COLLABAT



This project has received funding from the European Union's H2O2O research and innovation programme. This publication reflects only the author's view and that the European Commission is not responsible for any use that may be made of the information it contains.

What is Collabat about?

COLLABAT is a **cluster of four European H2020 projects** that were awarded with funding in the topic LC-BAT-10-2020 "Next generation and realisation of battery packs for BEV and PHEV".

This collaboration promotes important synergies to accelerate the development of this research and technological field towards a **sustainable addition to European advanced manufacturing capabilities**.



albatross-h2020.eu



helios-h2020project.eu



libertyproject.eu



marbel-project.eu

Which parts in the Battery Value chain are covered by the Collabat projects?



Project Details

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	HFI IO9
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High-performance modular battery packs for sustainable urban electromobility services

Some Key-Innovations:

- Hybrid combination of High Energy with High Power cells in one pack
- Modular & scalable design combining different battery
 modules & DC/DC
- Advanced BMS and Multi-Sensor-Unit using wireless
 communication
- Digital Twin, IoT Cloud based solutions, Fleet
 management software
- Ultrafast-charging at 360 kW



Manufacturing and Assembly of modular and Reusable EV Battery for Environment-friendly and Lightweight mobility

Some Key-Innovations:

- > 20% weight reduction
- > 25% charging time reduction
- > 40% LCA improvement by using modularity
- Useful Battery life up to 300,000 km
- Easy & Safe (dis-)assembly automatization
- Reparability and 2nd life transition
- Validation on a) small city EV car and b) full-size
- Bozankaya E-Bus



Advanced Light-weight BATteRy systems Optimized for fast charging, Safety, and Second-life applications

Some Key-Innovations:

- Improvement of the Peak Energy Density by around 50%
- A 20% weight reduction of the battery system
- A 25% charging time reduction with a 150-kW charger
- A 15 to 20% improvement over the full lifecycle
- Allow for fast charging while maintaining or improving battery capacity and useful life
- Extensive knowledge improvements in battery/thermal management systems and second life/recycling

• Adaptable to all cells and vehicles



Lightweight Battery System For Extended Range at Improved Safety

Some Key-Innovations:

- Cell-to-Pack solution.
- Immersion cooling.
- Enhanced Safety System
- Advanced BMS and SOX algorithms.
- Validation on a Mercedes EQC.

4 "subclusters" started, internal expert groups across all projects:

