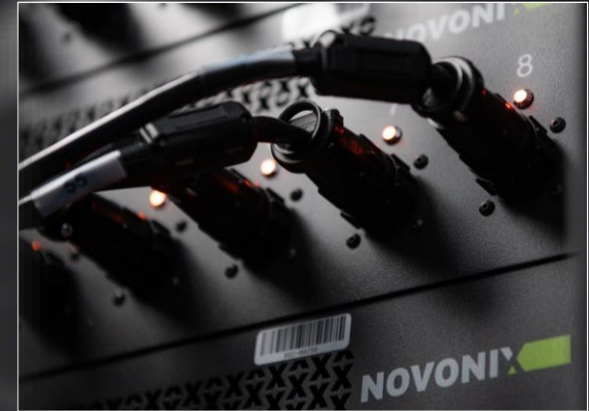
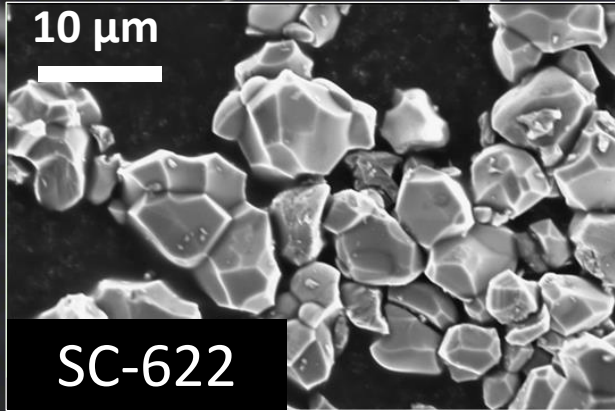
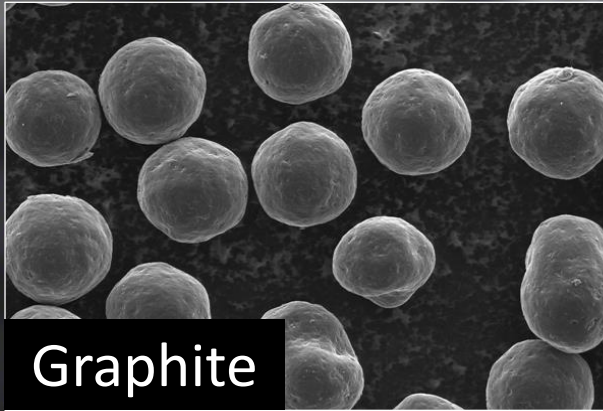


# NOVONIX

## NOVONIX LIMITED



OTC MARKETS VIRTUAL INVESTOR CONFERENCE PRESENTATION  
*Introduction to North American Market*

8 OCTOBER 2020



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- This announcement has been authorised for release to the ASX by the Group CEO, Chris Burns.

# Discussion Topics for Today

- Company overview / business units / team
- Market opportunity
- NOVONIX technology roadmap and product performance
- Status and next steps in commercializing NOVONIX Anode Materials
- Cathode materials and DPMG technology update
- Perspective on Tesla Battery Day and opportunities for NOVONIX

# Company Overview

**NOVONIX**  
NOVONIX Limited  
ASX: NVX  
OTCQX: NVNXF

**NOVONIX**  
Battery Technology Solutions

- 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

- First contracted supplier of US-made high capacity long-life synthetic anode
- Conditional sales agreement w Samsung SDI Dec19
- Non-binding MOU agreement with SANYO Jan20

**NOVONIX**  
Cathode Materials

- Leveraging NOVONIX DPMG technology
- Ground floor patents in for new tech
- Single crystal and Polycrystalline cathodes
- Installing pilot scale processing



# Management and Board of Directors

## Management



**Dr Chris Burns**  
Group CEO



**Nick Liveris**  
Group CFO



**Suzanne Yeates**  
Group Financial Controller and  
Company Secretary



**Admiral Robert J. Natter**  
Executive Director

## Board of Directors



**Greg Baynton**  
Non-Executive Director



**Tony Bellas**  
Chairman and Non-Executive  
Director



**Robert Cooper**  
Non-Executive Director



**Andrew N. Liveris AO**  
Non-Executive Director



**Admiral Robert J. Natter**  
Executive Director



**Trevor St Baker AO**  
Non-Executive Director

# Global Tier 1 Customer Base

## Customer Overview

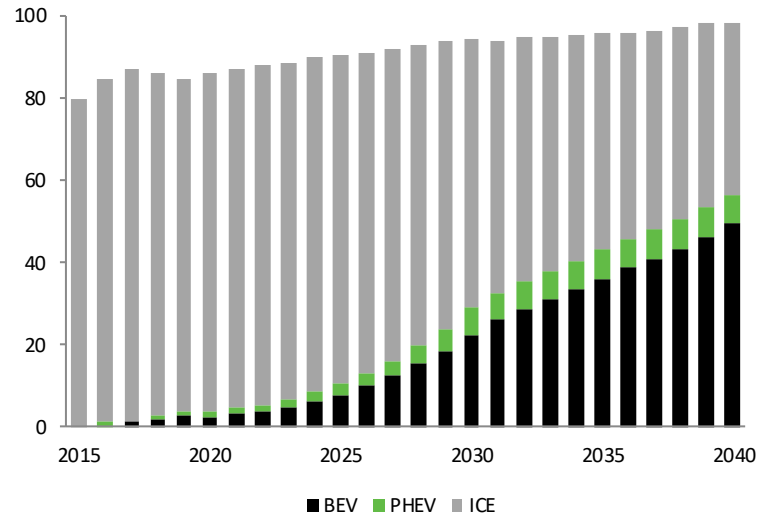
- Customers represented globally across key battery industries, including
  - Auto OEMs
  - Battery manufacturers
  - Consumer electronics
  - Medical device
  - Battery laboratories
- Several major auto OEMs and consumer electronic customers not disclosed for confidentiality reasons



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

## More Electric Vehicles

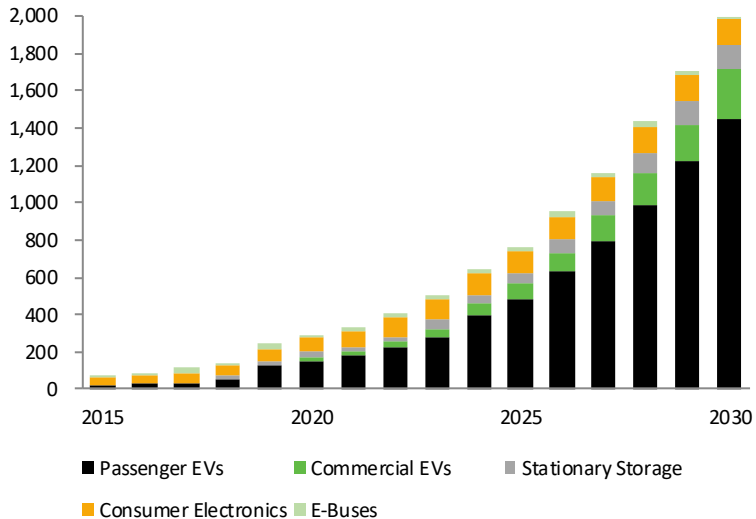
EV Sales, Millions



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

## More Batteries

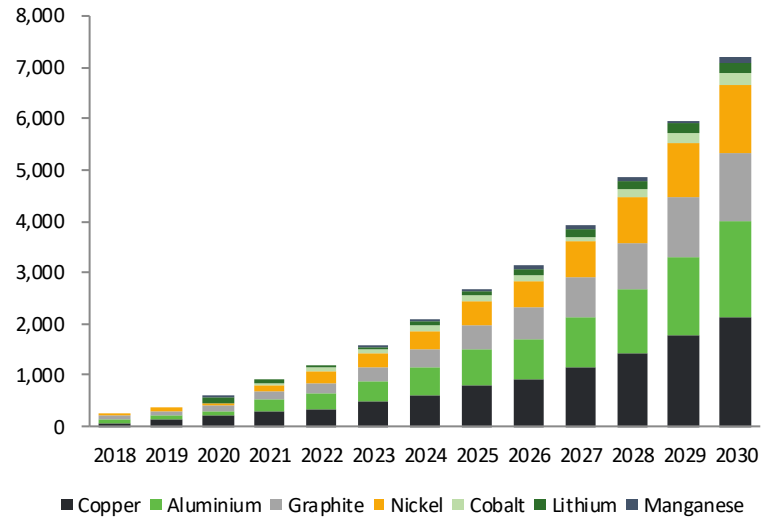
Annual Lithium-Ion Battery Demand, GWh



- 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

# Battery Growth is Happening in the US Now

## Current US Gigafactory Pipeline

Battery Co.	Auto Co.	Investment	Capacity	Status	State
 LG Chem	 	\$300M	3 GWh	Operating	MI
		NA	35 GWh	Operating	NV
		\$1.7B	9.8 GWh	Operating 2022	GA
 LG Chem		\$2.3B	30 GWh	Announced Dec 2019	OH
		\$2.5B	21.5 GWh	Announced April 2020	GA

- The U.S. expects to have 130 GWh online by 2023
- Europe expects to have 198 GWh by 2023, and has signaled more than 400 GWh in the pipeline

Source: Company press releases and Avicenne Energy.



# 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 (SCC)** – 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

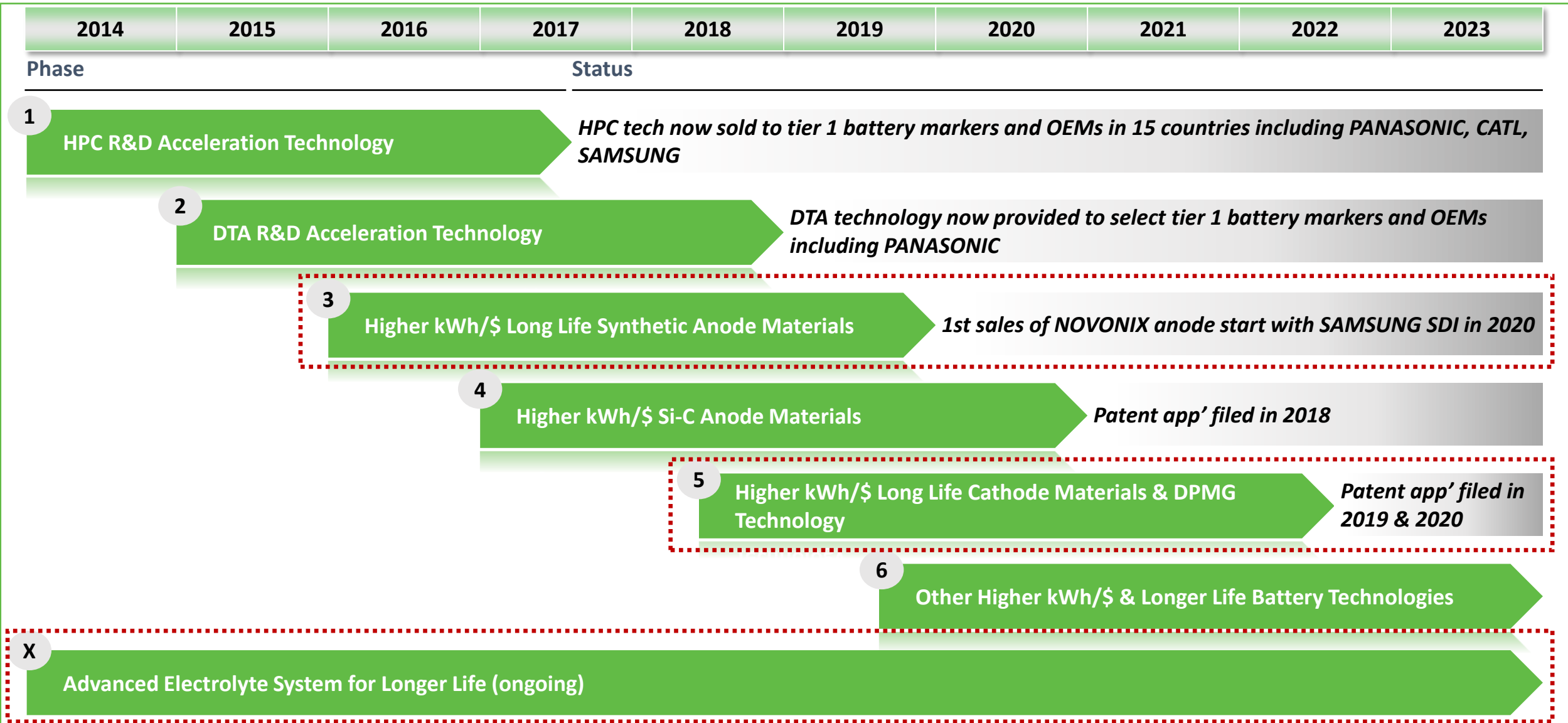
NEWS A day ago

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



# NOVONIX Anode Material

## 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

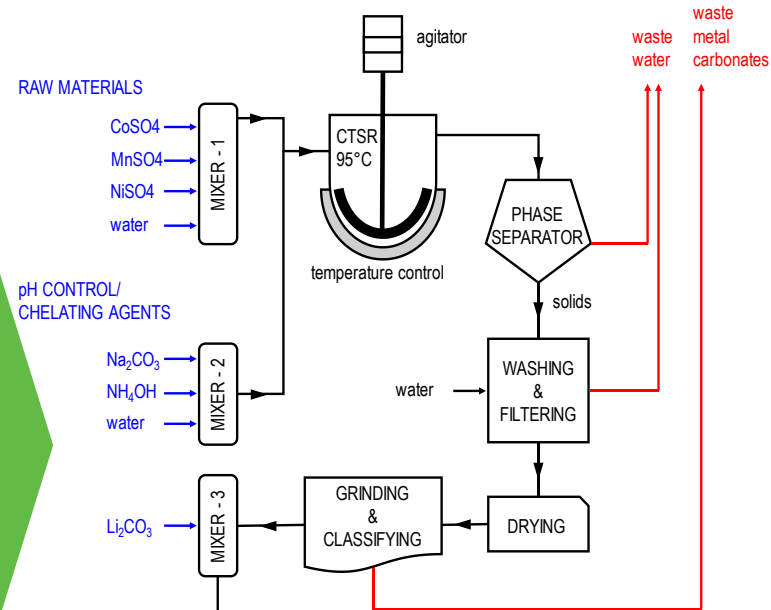
- Supply diversification

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

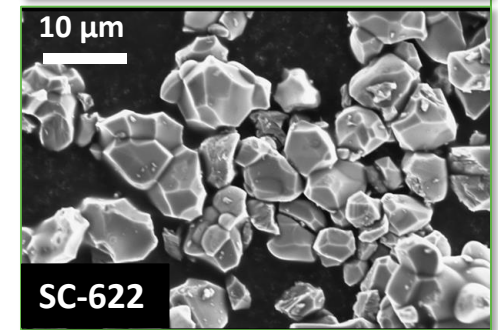
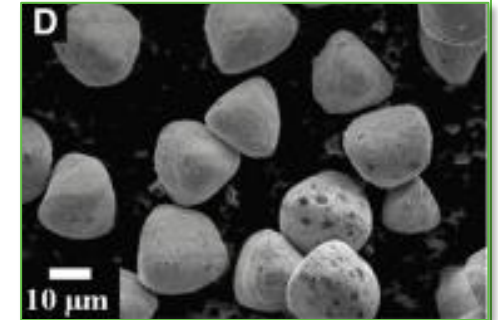
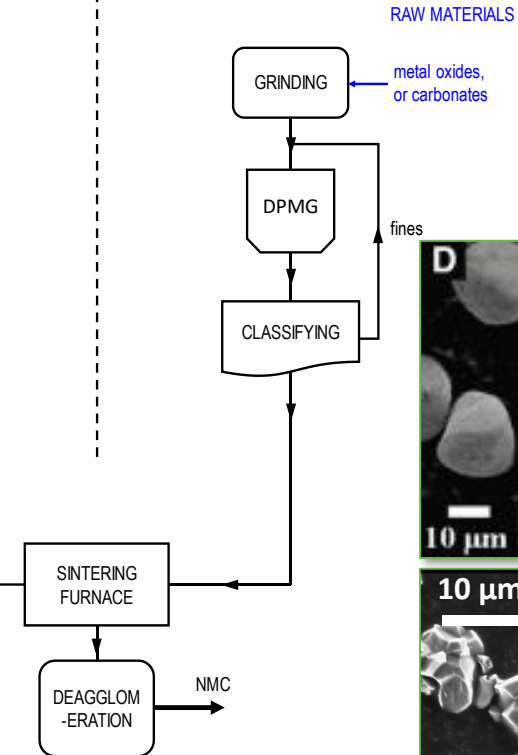
# NOVONIX's Cathode Technology Offers Low Cost Synthesis

- Cathode materials represent about 30% of the cost of a battery cell
- Cathode material market is US\$7B, growing 13% YOY
- Current synthesis process is complex, wasteful and costly
- NOVONIX's DPMG involves dry synthesis of high nickel materials at a significantly lower cost
- Patents filed and ability to make poly and single crystal materials

## Current Precursor Synthesis Process

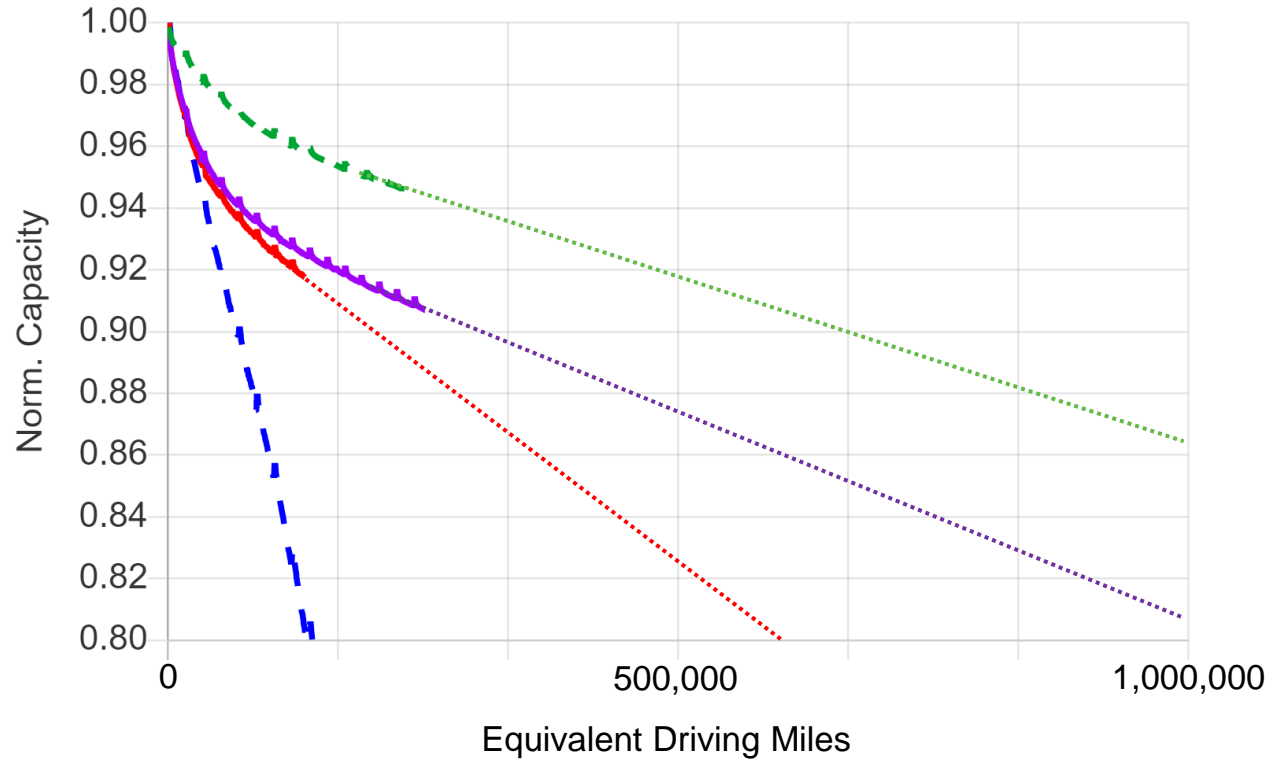


## NOVONIX DPMG



# NOVONIX's Complete Battery Cell Technology

## Demonstrated and Projected Performance Predicted to Exceed 1 Million Miles



- 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



# Corporate Activities

## APRIL – OCTOBER 2020

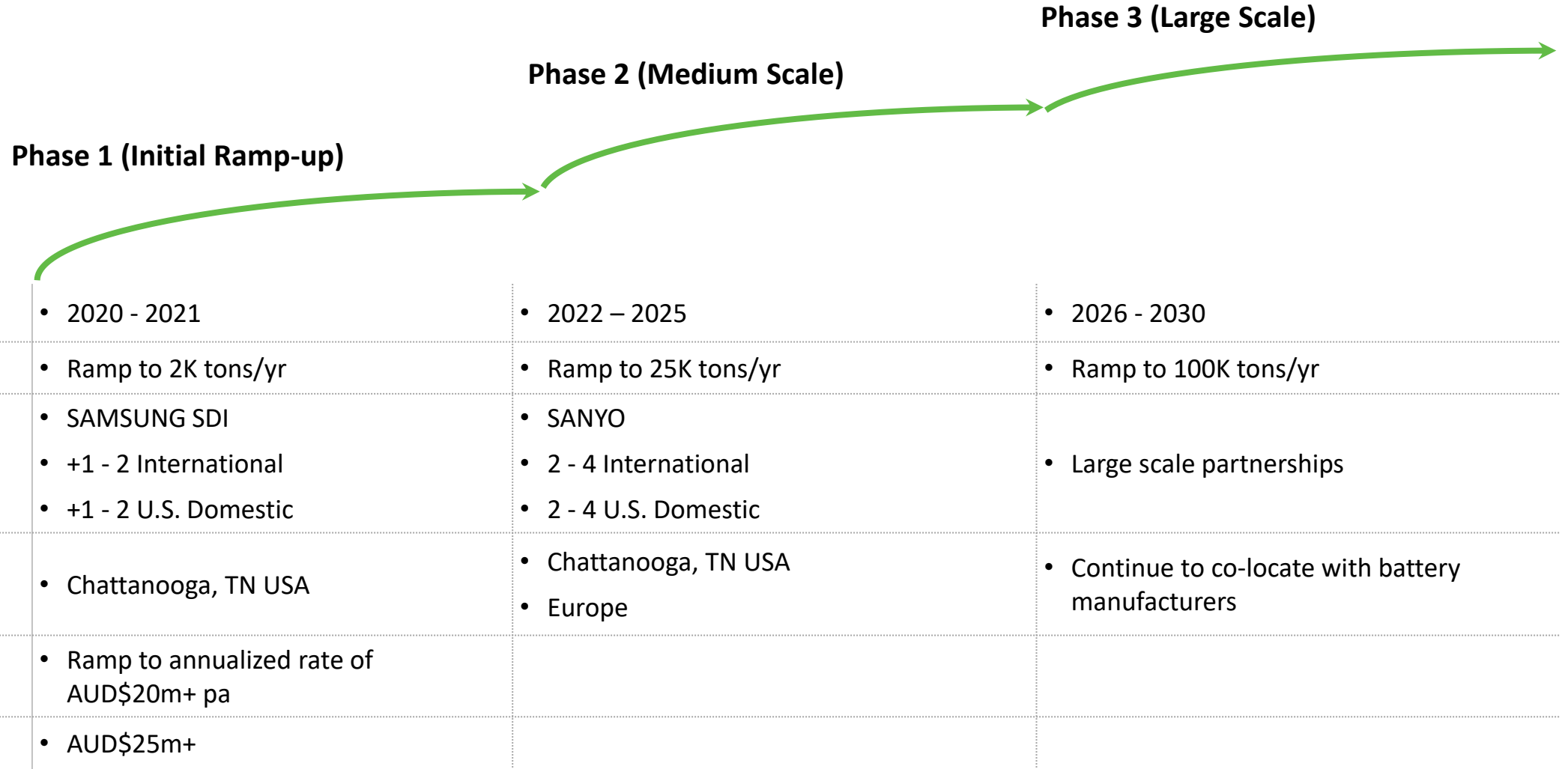
- \$63 million equity raise and capital restructure in June to enable execution of the business strategy and plan to become a market leading producer of ultra long-life anode materials for lithium-ion batteries for EV and ESS.
- The transaction included:
  - Redemption of all convertible notes
  - Repayment of all unsecured short-term loans
  - Funding to expand the PUREgraphite anode business to 2,000 tpa capacity over 2020 and 2021, and
  - Funding for commercialization of our recently announced breakthrough technologies – DPMG and SCC
- Updated the market on NOVONIX’s technology roadmap and “What’s Next”
- Provided an update on leadership transition and Tesla Battery Day implications for NOVONIX

## AGREEMENTS WITH BATTERY MAKERS



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

# Phased Growth Plan For PUREgraphite



(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.

# PUREgraphite Update

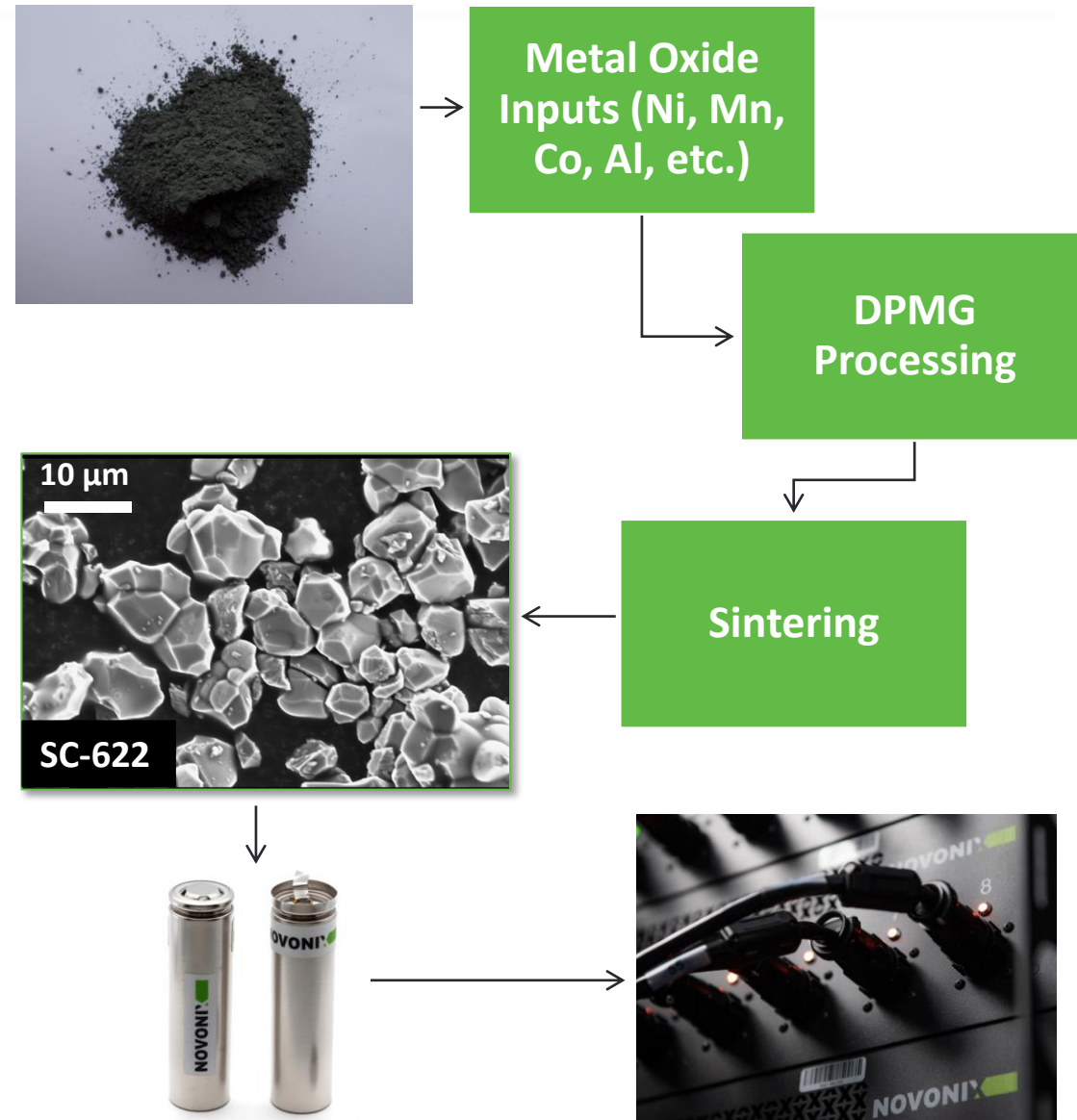
## Mass Production Plant, Customer and Product Update

- Mass production line operational after commissioning and optimization
- Samsung SDI Contract Update
  - Multiple scheduled deliveries over the next 6 months
  - Cell mass production at Samsung SDI with PUREgraphite material scheduled to commence April 2021
- Sanyo MOU Update
  - Mass production samples to be evaluated now with production line operational
- Customer Development
  - Samples issued to other prospective customers under confidentiality agreements
  - New engagements with cell manufacturers, auto OEMs and ESS focused companies beginning with increased bandwidth of production at PUREgraphite
- Product and Technology Development
  - Scaling established relationships with supply chain partners
  - Continued product development with improved materials produced at pilot scale on test at Novonix BTS

# Cathode Development Update

## Intellectual Property Generation and Pilot Scale Production

- Continued work with Dr. Mark Obrovac's group at Dalhousie and internal team on new IP generation
- Pilot scale equipment and analytical lab on track to be running by end of CY2020 as initially planned
- Working with potential lithium suppliers (Lake Resources and others) in the process expanding on precursor production and final cathode production
- Focus of technical work:
  - High Nickel Cathode Materials, Including Cobalt-Free
  - Dopant and Coatings for Improved Performance
  - Single Crystal Cathode (SCC) and Polycrystalline Cathode Processes



# Key Take-Aways From Tesla's Battery Day

- **Tesla's innovation will drive down battery cost**
- **New form factor 4680**
- **Higher automation in cell production**
- **Cost reduction in materials**
- **Cell-to-vehicle / structural cell integration**
- **All of this in the hopes to deliver a \$25,000 USD vehicle in 2023**





# Battery Day Impact on NOVONIX

## Battery Day Take-Away

**Tesla focused on major cost savings upstream**

**Tesla's silicon progress unclear**

## Impact on NOVONIX

- **Reaffirms NOVONIX's business plan and assessment of market opportunity**
  - **Stresses the importance of technologies that reduce manufacturing costs for Auto Co's and Battery OEMs, such as NOVONIX's DPMG and SCC technologies that**
    - Eliminate unnecessary steps and conversion of materials
    - Eliminate need for expensive feedstock
    - Reduce waste materials and waste-water
  - Unclear how much silicon Tesla will use or if Tesla have managed to address cycle life issues for vehicle grade batteries which nobody else has
  - For risk of lifetime, benefit is only up to 5% in \$/kWh of their proposed 56% cost reduction
- **No change to NOVONIX's business and execution plan on bringing high quality materials to market**
  - **Announcements reaffirm NOVONIX's strategy to reduce manufacturing cost of battery materials through innovation**

# 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**

# Contact Information

## CORPORATE

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**Tony Bellas**  
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- **Group CEO:**  
**Dr Chris Burns**  
Email: [chris@novonixgroup.com](mailto:chris@novonixgroup.com)
- **Company Secretary and Financial Controller:**  
**Suzanne Yeates**  
Email: [suzie@novonixgroup.com](mailto:suzie@novonixgroup.com)
- **Group CFO:**  
**Nick Liveris**  
Email: [nick@novonixgroup.com](mailto:nick@novonixgroup.com)

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177 Bluewater Road, Bedford, NS B4B 1H1, Canada



### **PUREgraphite - Chattanooga, Tennessee, USA**

353 Corporate Place, Chattanooga, TN, 37419, USA

