

Lithium-ion batteries are integral to Europe's strategy for achieving the European Green Deal's objective of climate neutrality by 2050. They are essential for E-mobility, stationary energy storage or consumer electronics.

CHALLENGES

Low recycling rates, 12% globally¹ and **growing battery scrap,** 4-fold increase in Europe²

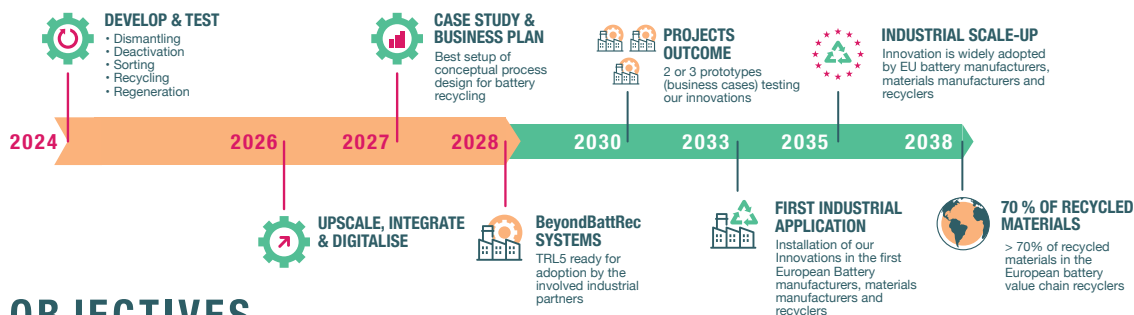


Material dependency:

The EU depends on imports for bauxite, cobalt, lithium and natural graphite (87, 86, 100, and 98%, respectively), all critical for lithium-ion batteries.³

MISSION

Revolutionize lithium-ion battery recycling through the development and validation of innovative pre-processing technologies and protocols.



OBJECTIVES

- **Maximizing recovery rates:** achieve 95% recycling of critical metals (cobalt, nickel, copper) and 80% for lithium
- **Developing advanced technologies:** implement innovative methods for battery sorting, dismantling and recovery of components, achieving over 70% module recovery and 95% recycling of aluminum and copper.
- **Enhancing Battery Reuse:** Create testing methods to evaluate battery state-of-health (SoH) and enable second-life applications.
- **Innovating Recovery Methods:** Introduce sustainable processes for recovering electrolytes, binders, and high-purity anode and cathode materials.
- **Integrating Circular Economy:** Pilot the re-use of recycled materials in new battery cells and design a fully optimized recycling scheme with life cycle assessment (LCA).
- **Strengthening EU Leadership:** Boost Europe's autonomy and industrial resilience in battery recycling, aligning with the European Green Deal.

¹ <https://www.globalbattery.org/media/publications/battery-2030-resilient-sustainable-and-circular.pdf>

² <https://www.statista.com/statistics/1333918/europe-battery-scrap-available-recycling/#statisticContainer>

³ <https://www.innoenergy.com/uploads/2023/01/critical-raw-materials-in-li-ion-batteries.pdf>

PARTNER



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