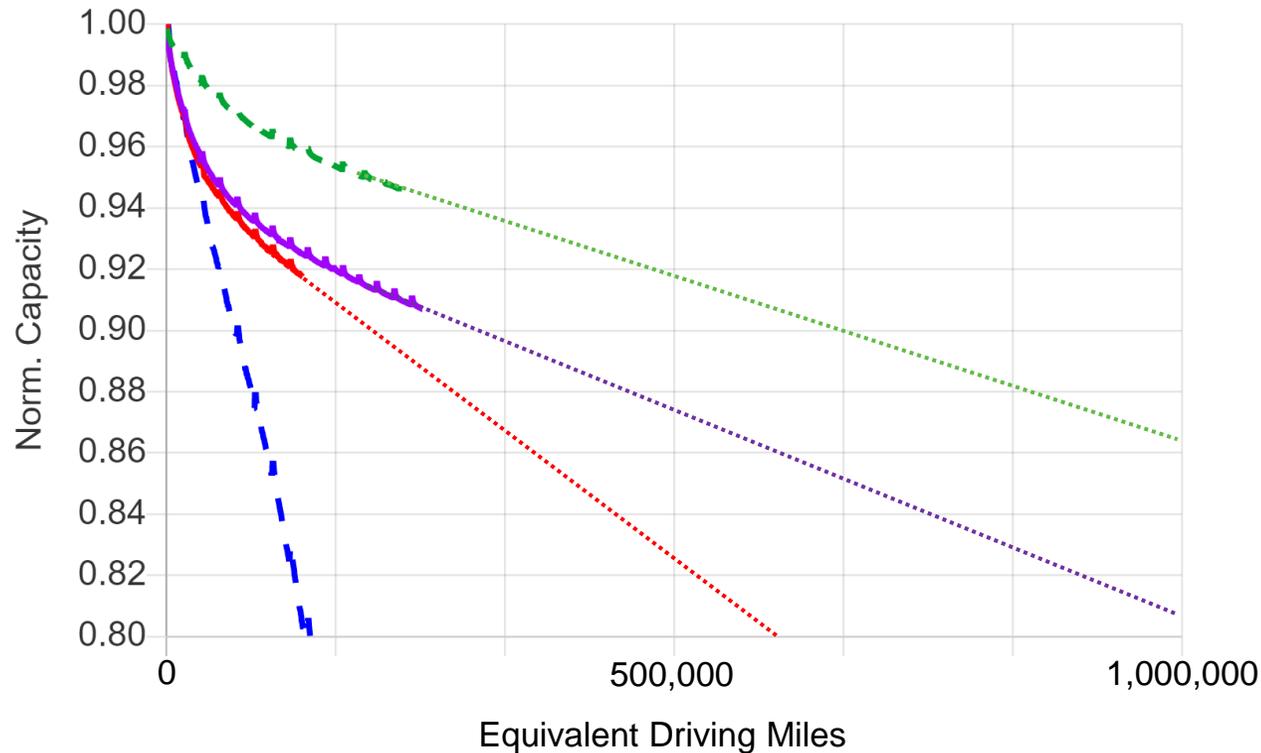
Demonstrated Performance

Commercially Available Material
Novonix Material



NOVONIX's Complete Battery Cell Technology

Demonstrated and Projected Performance



- SC NMC622 / PUREgraphite + Adv. Electrolyte
- SC NMC622 / Gr + Adv. Electrolyte
- SC NMC622 / Gr
- NMC622 / Gr (Commercially Available Reference Materials)

- 40°C full depth of discharge cycling
- Assumed 330 mile range
- Projection lines shown for guidance

WHAT'S NEXT?

NOVONIX's technologies support "million-mile+ battery" performance

Conclusion

NOVONIX...

- Is delivering the battery materials the EV and renewables future needs
- Is redefining the manufacturing processes to deliver lower costs, waste and emissions needed
- Has core competencies across all areas of cell technology development
- Has strong connections with leading companies in the battery, auto, renewables and electronics
- Has demonstrated technology advantages in anode, cathode and electrolyte (with more coming)
- Has first commercial technology in PUREgraphite anode material with a contract with Samsung SDI
- Is the only company to break into this market from North America or Europe
- Has cathode technology entering pilot scale and commercialization phase now

- Cathode and anode market is going from ~US\$10B today to US\$50B – US\$100B in next 5 – 10 years
- NOVONIX plans to be a tier one global supplier in this rapidly growing advanced materials market