LOHUM

Where Critical meets *Infinite*

Our Mission

To become the world’s largest diversified producer of sustainable critical materials

What are Critical Minerals

They are used in everything around us

$800 B

Market Size

$40 T+

Dependent Industries

Sector	Energy Transition				Advance Electronics			Healthcare	Aerospace
Technology	EV & Battery	Solar	Wind	Hydrogen	Semi Conductors	Industrial Electronics	Consumer Electronics	Medical Devices & Drugs	Alloys
Material Used	●●●●	●●●●	●●	●●●●	●●●●●	●●●	●●●	●●●●●	●●●●

Copper | Zinc | Titanium | Palladium | Lithium | Platinum | Nickel | Silicon | REE | Cobalt | Graphite | Gallium

− +

Other Materials

PGE | Tellurium | Tin | Phosphorous | Potash | Zirconium | Molybdenum | Antimony | Beryllium | Niobium | Tungsten | Magnesium | Hafnium

Strontium | Boron | Manganese | Bismuth | Germanium | Indium | Tantalum | Vanadium | Rhenium | Selenium | Cadmium

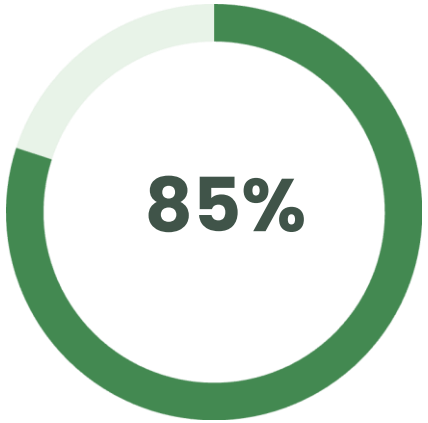
Source: Lohum's Analysis

Critical Materials - Creating a Circular Economy

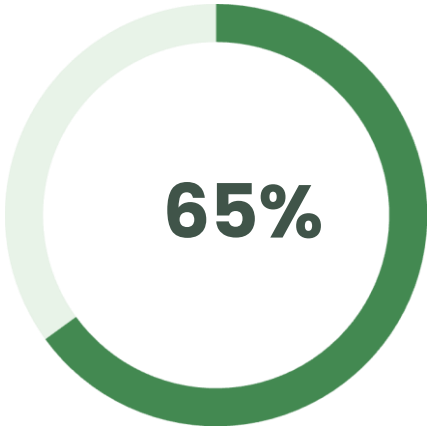
Processing Innovation
State-of-the-art refining technologies producing battery-grade materials

Recycling Excellence
Advanced recovery of lithium, cobalt, nickel from battery waste streams

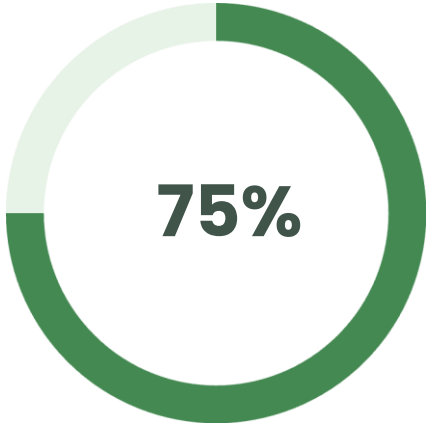
Manufacturing Scale
Integrated production of cathode active materials and precursors



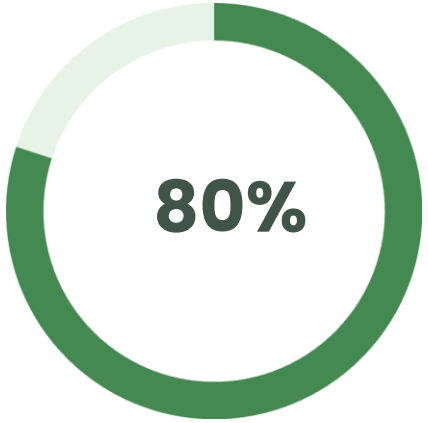
Energy Usage
Less energy needed compared to primary mining operations



Waste Reduction
Less waste generation compared to primary mining operations



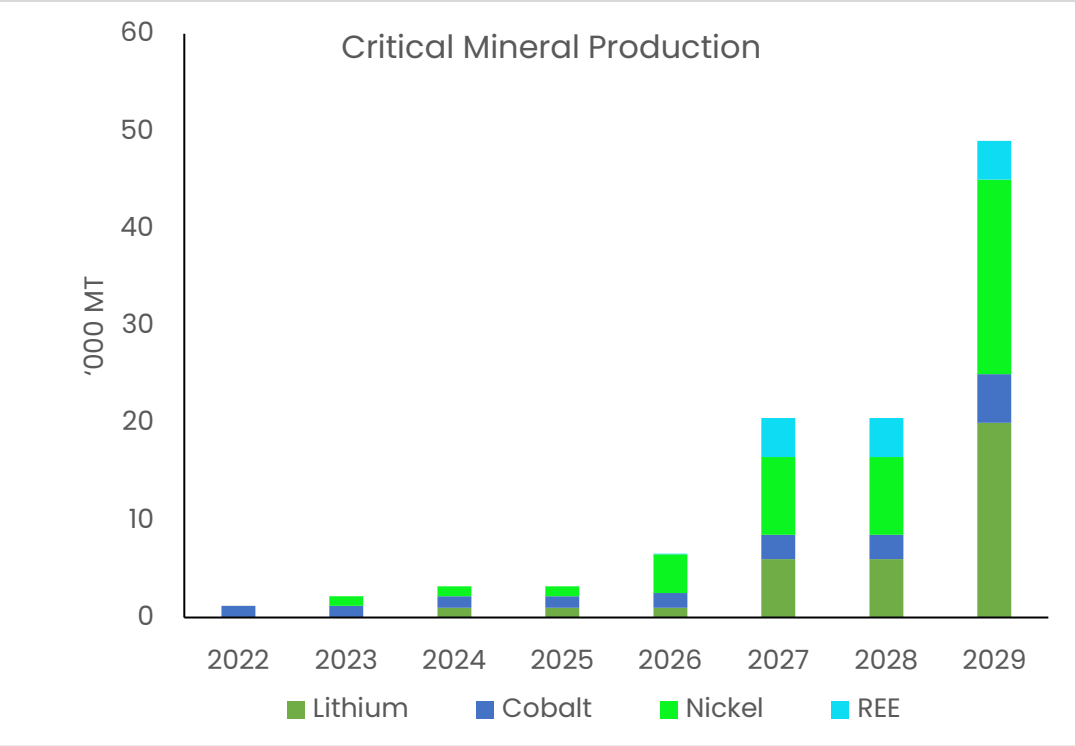
Emission Reduction
Lower carbon footprint through circular processing methods

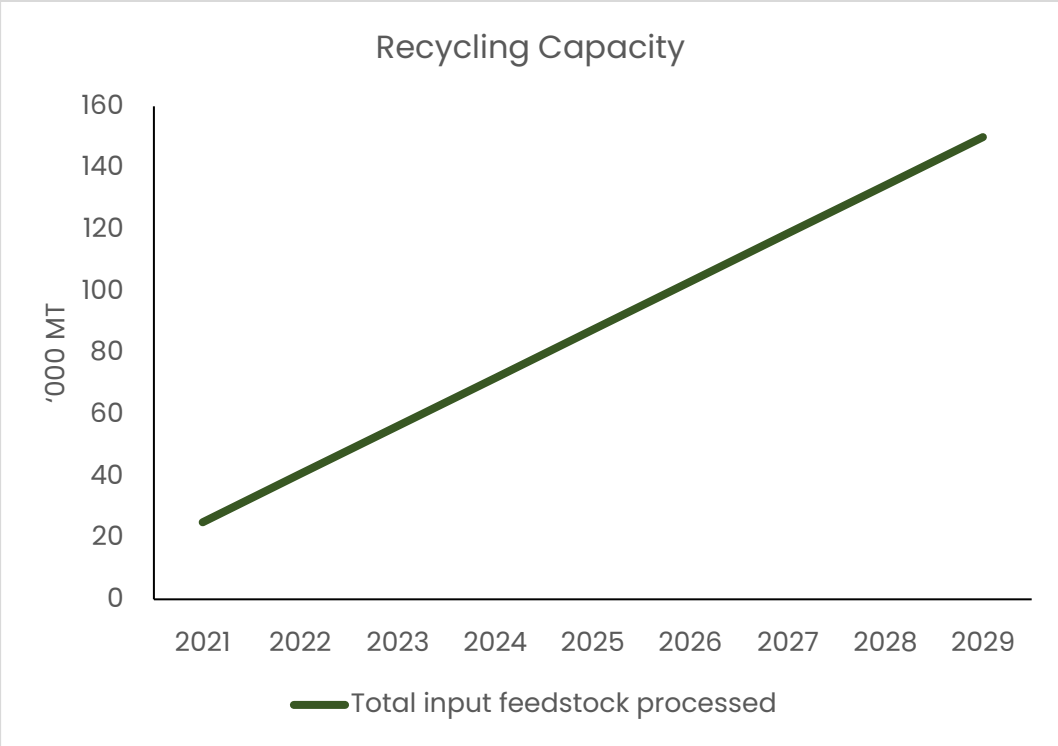


Water Savings
Reduced water consumption versus traditional extraction methods

Source: International Energy Agency

LOHUM Success and Growth





1200

Expert Workforce

Skilled professionals driving innovation in critical minerals processing

90%

Market Leadership

Dominant share in India's lithium-ion battery recycling sector

12

Upcoming & Existing Facilities

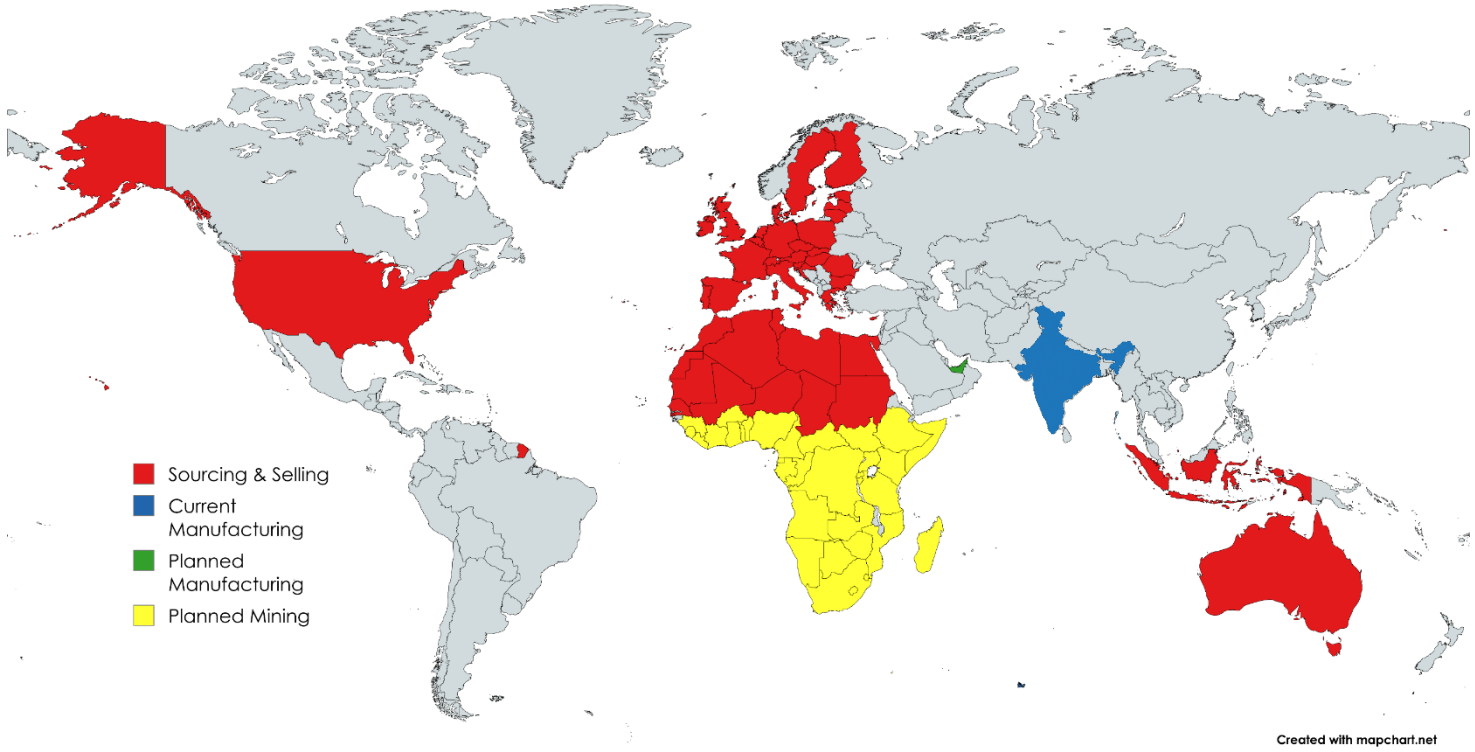
Across India with combined production capacity exceeding 50,000 tonnes annually

Source: Lohum's Analysis

Our Mission-Vision and Global Footprint

To be the world's leading integrated critical minerals company. Driving a clean energy transition powered by circular production of critical minerals while reducing dependence on mining.

Lithium-ion Batteries	90% recycling share
Lithium	Largest Refinery
Cobalt	Largest Refinery
Nickle	Largest Second Refinery
Cathode Active Material	Only NMC Manufacturer
Platinum Group Metals	Only catalytic converter & catalyst refinery
REE & Magnets	Only end-to-end facility, commissioning 2025



LOHUM's Journey to Global Leadership in Critical Materials

Key Sectoral Challenges

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Collection

Fragmented informal networks require systematic organization and training

Low Rate of Formal Collection

5%
Battery Waste

25%
E-Waste

Processing

Developing indigenous technologies for efficient material recovery

Lithium Recover Rates

60%
Global

90%
Lohum

Downstream Integration

Building robust supply chains connecting recyclers to manufacturers

Nascent Recycling Technology

~0 tons
CAM

<1Gwh
Cell Manufacturing

Source: IEA, UCS

Policy Drivers Powering India's Critical Mineral Ecosystem

Battery Waste Management Rules

EPR Market Size (FY25-26)
Battery - ~$30 million
E-Waste - ~$350 million

EPR Certificates1.096 million MT
(0.729 Million MT achieved)

All producers and recyclers must register via centralized EPR portal **(3,664 producers and 442 recyclers)**

National Critical Mineral Mission

Budget Outlay
~ $4 billion
(**~$150 million** for recycling)

1200 Exploration Projects

400 kt Total Recycled Material

Foreign Mines acquisition **26 by PSUs, 24 by private entities**

ANRF Fund

Budget Outlay
TRL 1,2,3 - **~ $6 billion**
TRL 4,5,6,7,8 - **~ $11 billion**

Target Areas:
1. Natural Sciences
2. Mathematical Sciences
3. Engineering & Technology
4. Environmental & Earth Sciences
5. Health & Agriculture Sciences

Source: PIB , MoM, BWMR, MoEFCC, ANRF, IEA

India-Japan Partnership: Scaling Critical Mineral Innovation

Critical Mineral Ecosystem in India: Investment Opportunity

$5 B+

Equipment market size

Investment Support

Financial backing for infrastructure development and manufacturing capacity expansion

1 M jobs

Workforce Opportunity

Workforce Development

Skills training programs & technical expertise building partnerships

$500 M +

Revenue through Tech licensing

Technology Collaboration

Knowledge transfer and joint R&D initiatives for advanced processing techniques

Source: Lohum's Analysis

India-Japan Partnership: Scaling Critical Mineral Innovation

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Critical Mineral Collaboration

MOC Memorandum of Cooperation	**Primary Objective** Diversify & secure critical mineral supply chains	**Joint exploration** Mining Tech Transfer Policy Dialogue
MSP Minerals Security Partnership	**Primary Objective** Global critical minerals supply chain security	**Policy coordination** Infrastructure Projects
IREL Indian Rare Earths Limited	**Primary Objective** Rare earth processing and magnet manufacture	**Joint ventures** Domestic Processing Emphasis

Source: Lohum's Analysis

今日、地球の明日を守る。

持続可能な重要鉱物の生産と統合されたバッテリーライフサイクル管理を通じて気候技術を進歩させます。

Thank you!

ありがとう

Annexe: Japan's EPR Targets & Mechanisms

Key Policy Features	IN India – Battery Waste Management Rules (2022)	JP Japan – Resource Recycling Framework
System Type	**Market-based credits** — recyclers earn tradable EPR credits; producers buy to meet targets	**Fixed recycling fees** — producers/consumers pay pre-set fees; no credit trading
Pricing Model	**Market-linked**, **no floor price**; credit value moves with Li/Co/Ni prices & recovery costs	**Govt-set fees** act as a **de facto floor**, ensuring recycler cost recovery
Coverage	All **battery chemistries** (portable, EV, industrial, automotive)	**Batteries, appliances, packaging, vehicles**
Traceability	**CPCB portal + QR/barcodes** (QR/EPR IDs mandatory by 2025)	**e-Manifests, barcodes, public reporting** (METI/MoE)
Recycling Results	**EPR Credits:** **Lithium:** Target 83,723t → Credits 418t **(0.5% compliance)** **Cobalt:** Target 3,018t → Credits 2,573t **(85% compliance)** **Nickel:** Target 616t → Credits 503t **(82% compliance)**	**Home Appliances:** 15.26 million units recycled nationwide **End-of-Life Vehicles:** ~**95% material utilization rate** **Small Appliances:** 20% national collection target by weight **Overall Efficiency:** Major product categories maintain **80–90%+ recovery rates** across Japan
Budget (USD)	**≈ $3.96 billion (FY24-31)** —National Critical Minerals Mission **≈ $179.6 million (FY26–31)** —Recycling Incentive Scheme	**≈ $11.51 billion (FY24)** —Climate & Energy Budget **≈ $3.97 billion** —Green Transformation (GX) Fund
Goal	Build a **formal recycling market**, reduce import dependence, boost circularity	Ensure **stable, high-efficiency recycling** and national cost recovery

Source: PIB, MoEFCC, CPCB, Government of India Budget,, CEEW, METI, MoE Japan, JARC, JBRC, OECD.