



This project has received funding from the European Union's Horizon Europe research and innovation programme under grant number No. 101104022.

# ReUse - Efficient direct recycling for low-value LFP battery for circular and sustainable waste management



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Battery Workshop on Emerging Battery Technologies 2030, Oslo (Norway)

25. – 26.06.2024



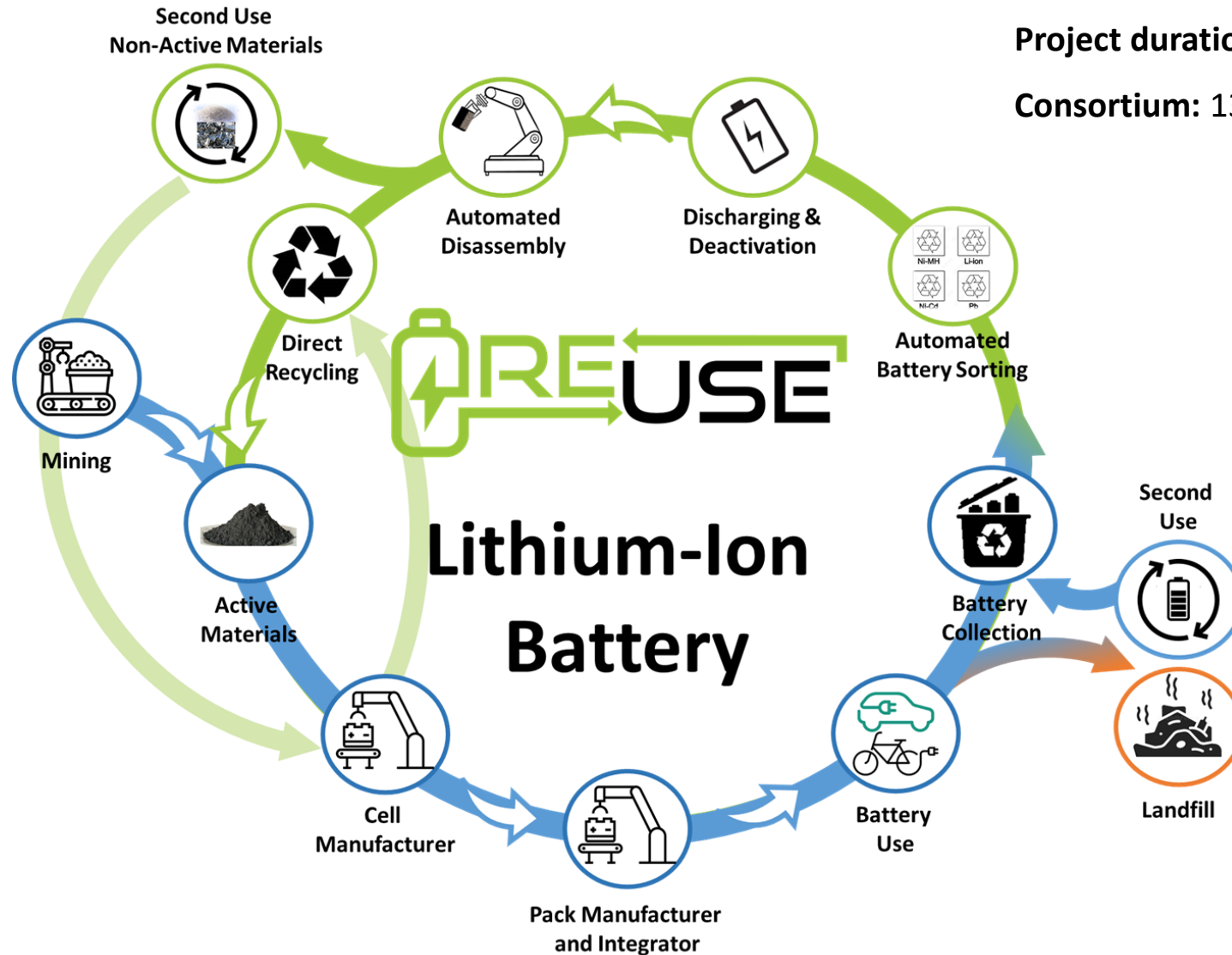
BATTERY  
2030+

# Project Overview

The contribution of ReUse in the battery value chain

Project duration: 2024 – 2026

Consortium: 13 partner from 8 countries



# Top Goals

## Global objective:

**ReUse** aims to improve and demonstrate **circularity of sorted, dismantled, and pre-treated low-value LFP battery waste feeds**. The proposed recycling concepts address waste stream(s) in a comprehensive manner, aiming at the **maximal recovery of input elements and components**, rather than selected fractions only.

**Objective 1:** Develop automated EoL-battery sorting and optimized discharge schemes.

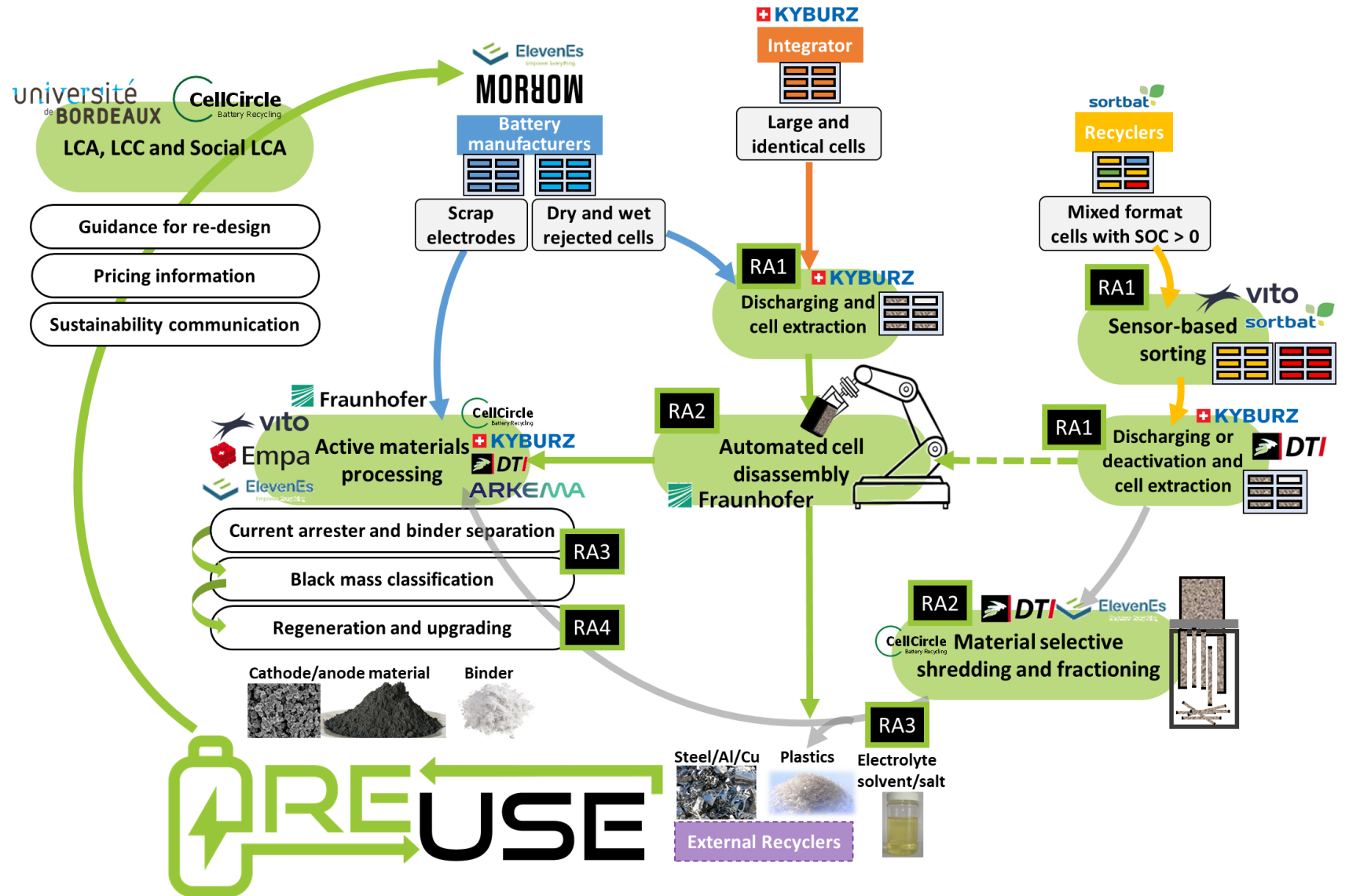
**Objective 3:** Improve recycling efficiency and direct re-use of battery active materials, conductive carbon and binders through improved separation and regeneration methods.

**Objective 2:** Develop automated disassembly/deconstruction strategies for LFP battery cells.

**Objective 4:** Ensure sustainability of ReUse concept by LCA, LCC, and Social Impact studies.



# ReUse overall concept

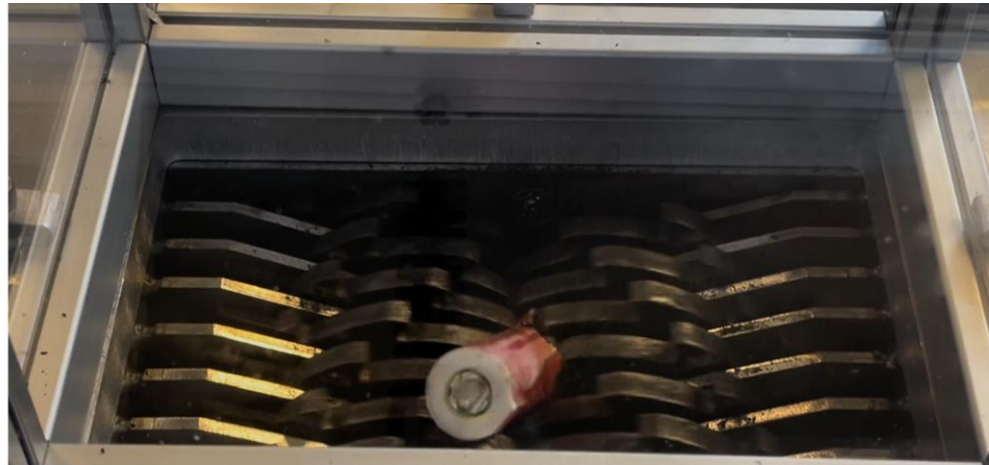


# First results – Cell deactivation, disassembly & fragmentation (WP2)

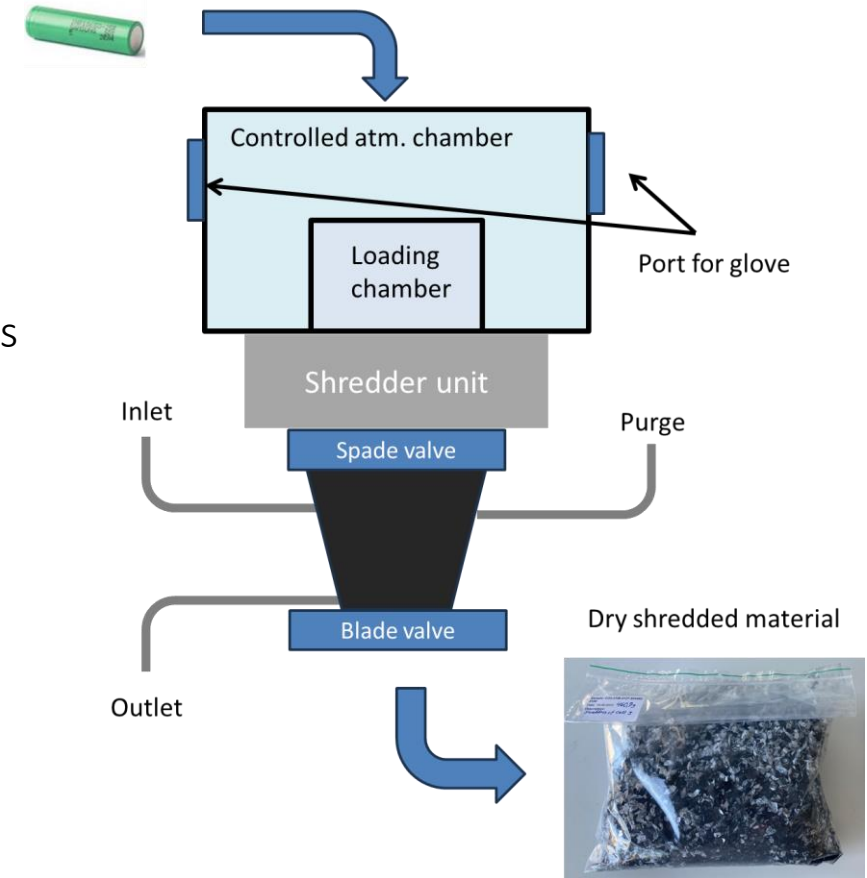
Lab-scale setup allowing cells to be loaded under  $N_2/Ar$  into a fragmentation unit where the fragmented material is transferred directly into a process chamber.

The process chamber include the following steps:

- Vacuum evaporation of volatile electrolyte components
- Salt extraction under inert **conditions**



Cylindrical (18650) LFP cells shredded in lab-scale shredder system as schematically shown on the right





# ReUse and the Roadmap

**1) Which objectives of my project could be added to the roadmap goals?**

**Aspects related to “Design for Circularity”, particularly for Modules and Packs – view beyond only recycling in line with the R9 Framework.**

**2) What are the expectations of my project from the future roadmap?**

**A further focus on standardization (not only in terms of data, but of batteries and cells to enable design for circularity).**

**Focus on the recycling “non-economically feasible” components.**





# Thank you!

**WEBSITE**

[www.reuse-batteries.com](http://www.reuse-batteries.com)

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Grant No.  
101137774



Co-funded by  
the European Union



The Swiss contribution is supported by the Swiss  
State Secretariat for Education, Research and  
Innovation (SERI).