



[www.attero.in](http://www.attero.in)

# ATTERO

## Materials Reborn

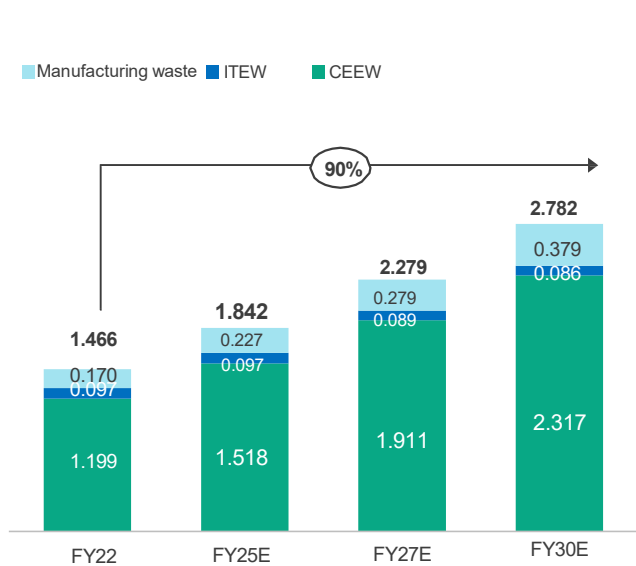


## Problem we are Addressing – Growing E-waste

Exponential rise in EEE waste Generation in majorly from CEEW, ITEW, Manufacturing waste

Global Demand for LiB expected to be dominated by Transportation (PVs & CVs) accounting for 66% of battery demand

### E-Waste Generation in India (MMT)

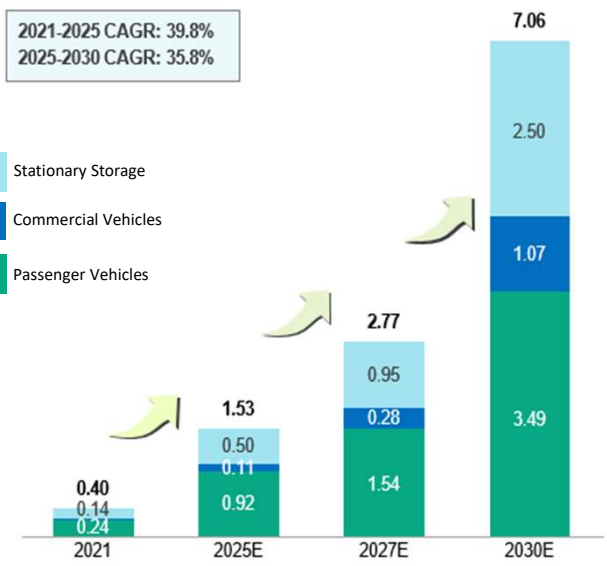


**Stationary Storage** Battery storage systems are crucial for integrating high shares of solar and wind energy. EV advancements are driving grid-scale LFP battery adoption and cost reductions.

**Commercial Vehicles** Battery electric commercial vehicles are projected to reach 20% of the light commercial vehicle market and 10% of the medium-heavy commercial vehicle market by 2030.

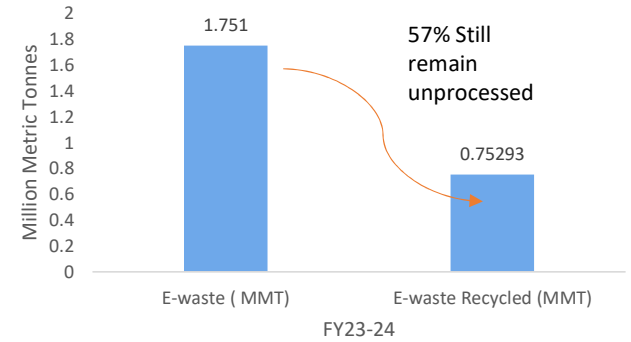
**Passenger Vehicles** Passenger EVs are driving global Li-ion battery demand, with increasing battery capacity enhancing energy efficiency and range per charge.

### Global LiB Market (TWh)



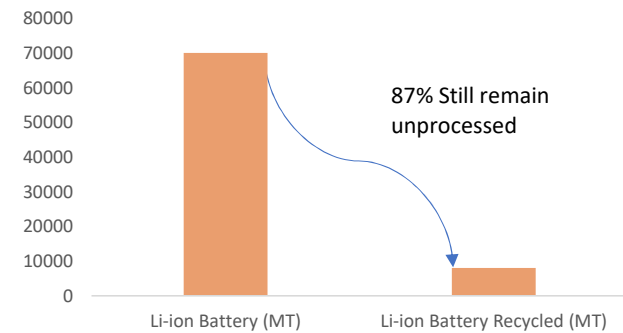
2021-2025 CAGR: 39.8%  
2025-2030 CAGR: 35.8%

### E-waste Generated & Recycled FY23-24 in India



Source: <https://www.downtoearth.org.in/waste/indias-e-waste-surges-by-73-in-5-years>

### Li-ion Battery Generated & Recycled FY23-24 in India



Source: <https://www.downtoearth.org.in/waste/indias-e-waste-surges-by-73-in-5-years>

Source: EYP Analysis

Note: EV: Electric Vehicles, BEV: Battery Electric Vehicles, MHCV: Medium/ Heavy Commercial Vehicles, LCV: Light Commercial Vehicles

# Attero: The Most Advanced E-Waste & Li-ion battery Recycler

## World's Largest Urban Miner

Proven Technology for Lithium Refining, LiB Recycling and E-Waste recycling backed by **45+ granted global patents**



Unique ESG leadership with **UNFCCC approved** carbon credit methodology for zero-waste operations



ATTEERO

With cutting-edge **intellectual property (IP)** and sustainable practices that set us apart as global leaders in the field



Our proprietary processes allow **high-quality materials recovery** with unprecedented efficiency.



### Globally Most Advanced Li-B Recycling Platform

- ✓ **2000 TPA** LiB Recycling capacity (commercially operational since 2019), expanding to **7,500 TPA**
- ✓ Unique and Proprietary **Mechanical-Hydro Metallurgy** technology, proven commercially at scale and **Proven Profitability** for LFP chemistry
- ✓ **45+ global patents secured**; 200+ patents applied. **Globally highest Recovery Rates\* of 97%+** extracting Battery/Pharma grade range of metals (Cobalt, Lithium Carbonate, Nickel, Graphite, Manganese)
- ✓ **Lowest Capex and Opex per tonne** of LiB batteries processed globally (~\$3,500 /ton vs \$5,000 /ton for peers), offering a modular process and **highly capital efficient / scalable model**

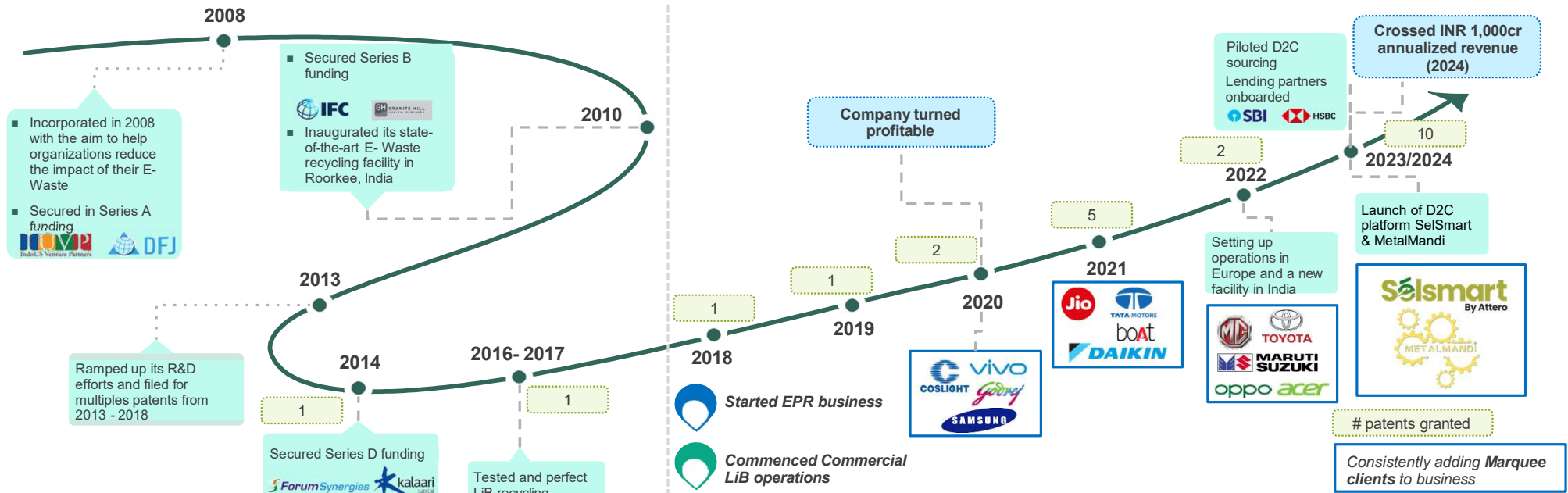
“500Cr Investment till date”

### India's Largest E-Waste Recycler, led by Strong EPR Regulatory Regime

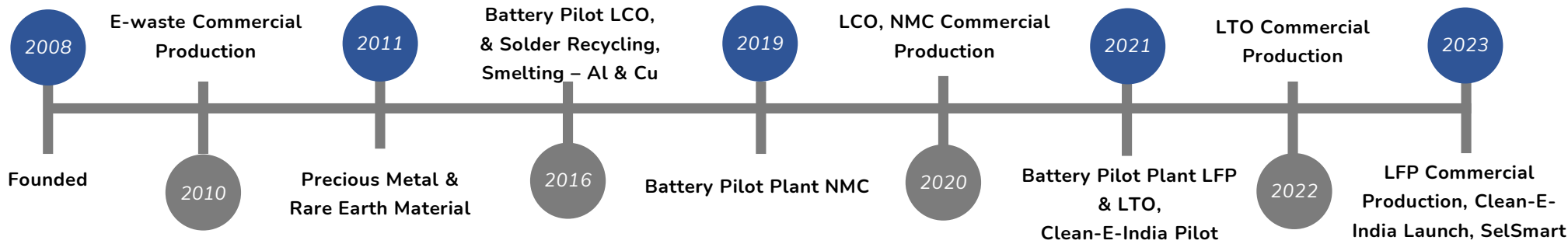
- ✓ **144,000 TPA** E-Waste Recycling capacity (India's largest)
- ✓ Only Indian player with **in-house PCB recycling** operations and **6 patents** - extracting precious and rare earth elements
- ✓ Can extract **20+ metals** including **Gold, Silver, Tin, Copper, Aluminum etc.**
- ✓ **98% recovery rate, 99.98% purity**
- ✓ Leveraging **EPR regime in India** to become the **largest secondary metals producer** for a range of metals in India
- ✓ **Fully de-risked business model**: India's highest number of long-standing EPR contracts with Tier 1 OEMs / suppliers and offtake contracts at premium to LME spot prices

“>1000Cr Revenue in FY24”

# Significant R&D Investments Laying Solid Foundation To Global Leadership



## Technology Evolution



# Attero is the only recycler in India with self-generated patents, along with certifications from an international ESG auditor and ISO 14064 for GHG reduction

## E-waste recycling patents

	Patents	Currently held patents
	✓	45
	✓1	1 (Transferred)
	✗	-
	✗	-
	✗	-
	✗	-
	✗	-

## Key Patents held by Attero

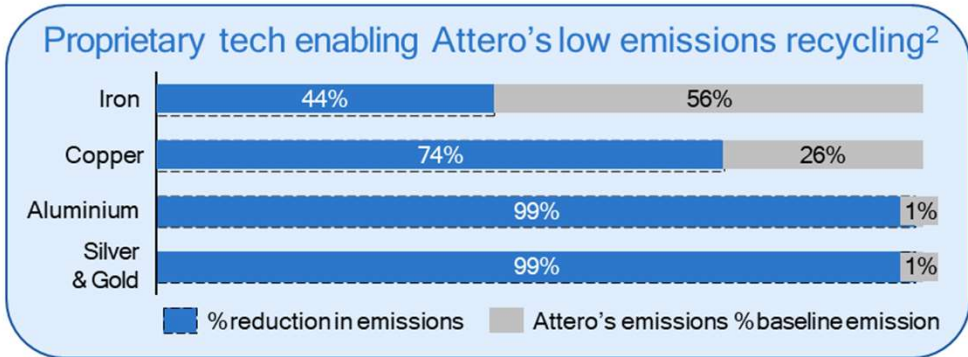
**200+** patents applied

**9+** global patents assigned in US, China, Singapore, Australia, etc

Key patents include:

- A process of recovering metal values from chips of waste printed circuit boards (PCBs)
- Automatic component segregator enabled with smart inductor testing kits

- Process of recovering metal values from waste monolithic ceramic capacitors
- Method and apparatus for components removal from PCB



Note(s): (1) Patent held by Exigo is shared via technology transfer by CSIR NML Jamshedpur (2) Attero is the only player with certified GHG emission reduction from a renowned international ESG auditor and holds ISO 14064 certification for GHG emissions verification


# Our Geographical Coverage

Extremely safe and extensive reverse logistics globally.




Attero has secured all relevant approvals from the authorities in India to import spent LiB and Black Mass for recycling in its facilities.

# Leader in Sustainability and ESG at Core of Operations


 Amongst the very few in the world to get **carbon credits per ton of E-Waste recycled**. Carbon Credit Methodology is approved by UNFCCC<sup>(1)</sup>


Reducing the Hazardous waste stream & Chemical waste, saving people's health

 Formalizing the Informal Sector, Creating Jobs


Attero is a **Zero waste-water company** 

 Save 100,000 tonnes of **CO<sub>2</sub> equivalent per year**

**Compliant** with World Bank Norms and USA EPA Standards 

 **No residual slag** in process



 Total Lithium-Ion Batteries Recycled 9,998MT

Re-invent the waste of today to re-design the goods of future

Pledged carbon neutrality to safeguard our planet and its environment

Contribute ~15% of green battery materials to the supply chain by 2030

Sustainable source of battery materials as a complementary producer to virgin metal mining at significantly lower carbon emissions

# Our Certifications & Achievements



UNFCCC Approved for Awarding Carbon Credits



ISO 45001 Occupational Health & Safety Management



ISO 9001 Quality Management Service



ISO 14001 Environment Management System



ISO 14044 Life cycle Assessment



ISO 14064 GHG Emissions



ISO 27001 Information Security Management



Clearance for Recycling E-waste On-Site by MoEF



NASA Recognized



Uttarakhand Pollution Control Board (SPCB)



Responsible Jewellery Council



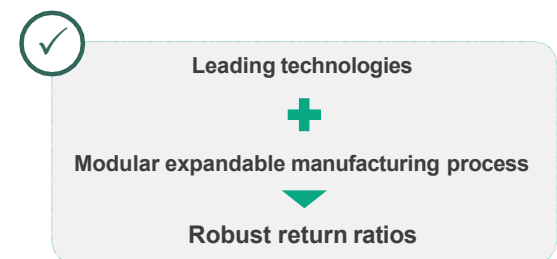
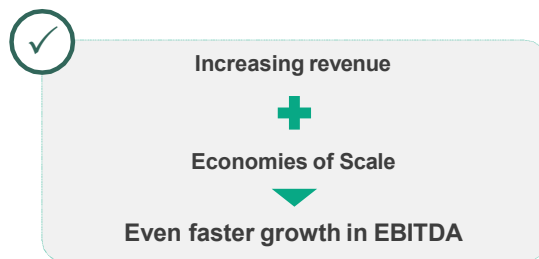
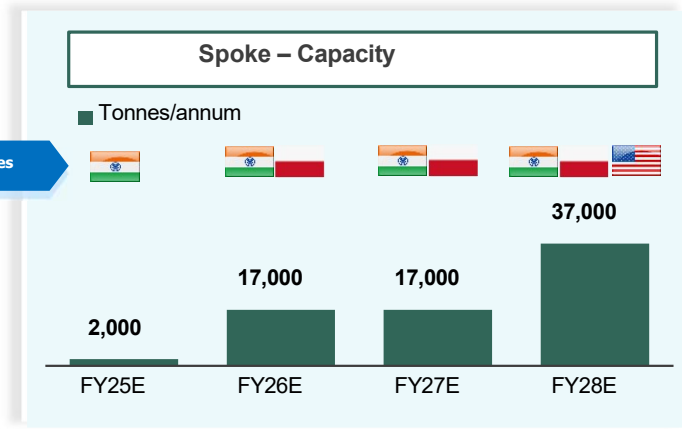
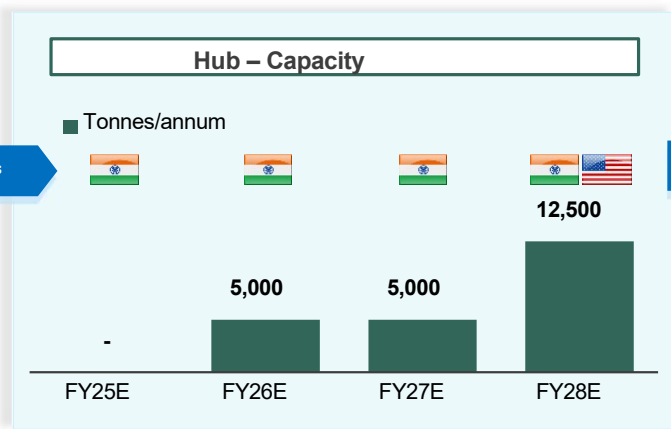
Perry Johnson Registrars, Inc, has audited the Sustainable Electronics Reuse E Recycling (Ri) Standard

We constantly subject ourselves to the most stringent certification processes to be prepared to support our clients needs and to win their trust



# Significant Growth Prospects Globally

Clear Roadmap to Fuel LiB Recycling Expansion Efforts Globally



Source: Company Information



Team Attero: Proud recipients of the **TechFast50 award by Deloitte**



First & only integrated E-waste recycling plant in India inaugurated by the then Honble Dr APJ Abdul Kalam & Shri Sachin Pilot



Winners of AGBA Award in Category of Renewable Energy Transition & Innovation in Waste Management



**Team Attero: Proud recipients of the TechFast50 award by Deloitte**

Deloitte TechFast50 Award

The discussions underscored how the principles of the circular economy are actively shaping business strategies, redesigning products for extended lifespans, leveraging renewable energy, and embedding sustainability across the value chain.


The candid exchange of ideas, successes, and challenges highlighted a shared dedication to reducing resource footprints while fostering innovation.

#sustainability #CircularEconomy

Vinay Sharma | Linn Roslund | Edyta Kurek | Deepika Arora | Fredrik Hahnel | Cassio Simões | Rohan Gupta | Debjyoti Sinha | Yogesh Mittal | Sofia Höglman | Ashish Chaturvedi | Tetra Pak | SEB | AstraZeneca India | Aruna Nayak | Getinge | Anjali Bhole | Business Sweden Asia-Pacific |



Embassy of Sweden: Annual CEO Roundtable




Star EV Recycling Technology

**Global Leap Towards Sustainable Li-ion Battery Recycling Solutions**



**Embassy Of Poland: Investment in Poland**

**Dr. Abhinav Mathur** represented Attero at the **Critical Minerals Recycling Workshop** held by the Ministry of Mines and the International Energy Association



**Critical Mineral Workshop By MoEF**

Dr. Abhinav Mathur represented Attero at the **Budget Seminar on Critical Mineral Mission**



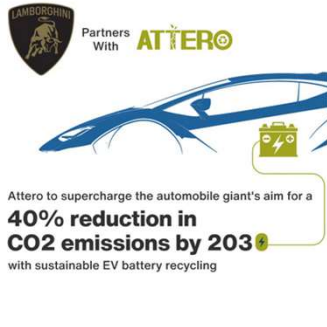
**Budget Seminar on Critical Mineral Mission**

Organised by the Ministry of Mines

14<sup>th</sup> August | Taj Mahal Hotel,

Budget Seminar on Critical Mineral Mission

Partners With **ATTERO**




Attero to supercharge the automobile giant's aim for a **40% reduction in CO2 emissions by 2034** with sustainable EV battery recycling

**Lamborghini and Attero partnership**

Lamborghini and Attero partnership

Diwali just got brighter with our new partnership!

**DAIKIN X Solsmart** By Attero



**Green partnership with Daikin**

Green partnership with Daikin

**Auto** features Attero's Historic Milestone

**First Indian e-waste recycling company to secure the ISO 14064 Certification for GHG Emissions Verification**




**First Indian Recycling company to secure: ISO 14064**

First Indian Recycling company to secure: ISO 14064

Navy Children School, Visakhapatnam

Arna Sharma of M/s Attero Recycling Pvt Ltd conducted a seminar on the #Ewaste crisis, with Mrs. Urmimala Das, NWC Coordinator, stressing #Recycling & #Sustainability.



**Navy Children School: E-waste workshop for children**

Navy Children School: E-waste workshop for children

## Join with Attero for Sustainable Future

“At Attero, we share your dedication to sustainability, innovation, and excellence. Together, we can create a future where business meets responsibility.”

“We would like to create a world with you where every product build in the world stands testaments to a story of sustainability and our collective efforts to protect the planet.”


***“This is the future we can build together.”***



Let's Get Connected!

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