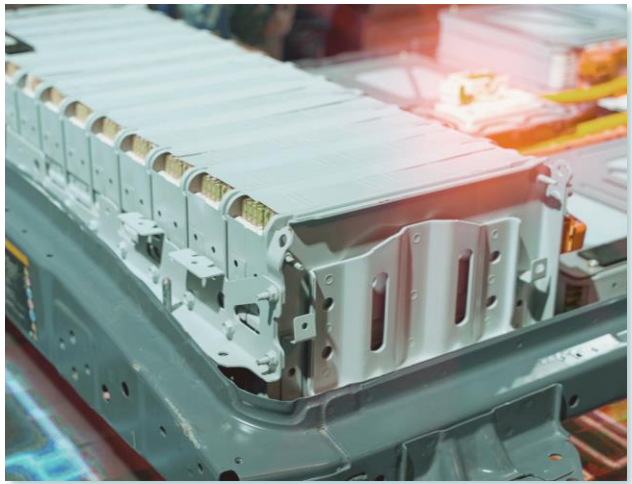
REINFORCE

The European Union is committed to achieving a climate-neutral Europe with net-zero emissions by 2050. Batteries play a crucial role in electrifying key sectors and reducing greenhouse gas emissions. However, the increasing demand for batteries will lead to risky critical raw materials dependencies and environmental challenges when they reach the end of their first life.

End-of-life, defective and unstable batteries pose new challenges along the supply chain and require:

- New Safe Industrial Processes
- Automated Equipment
- Tracking Systems
- New Strategies for second and third life applications and/or for the recycling of their components and materials.



Batteries play a key role in electrification of multiple industrial sectors and are crucial in EU's efforts toward reducing carbon emissions.

The increasing demand for batteries had led to a multitude of environmental issues throughout the value chain, from sourcing of scarce minerals to repurposing and recycling end-of-life batteries.

The EU's dependence on battery imports is high and today EU is yet to achieve a strong, circular battery value chain.

REINFORCE will focus on:

- ✓ Optimizing collection and logistics
- ✓ Improving early sorting and diagnostics
- ✓ Enhancing energy recovery for lithium-ion batteries
- ✓ Implementing safe dismantling and component sorting processes
- ✓ Establishing a traceability system
- ✓ Defining standardization guidelines
- ✓ Developing new solutions to give a second and third life to batteries

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Innovations for circularity and sustainability will be demonstrated in a Belgian battery remanufacturing plant:

- ✓ Preliminary diagnostic process for EV and stationary End of life batteries: Faster, smarter and precise
- ✓ New generation of EoL battery transport and storage containers: standardised, safe, cost-effective
- ✓ Diagnostic processes for the full standardized and automated assessment of EoL batteries and assignment to a 2nd, 3rd life application or recycling
- ✓ New discharge technology: faster and efficient
- ✓ Pack -> module -> cell -> electrode disassembly and reassembly processes: fully automated, safe and digital

> "REINFORCE aims at creating a circular value chain for lithium batteries through efficient life-cycle extension and recycling."

REINFORCE

STANDARDISED, AUTOMATED, SAFE AND COST-EFFICIENT PROCESSING OF END-OF-LIFE BATTERIES FOR SECOND AND THIRD LIFE RE-USE AND RECYCLING

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