



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

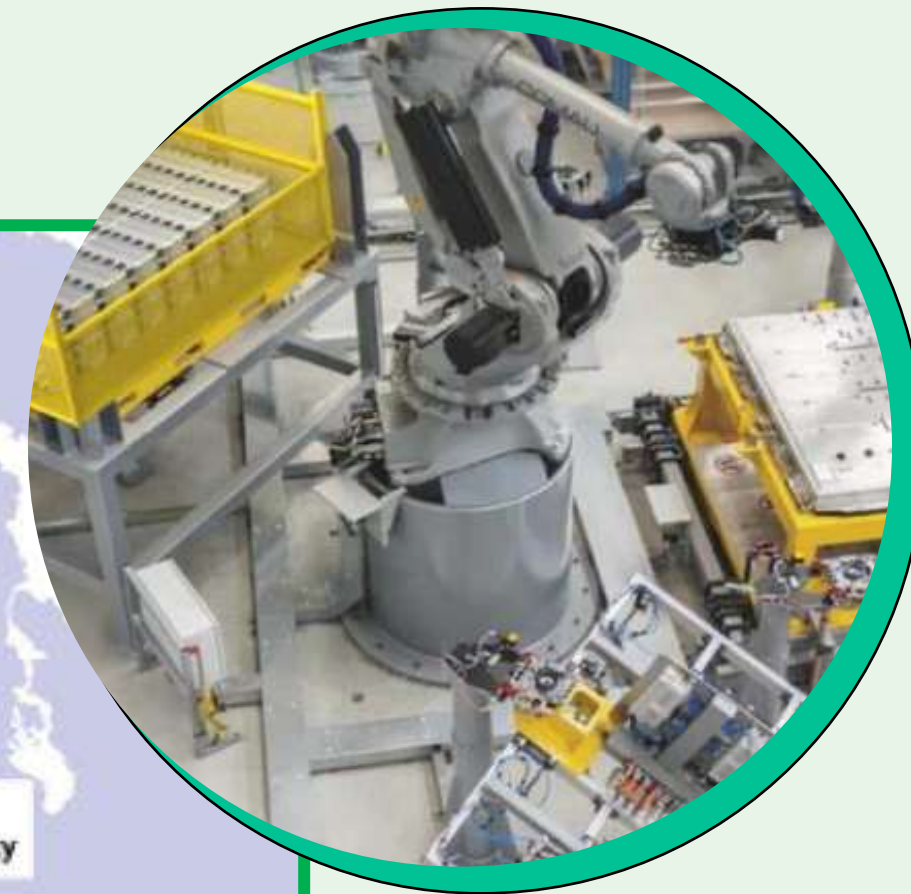
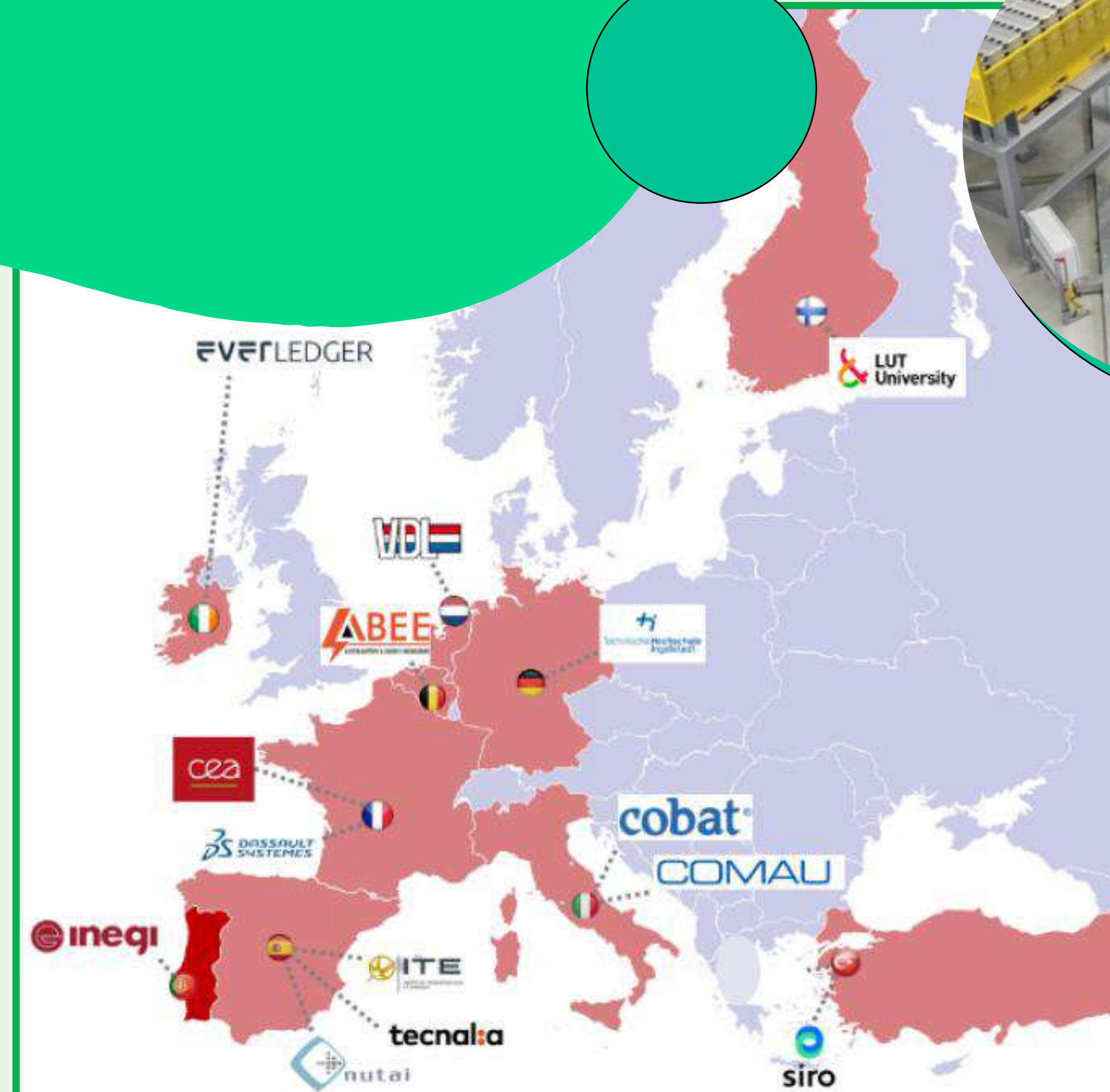


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Excellence crafted in Europe

A Team of 15:

- Universities
- Research and Technology Organisations
- Battery Supply Industry
- Battery Remanufacturers
- Users



Sustainable Motivation: Powering Up for the Long Run



01

We believe in a transition towards a more sustainable environment, economy and society.

02

Batteries are key to net-zero transition of transport, power and industry sectors, and a high growth market opportunity, but their expansion may imply also increasing waste and geopolitical dependence from critical raw materials.

03

European industry needs to come first at closing the circularity gap of End-of-Life Batteries, opening the way to new industrial processes capable of multiplying the added value of batteries along their life cycle. Europe can then internationalize these processes worldwide, while reducing waste and European geopolitical dependence.

Striving for Success: Our Objectives



Reduce reliance on imports: strengthen the EU battery industry and reduce the need to import critical raw materials.

Optimized value chain: boost emerging industrial processes from Europe, including battery diagnosis, transportation, storage, dismantling and reassembly.

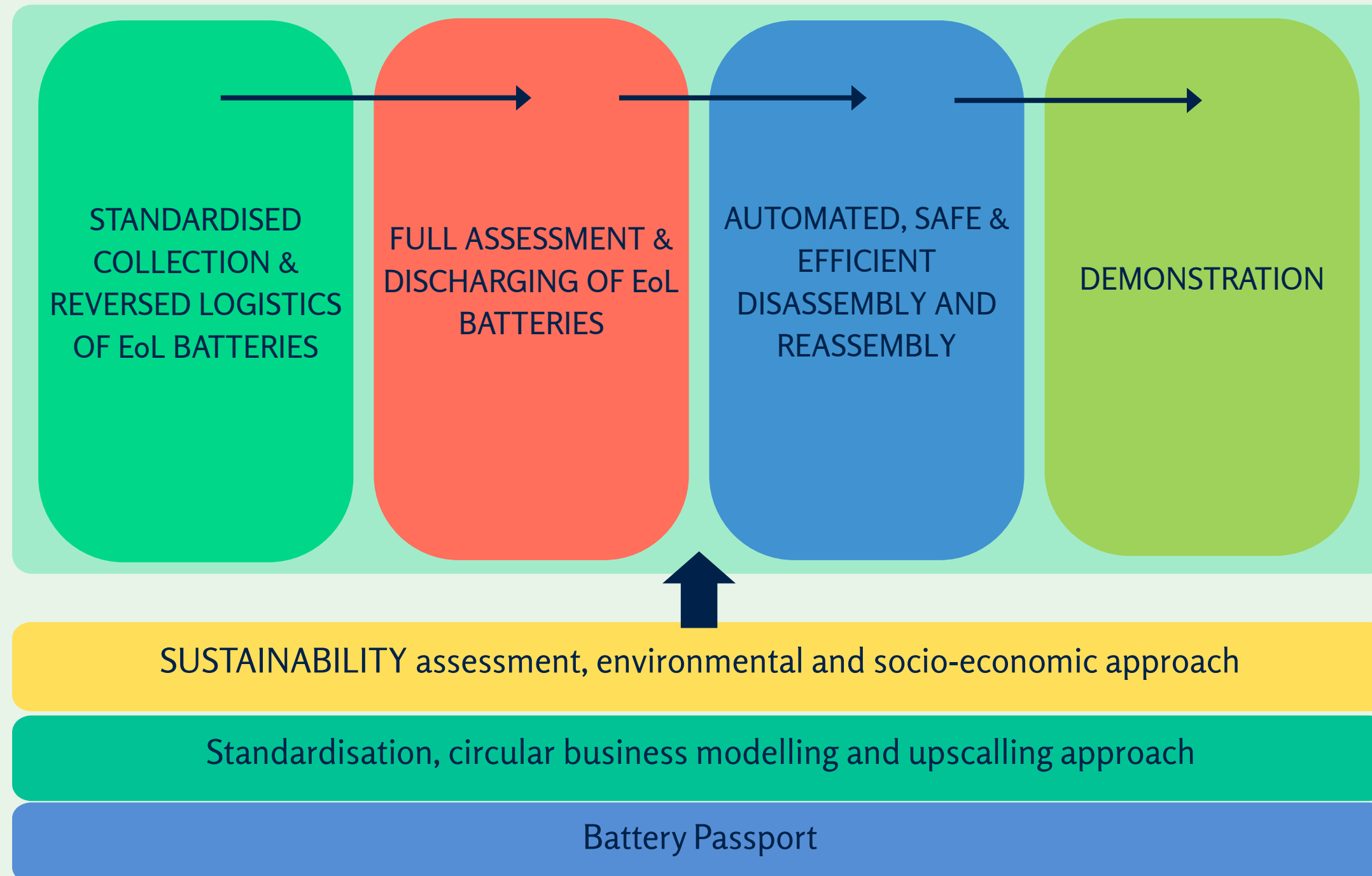
Circular economy for batteries: promote the reuse and repurposing of old batteries for second and third-life applications.

Advanced technology: develop industrial solutions for automated diagnostics, robotics, and machine learning for efficient end-of-life battery processing.

Sustainability on focus: foster safety, traceability, and standardization throughout the battery value chain to ensure environmental, social and economic sustainability.

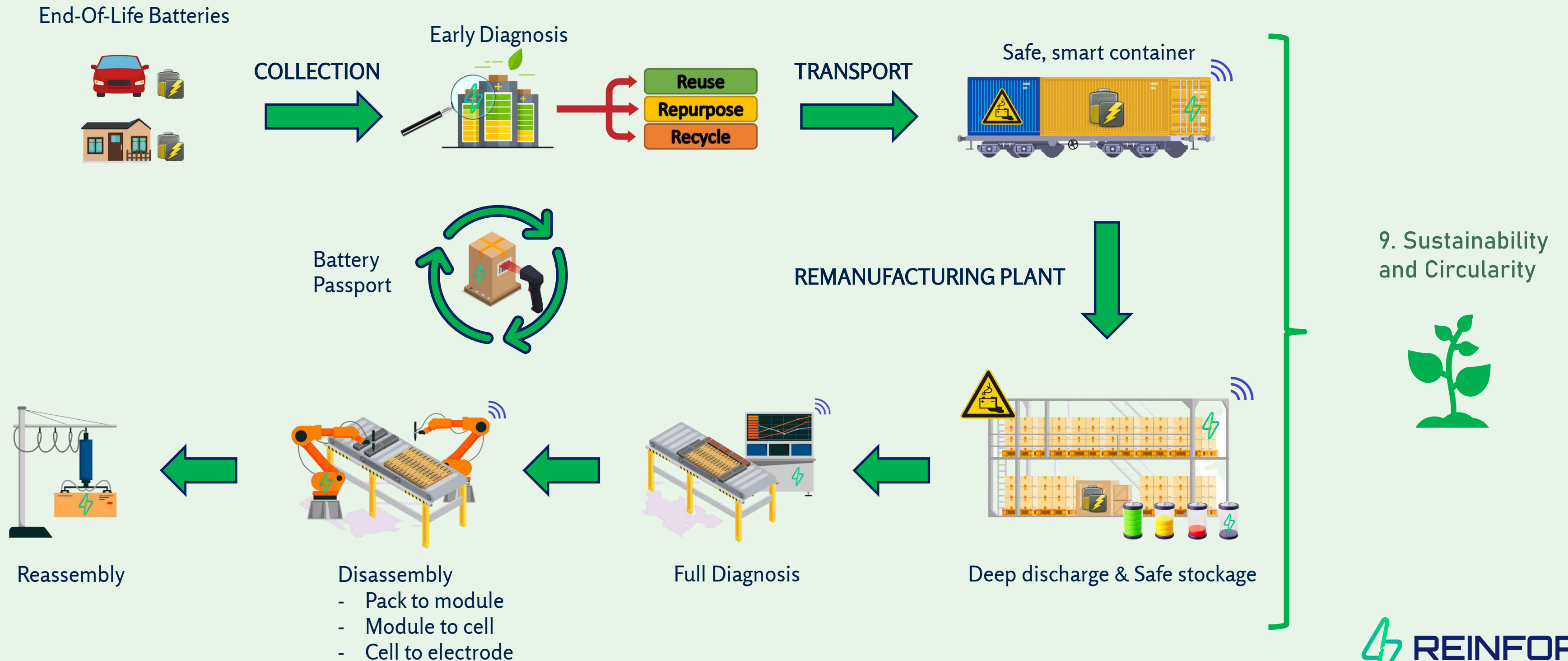
Recycling only at the very end of life: facilitate recovery of end-of-life battery components and critical raw materials towards recycling only when no further reuses are possible.

Steps to Success

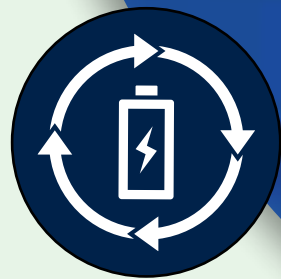


The Vision

Looping End-Of-Life Batteries back to a new life



The Journey So Far: Celebrating Success



We've been pushing boundaries, unearthing new knowledge, and achieving breakthroughs that redefine what's possible.

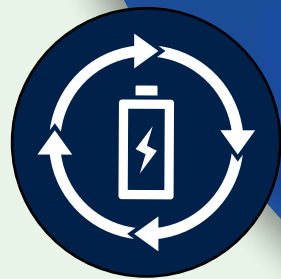
Early Battery Diagnosis at Collection



- Battery requirements for 2nd and 3rd life application
- Battery classification criteria and EoL strategy
- Preliminary battery diagnostics methods

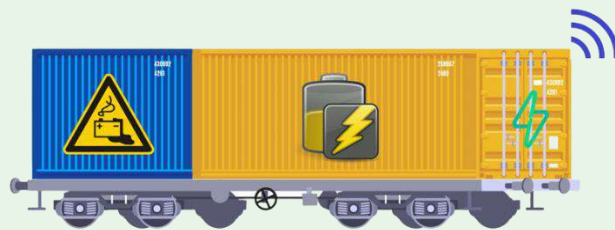
Status: **Achieved** ⌚

The Journey Ahead: Longing for the Future



Status: Ongoing ⌚

Transportation



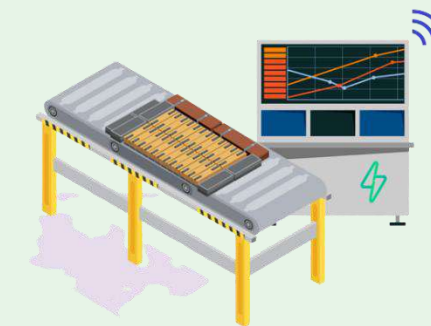
- Upgraded smart, safer and cost-efficient container for reverse logistics

Discharge & Storage



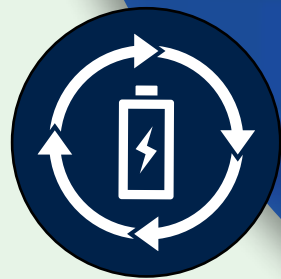
- Safe and fast battery discharging procedure
- EoL battery discharge process standardisation guidelines

Full Diagnosis



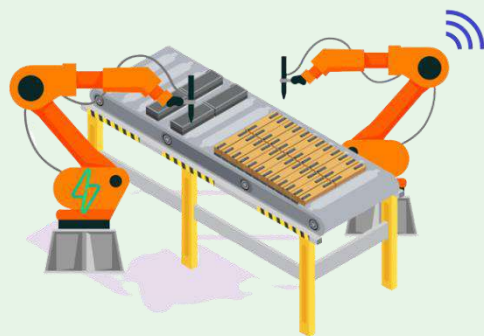
- Battery diagnostic tools via BMS description and performance analysis
- EoL assessment procedures via visual techniques and cycling tests
- Standardisation guidelines of EoL battery assessment

The Journey Ahead: Longing for the Future



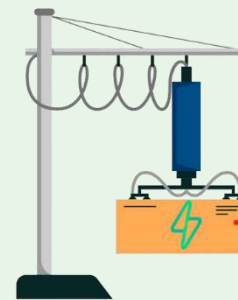
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Disassembly



- Pack to module disassembly process
- Module to electrode disassembly process
- Battery disassembly process Virtual demonstration of disassembly line

Reassembly



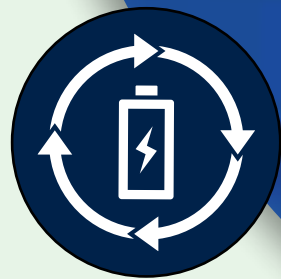
- Battery reassembly process for reuse

Battery Passport



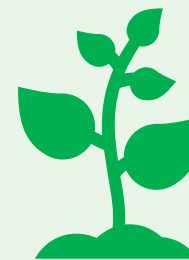
- Innovative traceability system for EoL batteries

The Journey Ahead: Longing for the Future



Status: Ongoing 

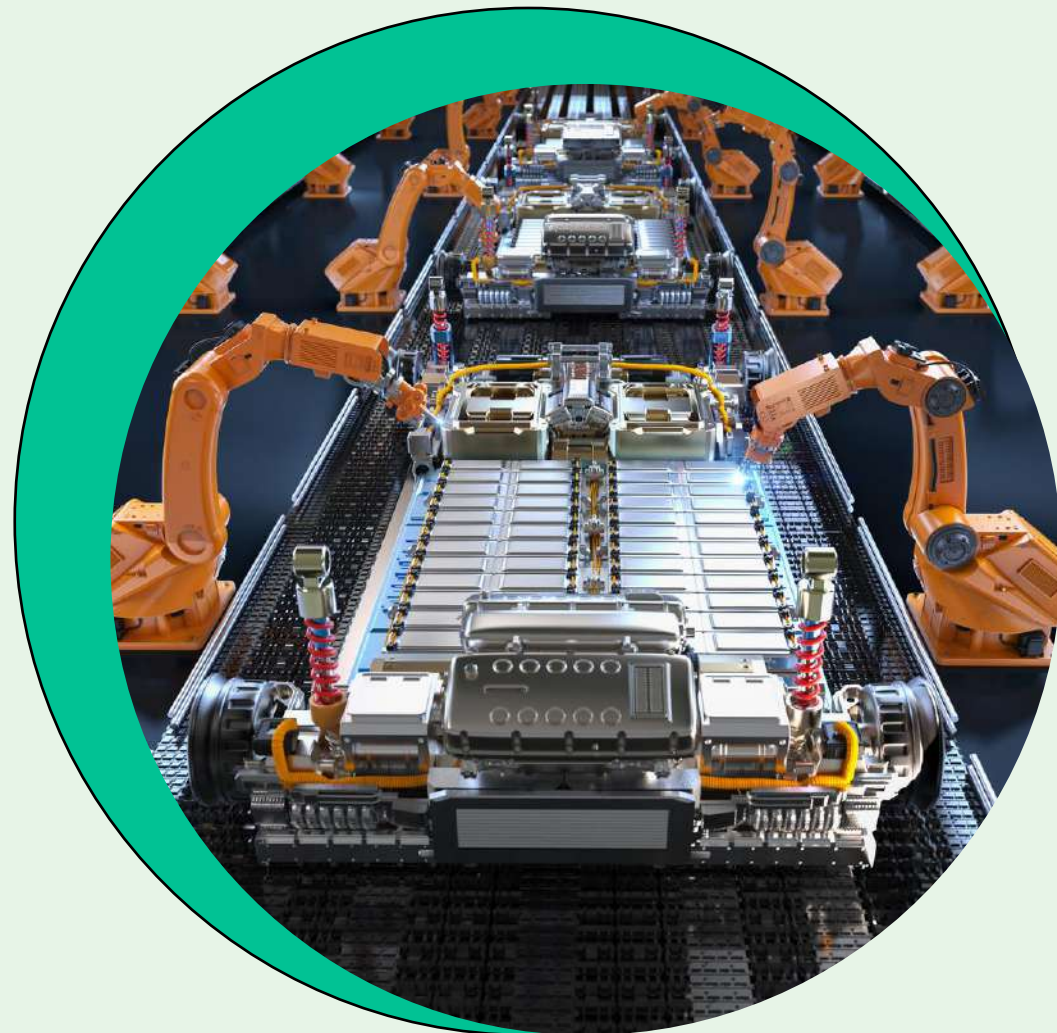
Sustainability & Circularity



- Circular Business Model Simulation Platform
- REINFORCE Circular Model Blueprint
- Sustainability Assessment of the REINFORCE Model

Making a Difference

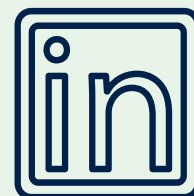
Do not miss the demonstration of these breakthroughs
in our battery remanufacturing plant in Ninove, Belgium!



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