

Cleantech

Sustainable And Efficient Li-ion Battery Recycling Clean-tech Solution

APPLICATION

MiniMines specializes in sustainably recycling end-of-life Li-ion batteries through their proprietary. Hybrid-hydromerallurgy process, extracting valuable elemental compounds for manufacturing new batteries.

COMPANY NAME	TECHNOLOGY READINESS LEVEL (TRL)	INTELLECTUAL PROPERTY
MiniMines Cleantech Solutions Pvt Ltd	TRL: 6 (Under field trials)	Patent application No: 202111040571
FOUNDERS' NAME	Anupam Kumar	

PROBLEM ADDRESSED

Li-ion batteries are commonly used in various electronic devices and electric vehicles, but they have a limited lifespan and eventually become waste. Improper disposal of these batteries can lead to environmental pollution and the loss of valuable resources present in the batteries, such as nickel, cobalt, lithium, and manganese.

MiniMines' proprietary HYBRID-HYDROMERALLURGYTM process tackles this problem by extracting rare elemental compounds from the discarded batteries in the form of their respective salts. These compounds, including nickel, cobalt, lithium, and manganese, are valuable resources used in the manufacturing of new Li-ion batteries. Additionally, the process also extracts pure copper and alumina with spherical graphite from the mineral-rich "Black Mass," which can be directly utilized in the production of new Li-ion batteries.

By recycling end-of-life Li-ion batteries and extracting valuable materials, MiniMines' technology helps to reduce waste, prevent environmental pollution, and promote the sustainable use of resources in the cleantech domain.

ABOUT THE TECHNOLOGY

MiniMines is a cleantech startup in India that focuses on the sustainable recycling of end-of-life Li-ion batteries. Their innovative HYBRID-HYDROMERALLURGYTM process allows them to extract valuable rare elemental compounds, such as Nickel, Cobalt, Lithium, and Manganese, along with pure copper, alumina, and spherical graphite, from mineral-rich "Black Mass." These extracted materials can be directly utilized in the manufacturing of new Li-Ion batteries, promoting a circular economy and reducing environmental impact.

FUNDS RAISED/ACHIEVEMENTS

- Received DST NIDHI PRAYAS worth INR 9 Lakhs
- BIRAC BIG funding worth INR 50 lakhs

PRODUCT IMAGE



USP

- Sustainable recycling of end-of-life Li-ion batteries Proprietary.
- Extraction of rare elemental compounds like Nickel, Cobalt, Lithium, and Manganese.
- Extraction of pure copper, alumina, and spherical graphite.
- Direct utilization of extracted materials in new Li-Ion battery manufacturing.
- Promotes a circular economy.
- Reduces environmental impact.

END USERS/CUSTOMERS

- LIB Battery Manufacturers
- Steel and Copper Industry
- Grease and Lubricant Industry
- Ink and Paint Industry
- Pharmaceutical Industry