

Bluerock Filtration: Retrofit Solution for E-waste Mineral Reclamation

Bluerock is an advanced technology based on a derivative of Capacitive Deionization (CDI) designed to optimize the selective recovery of critical materials from electronic waste (E-waste). With a focus on neodymium (Nd), praseodymium (Pr), cobalt (Co), and lithium (Li), Bluerock addresses the growing demand for these materials in renewable energy, consumer electronics, and electric vehicle industries. Our technology integrates seamlessly into existing E-waste recycling processes, enhancing both economic and environmental performance. [Click Here to Learn More.](#)

Impact on the Recycling Value Chain

- **Economic Viability:** Enhances the profitability of recycling operations by recovering high-purity critical materials, which command a premium in the market. This enables a more sustainable and reliable supply of these essential elements, reducing dependency on foreign sources.
- **Environmental Sustainability:** The elimination of harmful chemicals and reduced energy use, results in minimized waste and greenhouse gas emissions.
- **Scalability:** Designed to integrate into current recycling facilities, allowing for straightforward partnership to meet growing industrial demand for critical materials.

Key Innovation

Bluerock operates at the post-pre-processing stage, following the mechanical shredding and sorting of E-waste. By using an energy-efficient, selective ion capture process, Bluerock has:

1. Achieved recovery efficiencies exceeding 90% for Nd, Pr, Co, and Li.
2. Lowered energy consumption by up to 20% compared to traditional methods.
3. Eliminated the need for harsh chemicals, significantly reducing environmental impact.

Team



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