

THE WORLDS FIRST SUSTAINABLE PRODUCTION FOR BATTERY MATERIALS

A close-up photograph of a white electric vehicle (EV) being charged. A black charging cable is plugged into the car's charging port, which is located on the front fender. The car's headlight and side mirror are visible. The background is a plain, light color.

**6K ENERGY DOMESTIC PRODUCTION
OF BATTERY MATERIAL**

**UNIMELT® PRODUCES UNLIMITED
BATTERY CHEMISTRIES
FASTER, CLEANER, AND LOWER COST**

BREAKING THE BOUNDS OF BATTERY MATERIAL SYNTHESIS

COLLAPSING BATTERY MATERIAL PRODUCTION FROM DAYS TO SECONDS

The UniMelt plasma production technology pushes chemistry beyond traditional boundaries to create virtually any material. While other processes like co-precipitation are constrained by the limitations of specific synthetic routes, the UniMelt process can produce essentially any chemistry in as little as 2 seconds. The UniMelt technology provides precise control over size and morphology, with an

unprecedented ability to tune size over a 10,000X range.

For battery materials, this combination of chemistry and morphology control means materials can be independently designed to optimize for power, energy density, and life, all with low production costs. This allows a single production platform to address all the energy storage markets. The speed and flexibility

of the UniMelt process allows 6K Energy, in collaboration with its partners and customers, to iterate material designs significantly more quickly than existing methods. This enables rapid design turns resulting in a faster time to market with new materials for energy storage, accelerating performance improvements leading to faster adoption of electric vehicles.

MAXIMIZE PERFORMANCE FOR CURRENT AND NEXT GENERATION BATTERIES

Our patented microwave plasma production system disrupts material design and production for lithium-ion batteries. With our revolutionary single-step plasma process we can produce unlimited battery chemistries in a fraction of the time, with less cost and environmental impact.

Design Any Chemistry and Tune All Material Properties

- Design what is not possible today with co-precipitation or solid state processes
- Nano to Micron
- Amorphous, Crystalline, Porous, Dense, etc.
- Design-out high cost components

NMC Cathode

Any ratio at a lower cost

LTO Anode

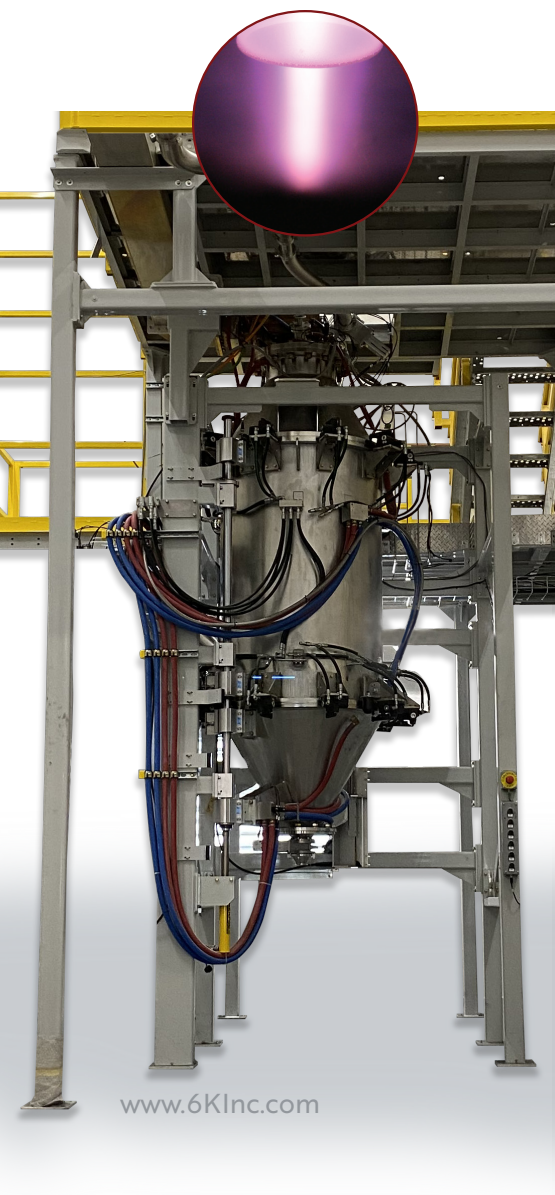
Tuned surface area for optimized power

Silicon Anode

Next generation of high energy anode materials

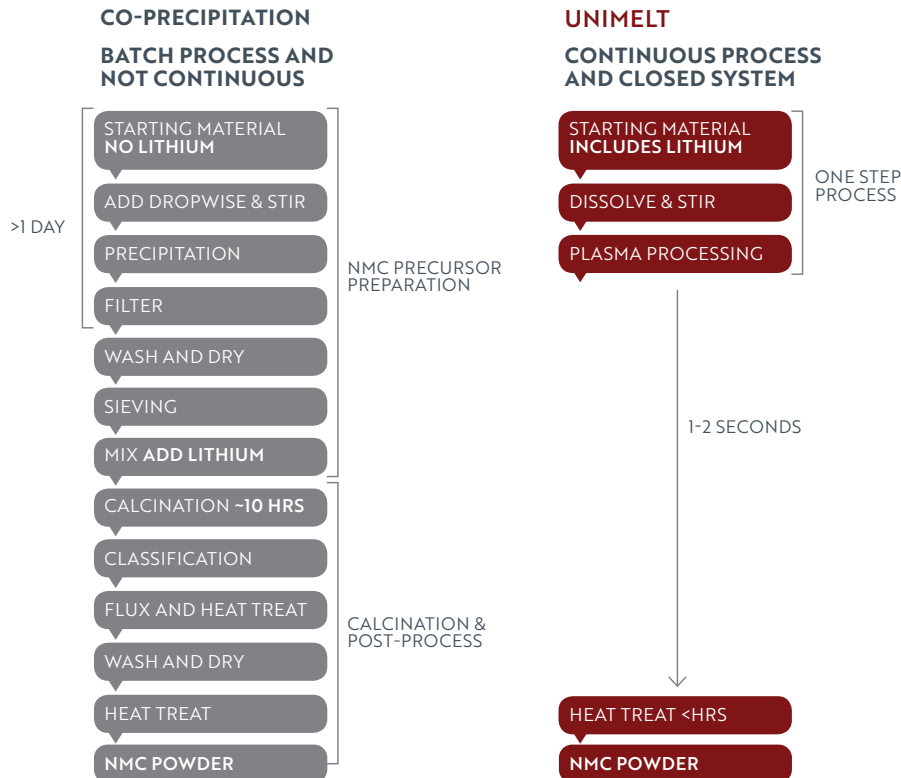
Solid Electrolyte—LLZO, LIPON

Spherical morphology, size tailored for sintered or composite electrolyte



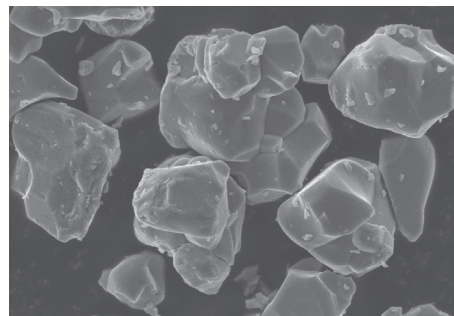
ONE STEP METHOD

Collapse production from days to seconds



NMC WITH UNIMELT®

Any Type. Any Dopant. Any Size.



The UniMelt process advances manufacturing beyond co-precipitation

- Save steps, time, energy, and cost
- Eliminates co-precipitation, washing, and long calcination
- Lithium included, not necessary to add separately and heat treat
- Total control over formulation
- Rapid development spins

UNIMELT IS SUSTAINABLE AND ECONOMICAL WHEN COMPARED TO CO-PRECIPITATION

LOWER COST

 **50-60%**
Cost Reduction

WASTE

 **ZERO**
Hazardous Waste

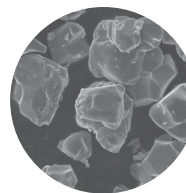
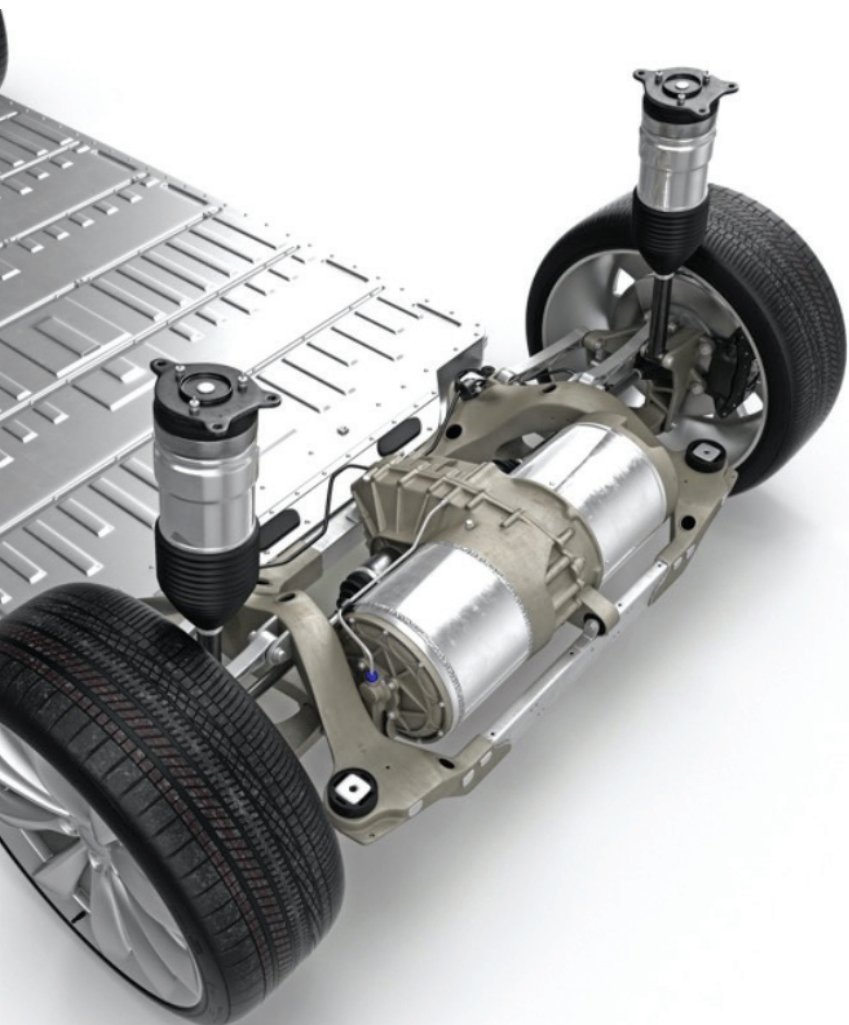
WATER USAGE

 **10x Reduction**
in Water Usage

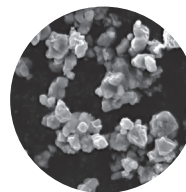
ENERGY USAGE

 **2x Reduction**
in Power Usage

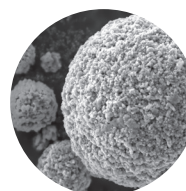
6K ENERGY IS DEVELOPING MATERIALS FOR THE CURRENT AND NEXT GENERATION OF BATTERY TECHNOLOGIES



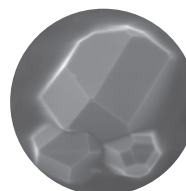
NMC 811 Single
Crystal



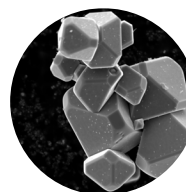
NMC 9.5.5
Single Crystal



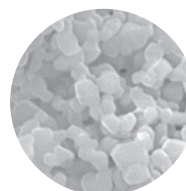
LFP



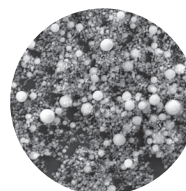
LNMO



LMO



LTO



LLZO

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