



Cirba® Solutions

Battery Management & Materials

**EMPOWERING** an *Electric Future* to  
Accelerate Human **PROGRESS.**



Canada ▪ Arizona ▪ California ▪ Indiana ▪ Michigan ▪ North Carolina ▪ Ohio ▪ South Carolina

# Cirba Solutions: *Shifting the Paradigm*



# Overview

- Founded in **1991 (30+ Years of Experience)**
- **Headquartered** in Charlotte, NC, USA
- **6** Strategically located facilities
  - Arizona, California, Michigan, Ohio, & British Columbia
  - 7<sup>th</sup> facility to be in South Carolina
- **Handle all battery formats and chemistries**
  - Specialize in DDR
- **Feedstock** EOL batteries, EV batteries, production scrap, portable electronics, post-consumer, energy storage systems, healthcare and more
- **Shredding and Hydrometallurgy** processing approach
- Return **Critical Minerals (Li, Ni, Co, Mn)** back into the **Domestic Battery Supply Chain**

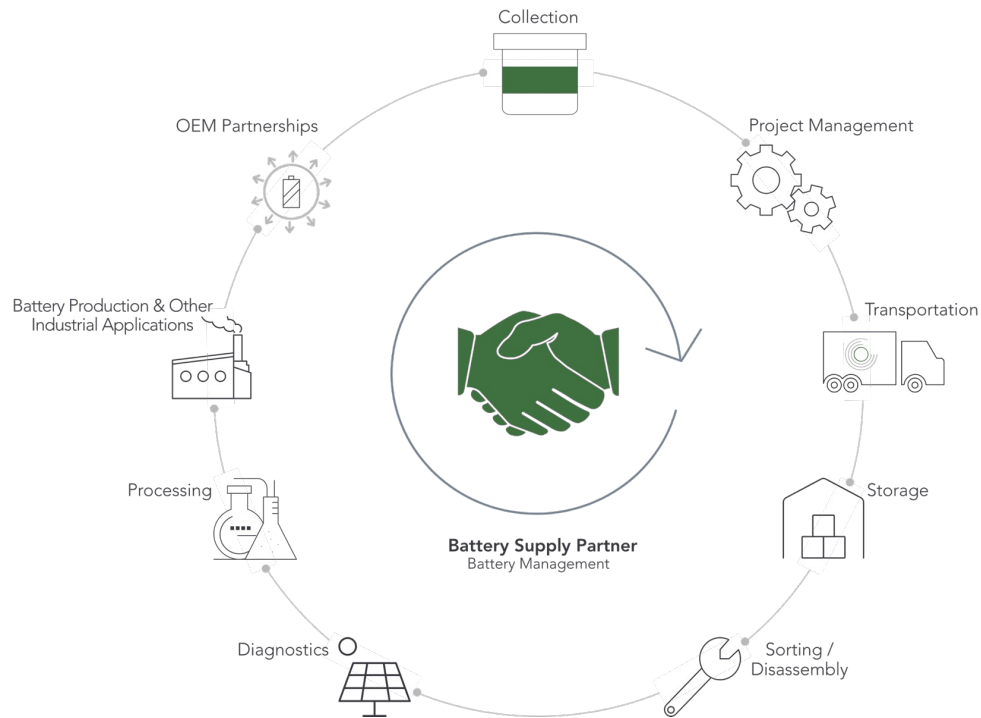




Battery Recycling Leader

# Comprehensive Solution for the Battery Supply Chain

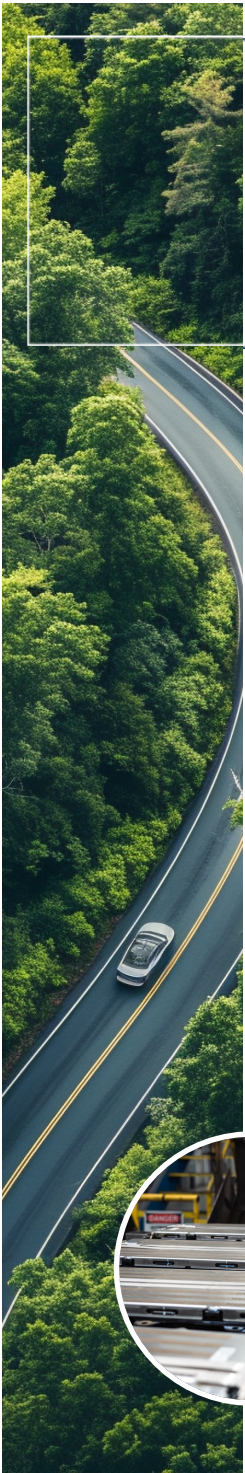
## Value-Added Products and Services



## Serving All Battery Formats

Type	Illustrative Battery Form Factors		
Lithium Ion			
Lithium Primary			
Lead Acid			
Nickel Cadmium			
Nickel Metal Hydride			
Alkaline and Others			

*The most advanced battery management solution in the industry that enables a true closed loop supply chain.* There are multi-battery waste streams, and they need high-touch services, Cirba Solutions' proven ability to provide a comprehensive solution is an advantage in ensuring batteries are responsibly recycled.



# Driving battery recycling.

*Higher standards. Lower emissions. It's how we look out for each other, and the planet.*

Like certainty? So do we.

- Hazmat transport certified drivers are trained to handle battery loads: LTL or FTL
- Coast-to-coast coverage
- Specialized fleet focused on battery safety
- Reliable pickups
- Tracking and transparency of orders
- Packaging solutions
- Flexible loading options



Our Certifications

DOT



IMDG



HAZWOPER

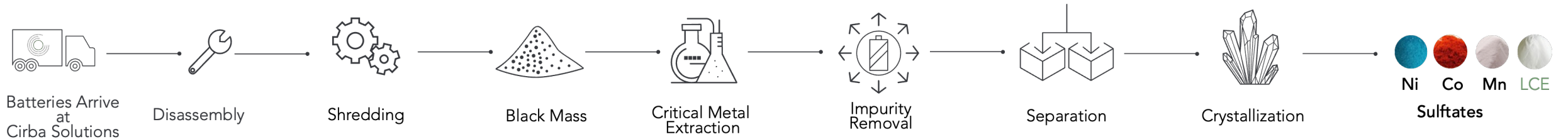


HazMat

THE PROCESS

# End-to-End Approach to Battery Recycling

Processing is a core and proven capability of Cirba Solutions, and our demonstrated technologies allow us flexibility and adaptability to meet changing market needs.



*This approach enables a closed loop supply of critical battery materials.*





## Sustainable Content & *Expanded Access to Critical Materials*

- **Black Mass** Processing Expansion of 600%
- **Hydrometallurgy** Processing for Battery-Grade Metal Sulfates
- **300+** new clean energy jobs in Ohio and South Carolina
- More than **\$2 billion in investment**
- Lancaster, Ohio expansion and Columbia, South Carolina facilities combined will provide enough **battery-grade salts** for more than **750k EV batteries annually**



# 30 Years of Industry Leading Compliance & Safety –

we are the destination for battery safety.

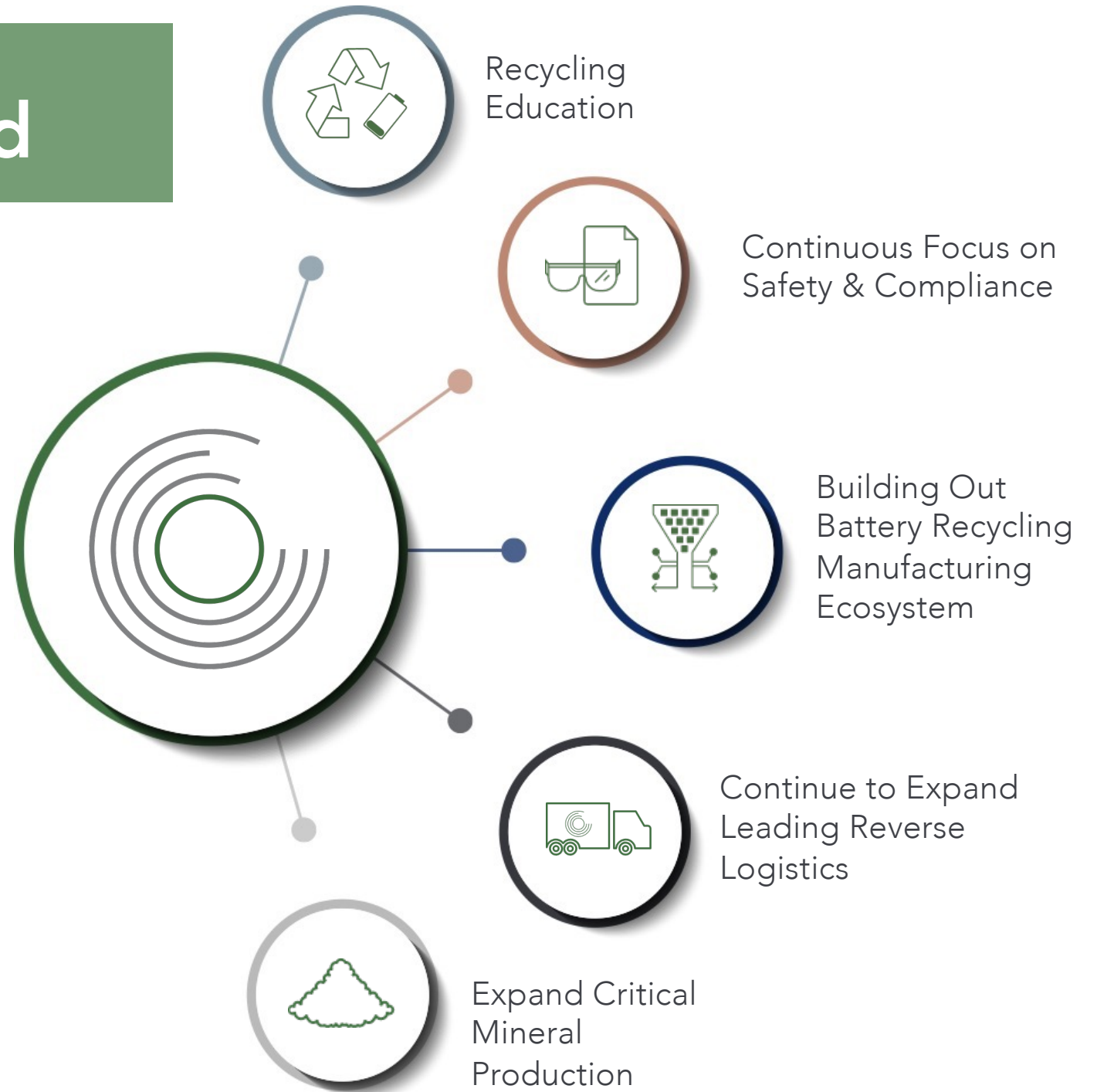
The market demands **compliance and safety**, even more so now with evolution of battery technology – this is what we do.

- Robust protocols in personal safety, handling, packaging, transport and more
- Certifications focus on recycling
- Training programs for staff on safety and environmental impact
- Transparent reporting to customers
- Industry partner in education



BATTERY RECYCLING

# Scaling to Meet Demand



# ReMA Position on Non-Embedded Small & Medium Format *End-of-Life Battery Management*



Recycled Materials  
Association  
*Sustainable. Resilient. Essential.*





# Non-Embedded Small & Medium Format *End-of-Life Battery Management*

- **Consumer Education and Outreach** must be prioritized to ensure public safety, responsible recycling, and ongoing community engagement.
- **Funding** paid for by the producers of the battery or battery-containing product, covering collection, transportation, processing, and public education, as well as an infrastructure assessment to guide safety and detection investments.
- **Battery Stewardship Organizations (BSOs)** should operate in coordination and with state oversight to arrange for the collection and recycling of battery formats they represent.





## Non-Embedded Small & Medium Format *End-of-Life Battery Management*

- **Independent Collection and Management of Batteries by Recyclers** should not be restricted if collection is recorded and reported, and batteries are responsibly managed according to the law.
  - **Covered Battery Formats** have different requirements for safe and responsible collection, packaging, transport, and processing that should be accounted for, and collectors should not be required to handle formats they are not properly trained and equipped to handle.
  - **State Oversight** in coordination with a stakeholder Advisory Committee should ensure against flow control and market access imbalances and ensure confidential and secure data reporting to the state or a third party, non-vested entity.
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## Non-Embedded Small & Medium Format *End-of-Life Battery Management*

- **Design for Recycling** must be encouraged for battery manufacturers and producers so that batteries can be safely used by consumers and reused, repurposed, or recycled at end of life.
- **Civil Actions and Penalties for Improper Disposal** should be included for grossly negligent or knowing actions by commercial entities, and BSOs should provide collection from recyclers receiving batteries they cannot accept.



# Questions





Cirba<sup>®</sup> Solutions

Battery Management & Materials

**The Future  
is Electrified.**

Our standards set us apart.  
Our services & technologies move you forward.  
Real experience and proven results.

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[cirbasolutions.com](http://cirbasolutions.com)