


Safe efficient BATtery SyStem based on advanced cell technology



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In a nutshell

Project number: 101103821

Project name: Safe efficient BATtery SyStem based on advanced cell technology

HEU topic: HORIZON-CL5-2022-D2-01-05 (RIA) / Next generation technologies for High-performance and safe-by-design battery systems for transport and mobile applications (Batteries Partnership)

Coordinator: CIDETEC (CID)

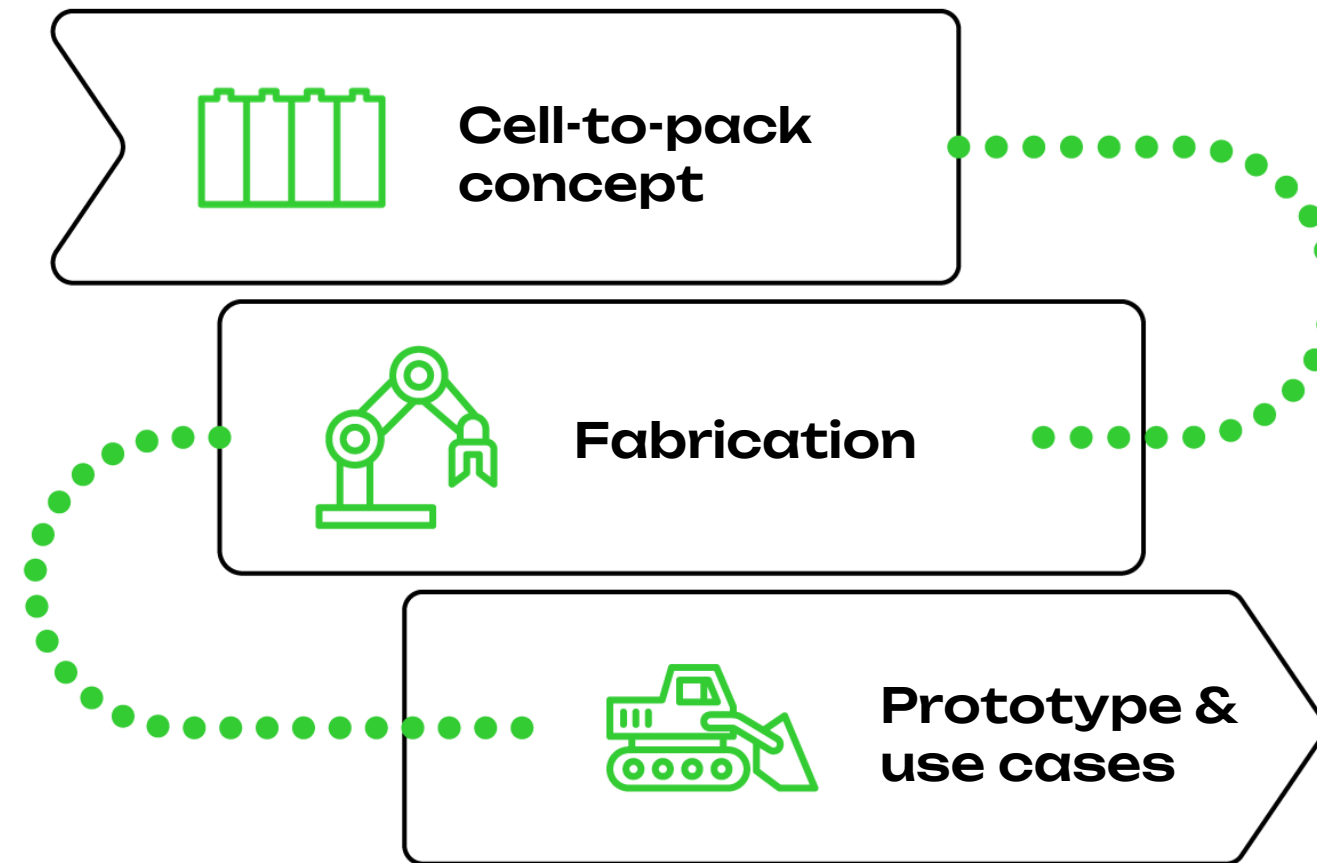
Duration & Total funding: 01/01/2024 – 31/12/2026 & 4.990.149,75 €

Overall concept: Design and manufacturing of a cell-to-pack concept-based Battery System (BS) that explicitly covers safety aspects (especially fire) and is valid for several types of transport and mobile applications. In-vehicle integration is out of scope.



Implementation

Based on an outstanding cell-to-pack modular concept ([MacroCell](#)), we build tailored Battery Systems (BS) at TRL5 to be **demonstrated** in our use cases through a 5 – 10 kWh **prototype** of up to 400V, that defines BS requirements for improved safety in any targeted e-vehicle.



Innovations in the Battery System

Thermal

- Adaptation of FLEXcooler® for improved cost, efficiency, time, weight and safety
- Optimised TMS through 1D/3D modelling

Mechanical

- Reduced cell materials to optimise cost, weight, and resistance
- Improved safety barriers

Electrical

- Customisation of busbars
- Bidirectional DC-to-DC converter for higher output voltage
- Improved SiC based power switch to avoid power losses and ensure reliability
- Printed and US sensing for wireless predictive BMS
- Battery Passport and EoL software




Join us on the journey!

info@batss-project.eu



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