



REINFORCE

NEWSLETTER #1

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

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 Industrial Processes
- Automated Equipment, and Tracking Systems
- New Strategies to prepare them for a 2nd or 3rd life, and/or for the Recycling of their components and materials.

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





We 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

OUR PARTNERS



OUR MOTIVATION

-  The EU is committed to achieving a CLIMATE-NEUTRAL EUROPE with net-zero emissions by 2050.
-  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 aims to create a knowledge portfolio involving the main stakeholders and end-users of different sectors to maximize the impact of the project, addressing the future commercialization of the project's solutions.

The project methodology is structured around 4 main pillars:

1. Standardised collection and reversed logistics of end-of-life batteries.
2. Full assessment and discharging of end-of-life batteries.
3. Automated, safe and efficient disassembly.
4. Demonstration.



These are supported by 2 main floors:

- FLOOR 1 – Sustainability assessment, environmental and socio-economic approach.
- FLOOR 2 – Standardisation, circular business modelling and upscaling approach.

Leading to the consecution of project's objectives to enable a clear pathway towards the creation of business models revolving around the consolidation of a new sustainable circular value chain for reuse, repurposing for 2nd (and 3rd life) and recycling of end-of-life batteries.

LATEST COLLABORATION

ABEE Team visited VDL Staalservice facilities in Weert (NL) meeting the team that designed Buncker®, a metallic container specially designed for lithium batteries, which guarantees safe storage and transportation of the battery packs.

Buncker® is certified -P911/LP906- with a unique pallet-based design to facilitate handling and Thermal Runaway mitigation.



This advanced container will transport battery packs -from Haiki COBAT and VDL facilities to ABEE facilities- for the final demonstration of the project REINFORCE.