



Completing the Loop: Recycling of Lithium-ion Batteries

Case Description

The global momentum around EVs is increasing with every subsequent year. With the increasing sales of EVs, it is anticipated that the waste stream of lithium-ion batteries will also increase as soon as the batteries reach end-of-life. The current market size of lithium-ion batteries is around USD 2.7 billion and is further expected to grow up to USD 11.07 billion by 2027.

The growing EV industry globally has resulted in the increased demand for critical metals to manufacture batteries that fuel the EVs. With the anticipated growth in the industry, the demand for critical metals by the battery industry will likely outrun the supply. In addition to that, the mining industry is emission-intensive, and thus it is critical to promote recycling to promote the holistic sustainability of the industry.

Lohum is a battery lifecycle management company that provides services like designing and manufacturing lithium-ion battery packs for low-power transportation and backup power products, remanufacturing used battery packs to provide an additional 3-year life and recycling the battery materials for reuse in batteries and industrial applications.

Plant Details

- Lithium Battery Manufacturing Plant Capacity – 0.3 GWh
- Lithium Battery Recycling Plant Capacity – 1 GWh
- Area of the Plant - 110000 sq. ft. across two facilities
- Collected more than 2 million operational miles of second life mobility data through IoT devices
- Developed IPR, which does complete anode and cathode recovery (Cobalt, Lithium, Nickel, Graphite, and other critical metals.) at a scale with yields up to 95 per cent.
- Additional average cycle life of battery > 500 cycles
- Proprietary Battery Management System
- Advanced Nationally Accredited Chemical Lab for analysis & R&D

Cost Details

- Reduces battery cost by 30%
- Capital Expenditure – 15 million dollars

Impacts

1. Reuse of batteries lead to 100% reduction on energy consumption
2. Recycle of batteries lead to 40% reduction on energy consumption
3. Water Savings – 1650 gallon/MT of production

- Utilizes 250 gallon/MT of water for extraction of lithium ions
- Highest impact to CO₂e reduction

Currently, it employs more than 200 people in different capacities.

Innovation

Lohum currently is one of the industry leaders in battery recycling and manufacturing. Its success is attributed to the company's innovation on the following fronts:

- An integrated lithium-ion battery manufacturing and recycling ecosystem for an overall battery management system.
- Guaranteed buy-back price for lithium-ion batteries after the warranty period
- Advanced Customisation of battery packs and recycled chemicals

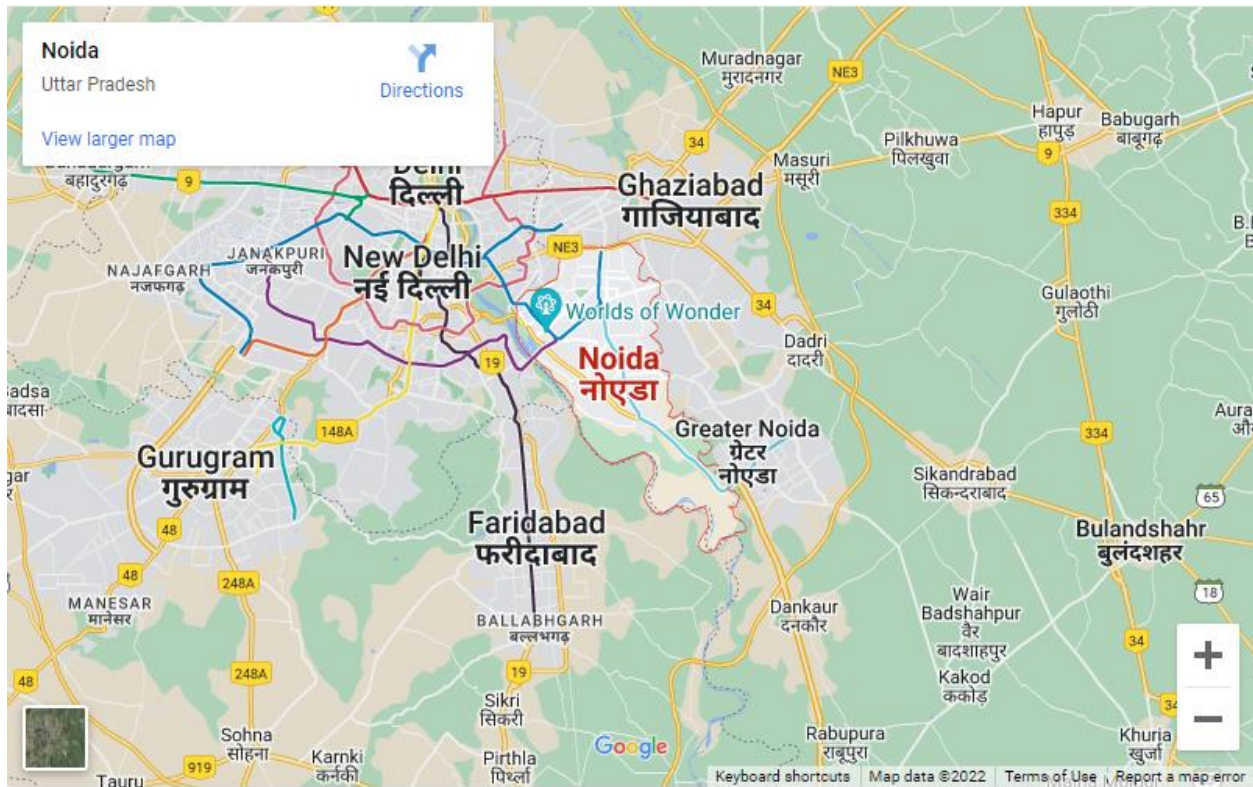
About Pioneer

Lohum

Email

Geography

Greater Noida, Uttar Pradesh



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