ESSENTIAL MINERALS ASSOCIATION

2026 Annual Conference

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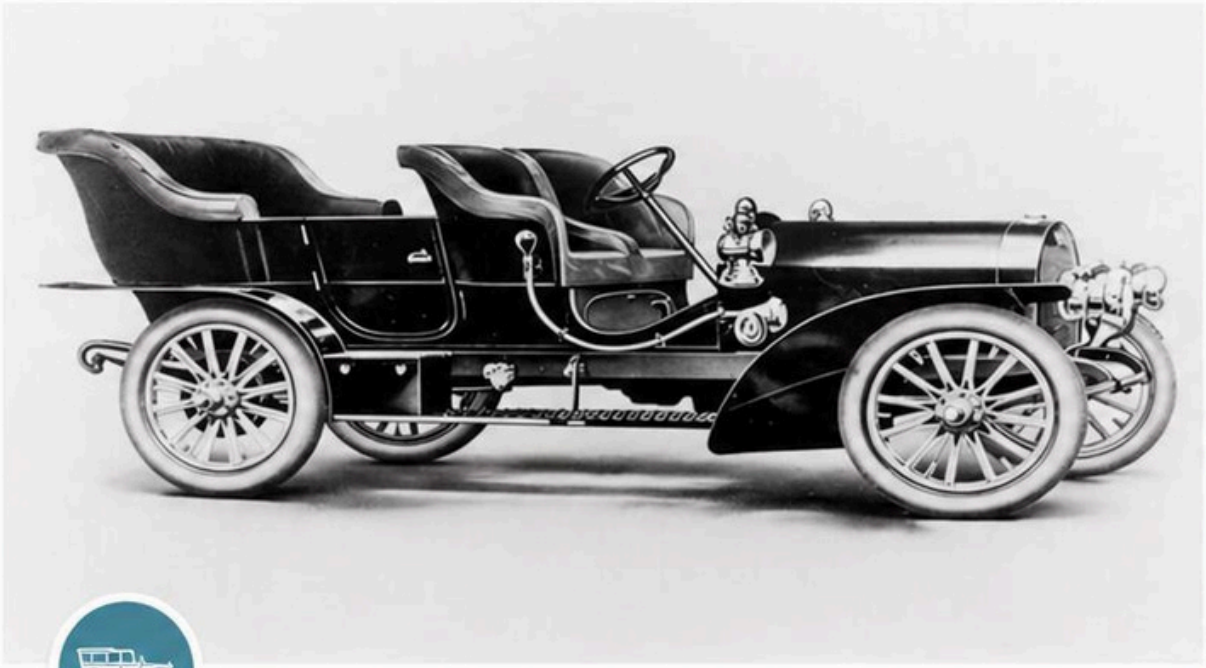
Sturtevant, Inc.

From the First Automatic Transmission to Modern EV Technology



- 1904-1908 Sturtevant Automatic Tourer
- First automatic transmission
- 2 & 3-speed semi-automatic gearbox
- 1906 Price $5,000 - build to order basis

- EV Lithium-Ion Battery technology
- Anode raw Material size-reduction
- Cathode raw material size reduction
- Dry electrode preparation & fibrillation

The Journey of Battery Materials: 6–7 Transport Steps

Geographic Specialization in The Battery Supply Chain

- **Mining:**
  Australia (spodumene), Chile & Argentina (brine)
- **Refining & Chemical Processing:**
  China (dominant in lithium, graphite, rare earths)
- **Active Material Production:**
  China, South Korea, Japan
- **Cell Manufacturing:**
  Asia led; expanding in United States & Europe
- **Battery Pack Assembly**
  United States, Europe, China (near OEMs)

Why Geographic Specialization Exists

Resource location
(lithium, nickel, graphite)

Processing expertise concentrated in Asia

Capital intensity of refining

Environmental and regulatory differences

OEM proximity for final assembly

Opportunity

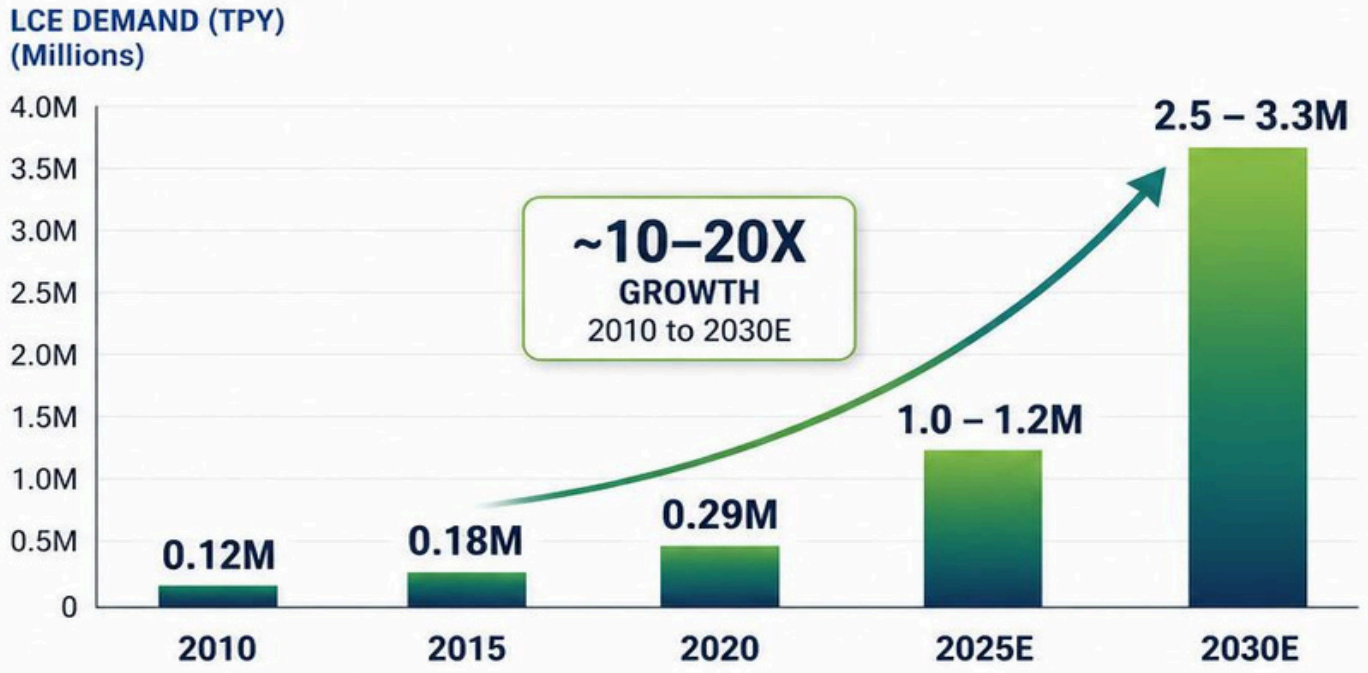
Battery Supply Chain

- US & EU reshoring efforts
- IRA incentives driving domestic buildout
- Reduces transport steps (6.5 → 3-4)
- Creates demand for local processing equipment

GLOBAL LITHIUM CARBONATE EQUIVALENT (LCE) DEMAND GROWTH

From 2010 to Today – Projecting Strong Growth to 2030

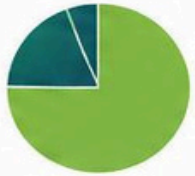
GLOBAL LCE DEMAND GROWTH (TPY*)



EXPONENTIAL GROWTH

Global LCE demand is projected to increase ~10~20X from 2010 to 2030 driven primarily by EV batteries.

BATTERIES ARE THE DRIVER



2015 <30% of global LCE demand from batteries

2030E ~95% of global LCE demand from batteries

KEY GROWTH DRIVERS

- EV Market Expansion
- Higher Battery Capacity
- Energy Storage Growth
- Electronics Demand

LITHIUM DEMAND IS SCALING EXPONENTIALLY
DRIVING MASSIVE NEED FOR COST-EFFICIENT MICRONIZATION

IMPLICATIONS FOR PROCESSING EQUIPMENT

- Massive throughput scaling required through 2030 and beyond
- Energy cost becoming a critical competitive advantage
- Operational efficiency and reliability are essential
- Lower energy solutions support sustainability goals

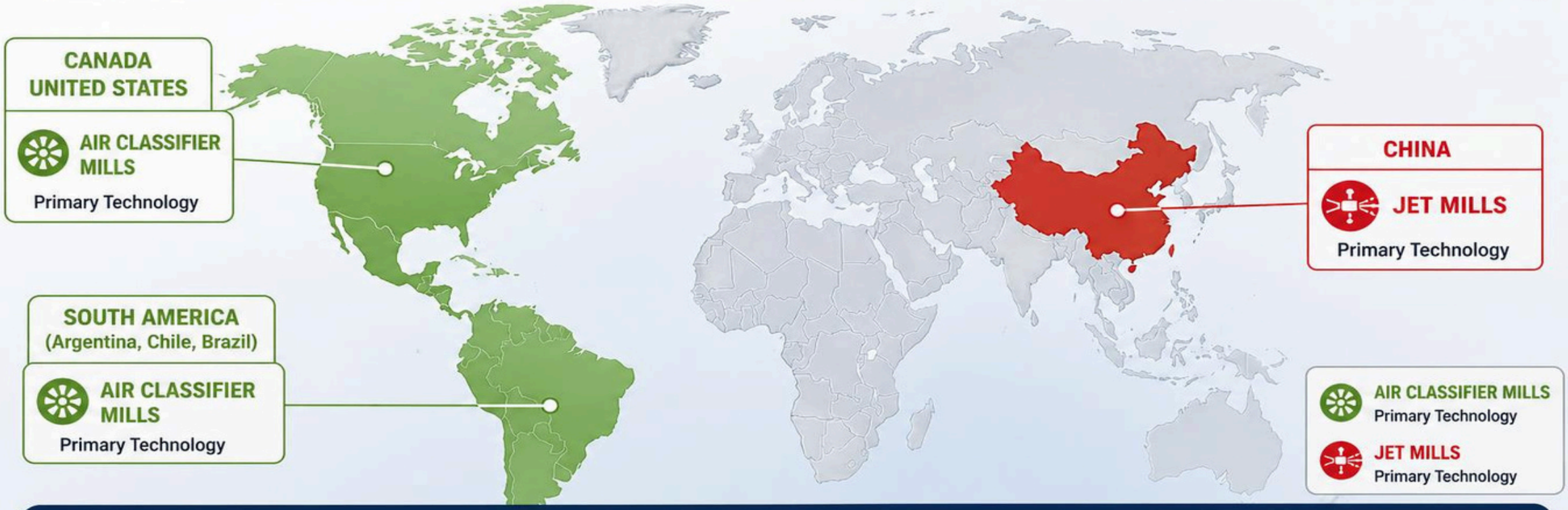
* TPY = Metric Tons Per Year (LCE – Lithium Carbonate Equivalent)

Sources: USGS, Statista, IEA, Benchmark Mineral Intelligence, Roskill, Company Reports

GLOBAL LITHIUM CARBONATE MICRONIZATION TECHNOLOGIES

Different Regions. Different Preferences.

GEOGRAPHIC PREFERENCE BY PRIMARY MILLING TECHNOLOGY



REGIONAL TREND

Air Classifier Mills are the preferred choice in the **US, Canada and South America** driven by high throughput, energy efficiency and lower operating cost.

Jet Mills are predominantly used in China, supported by abundant low-cost energy and a focus on ultrafine particle size requirements.

SAME GOAL:
HIGH QUALITY BATTERY GRADE LITHIUM CARBONATE

BATTERY DEMAND is driving capacity expansion globally

EFFICIENCY MATTERS
Lower energy. Lower cost. Sustainable future.

RIGHT TECHNOLOGY. RIGHT REGION. RIGHT RESULTS.

Note: Regional preferences based on current industry practice and announced projects.

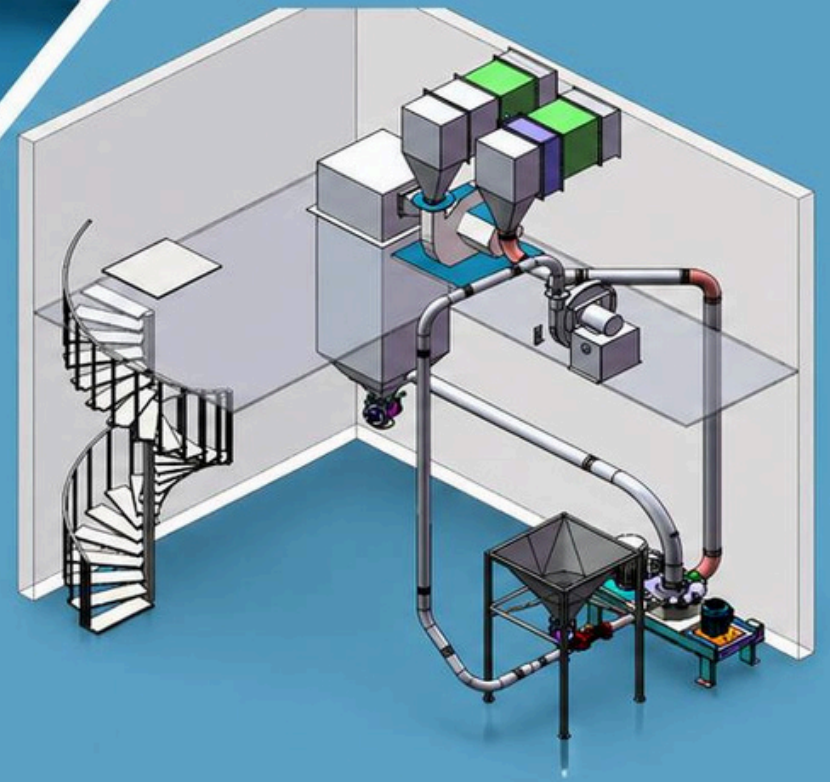
Micronizing Battery-Grade Lithium Carbonate

- FCM - Air Classifier Mill Systems
- Micronizer - Jet Mill Systems
- Compaction + FCM Milling

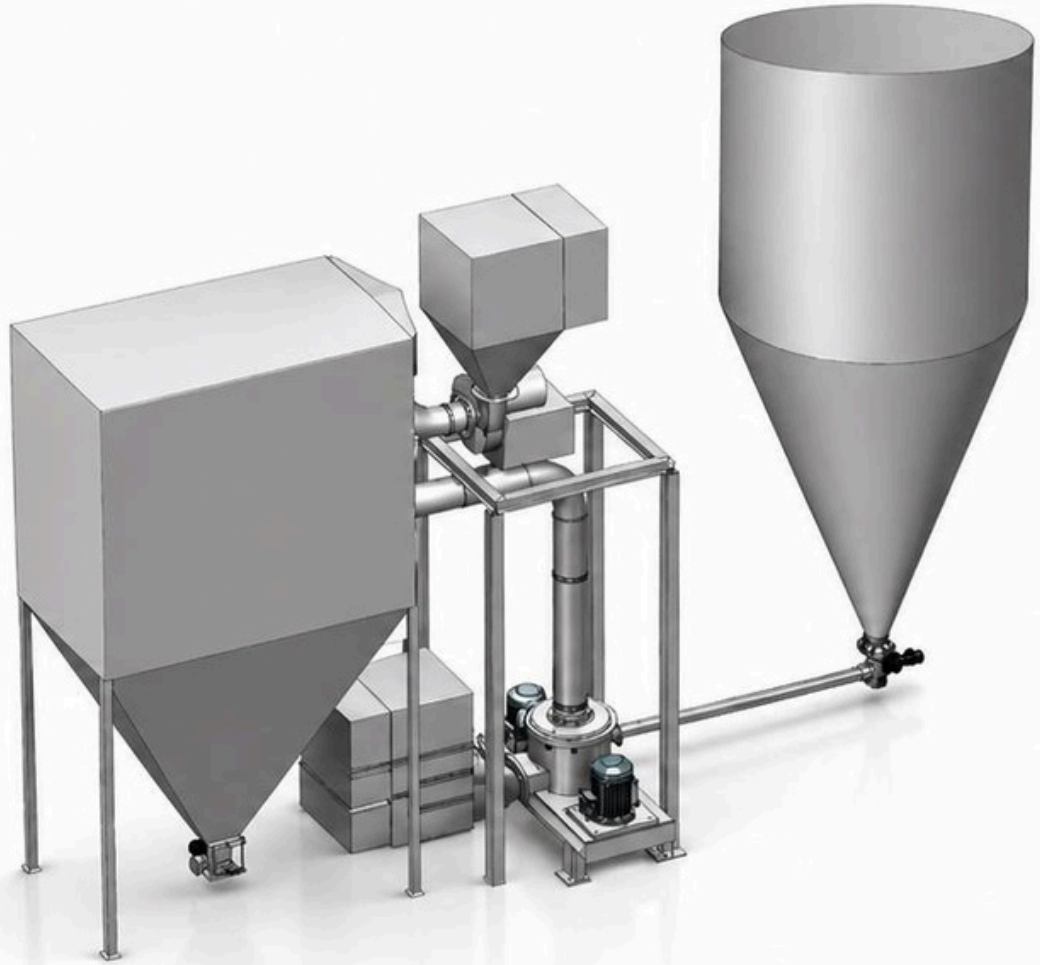
Suppliers of micronization equipment have adapted to specification changes

- The particle size distribution specs for battery-grade lithium carbonate has tightened
- Metal contamination specs have tightened
- Wet verses dry particle size analysis is better defined

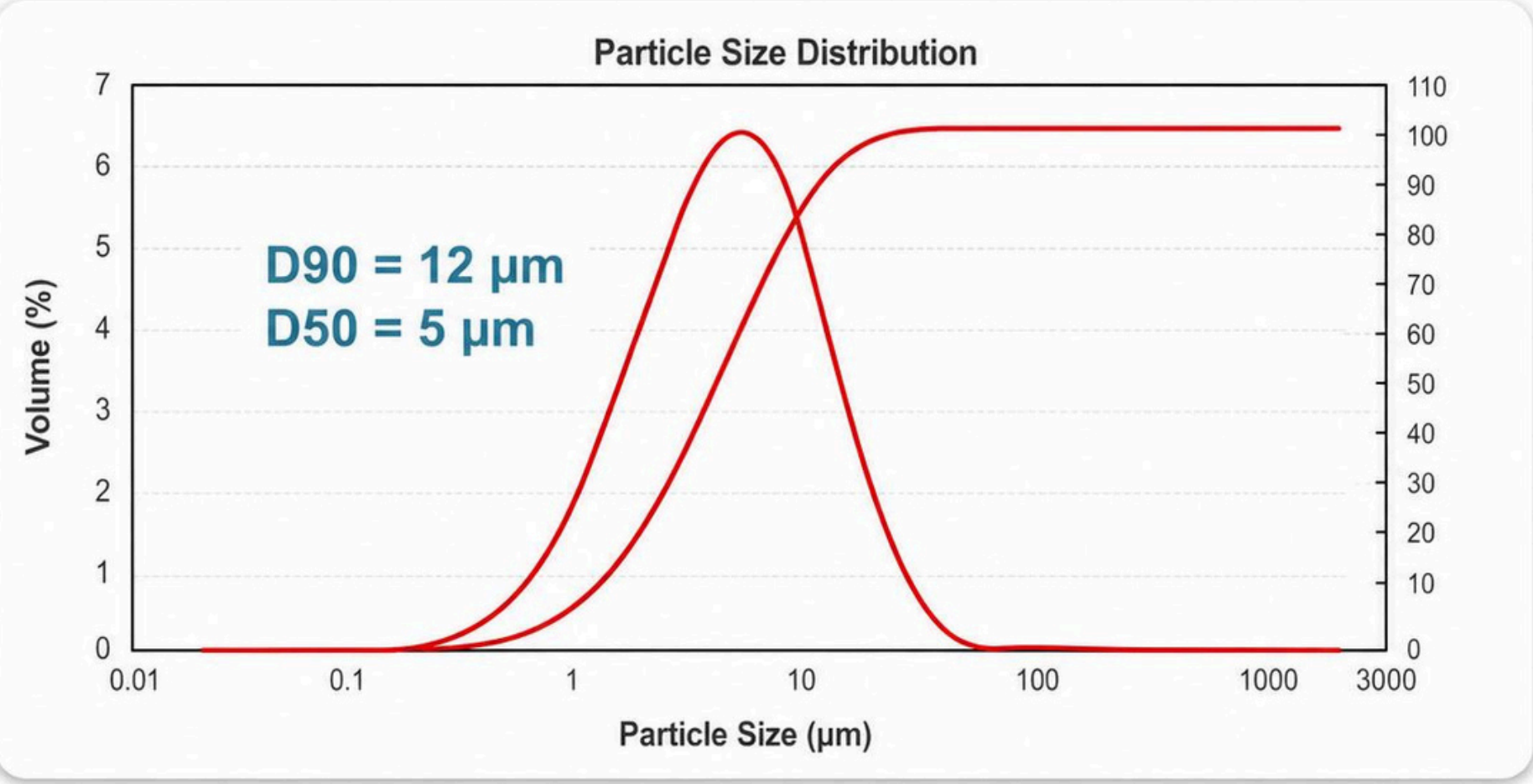
FCM
Air Classifier Mill



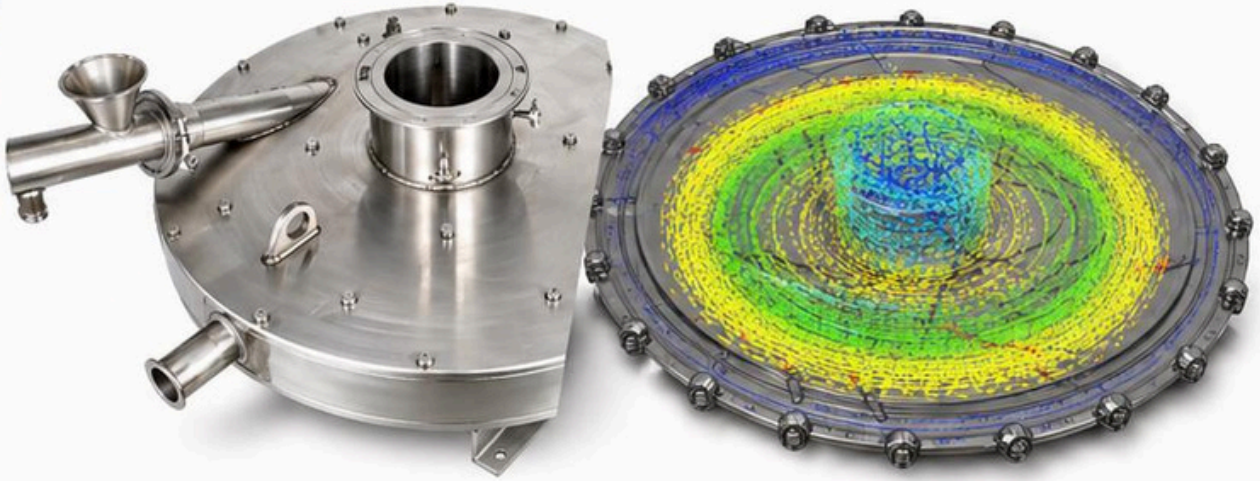
FCM Advantage



Energy Savings



FCM Milled
Battery-Grade Lithium Carbonate

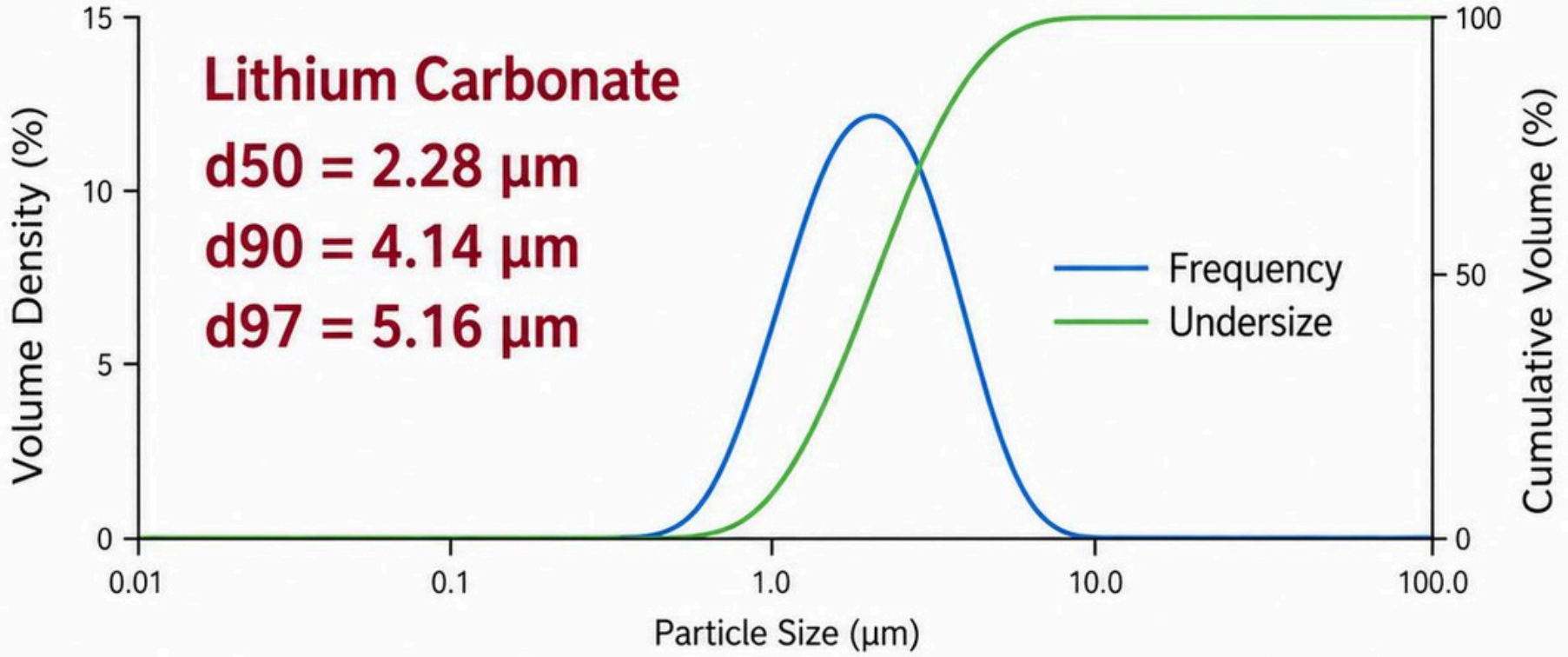


The Micronizer™

Micronizer Jet Mill Advantage

Finer Particle Size Distribution

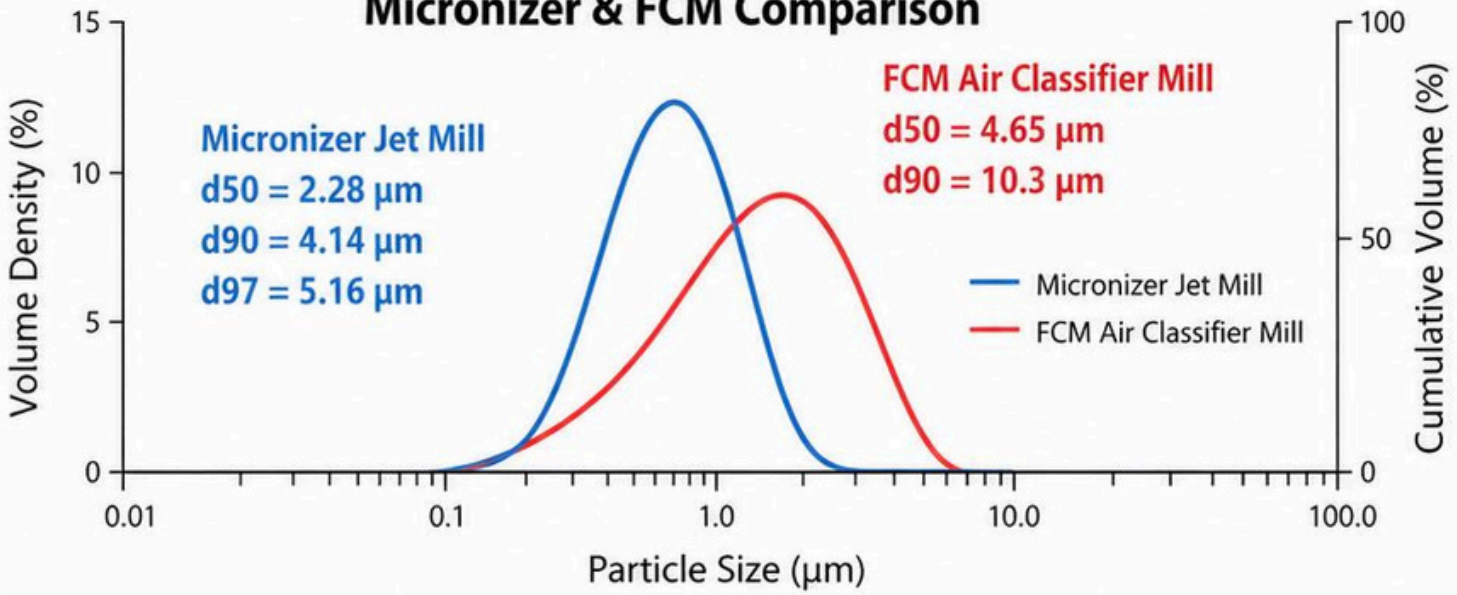
Micronizer Jet Mill



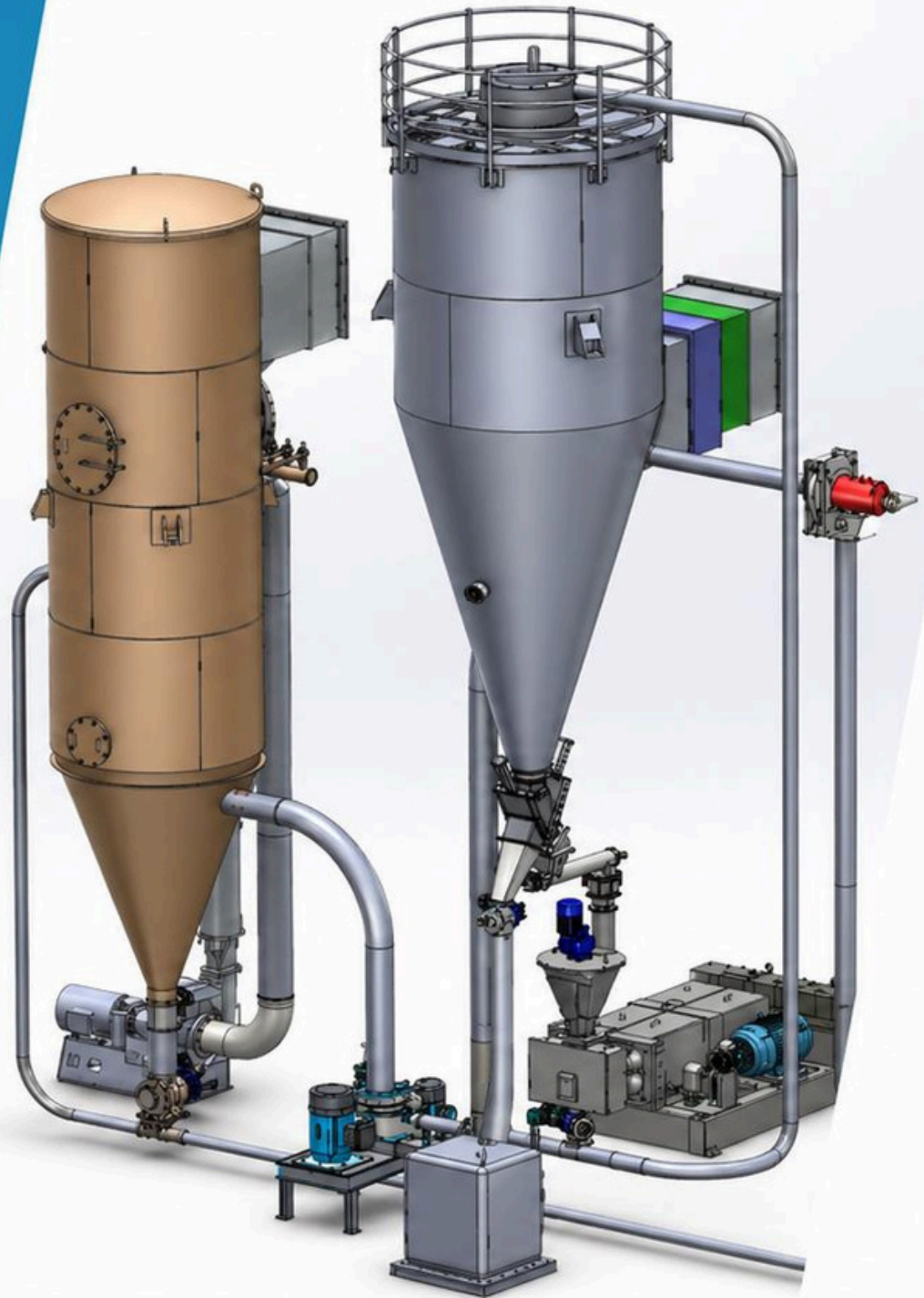
Ultra-fine Battery Grade Lithium Carbonate

Milling Lithium Carbonate

Micronizer & FCM Comparison



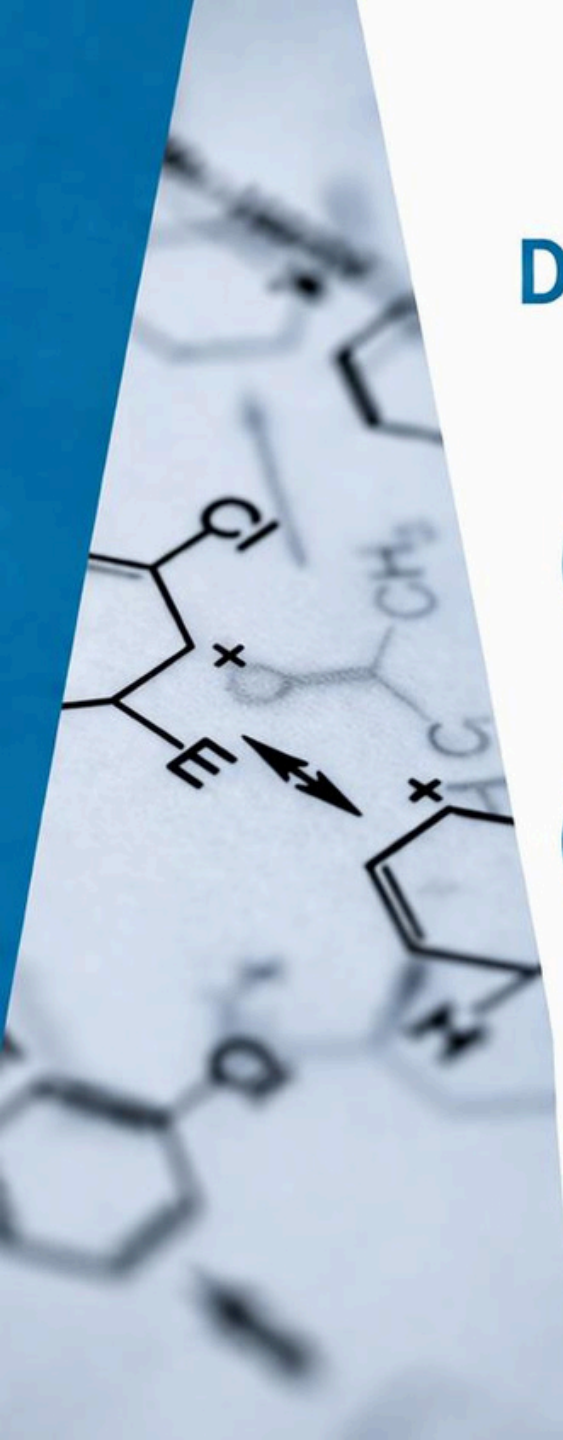
Comparing PSD's



Compaction Followed by FCM Mill System

Why Compaction Before Micronizing

Improved Mill Efficiency Through Densification of Lithium Carbonate Powder



- **An abundance of fine particles** cushions the impact of collision.

- **The collision forces from the lighter mass** limits the effect of impact. By compacting the powder into dense briquettes, the collision forces are greater, causing particles to fracture more easily.

- **The denser and heavier mass** keeps material in the grinding zone longer and prevents non product sized fines from floating above the grinding zone.

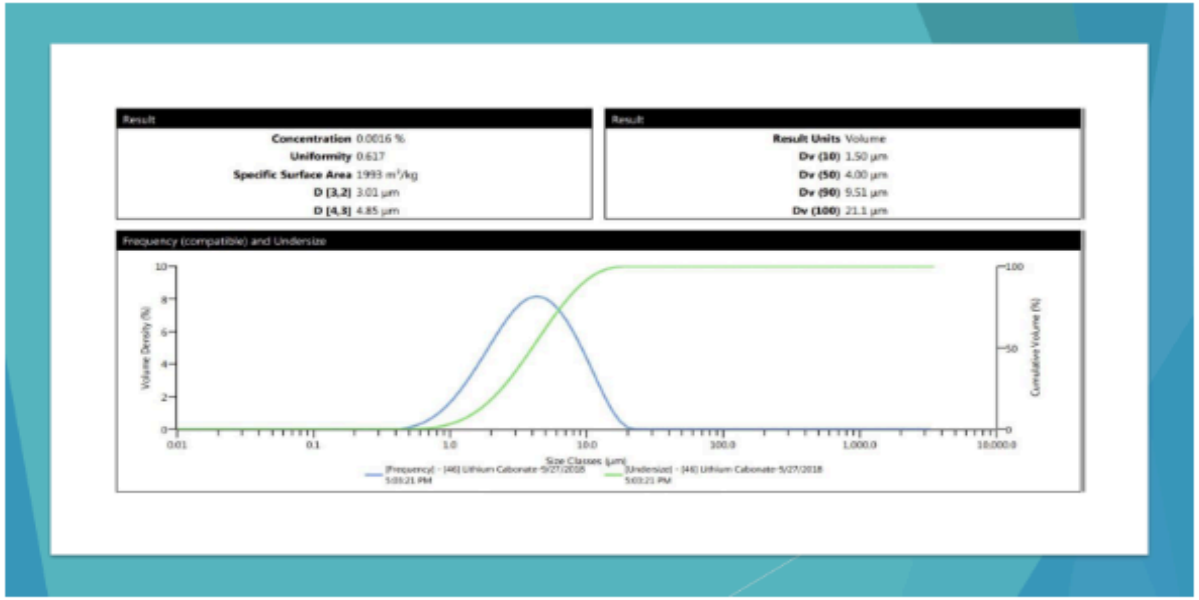
Operational Improvement #1

Improves Product Fineness

By improving the mill efficiency, you can shift the particle size distribution finer.

Instead of maxing out at a d50 of 5 micron and d90 of 13 micron, you can achieve a d50 of 4 micron and d90 of 10 micron.

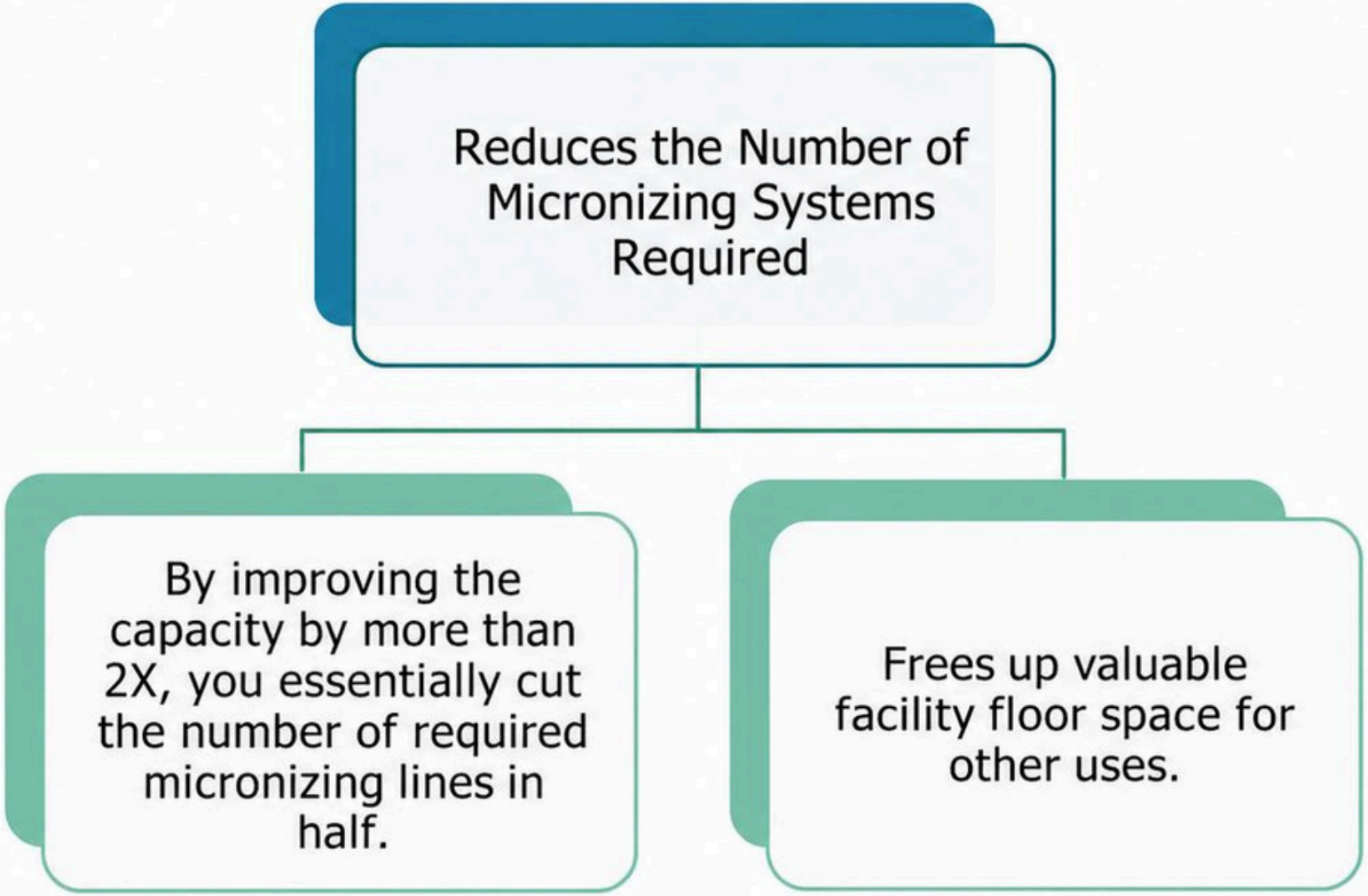
Particle Size Distribution Results



Key Metrics
Dv(10): 1.5 µm
Dv(50): 4.0 µm
Dv(90): 9.5 µm
Uniformity: 0.62
Surface Area: 1993 m²/kg

Key Insight:
Narrow particle distribution centered around ~4 µm with high uniformity.

Operational Improvement #2



Operational Improvement #3

Much Lower Energy Usage

- Significantly more production with the very little added HP means lower per ton cost.
- A typical mill-only micronizing circuit uses approximately 135 kwh per metric ton compared to about 75 kwh per metric ton when using compaction.

Maximum Advantage

Doubles Your Production Capacity

We are equipped with a large range of Pilot-plant process equipment, to run scale-able trials

- Compact/briquette Lithium Carbonate (or Hydroxide) at rates from 200 kg/h to 2,000 kg/h.
- Fine grind/micronize to Battery grade PSD (Particle Size Distribution) - and laser analyze.
- Granulate to process coarse Glass Grade Lithium Carbonate, RoTap or Air-sieve analyze.
- Pre-classify in our Superfine Air Classifier, to determine how large amount fines is to spec

STURTEVANT
SINCE 1883

THANK YOU

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