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Description

The transport sector represents around 25% of all EU CO₂ emissions. To face this challenge, the NEXTBAT consortium, involving 12 partners from 6 different EU countries and 1 Associated Partner from Switzerland, will provide a new framework for standardization of the next generation of battery system design that will contribute to speed up a safe and sustainable electrification of transport and mobile applications in the EU, thereby also contributing to meet the EU CO₂ reduction target and to reach a climate neutral economy by 2050.

NEXBAT will significantly contribute to decreasing the carbon footprint of the innovative battery system by decreasing production costs thanks to the high recyclability capacity of both hardware and cells components introduced along the production chain (100% w/w for hardware, 50-80% for cells depending on technology). The experience and expertise of renowned research centres and SMEs will allow the development of innovative safe-by-design battery systems with increased performances, recyclability and interoperability that will reach TRL5 by the end of the project.

The electrification of transport and mobile applications requires high-performance and safe battery system. Thanks to the new technologies developed within the NEXTBAT framework, the battery system performances will be enhanced (energy/power density increase by 30 -50%) with decreasing battery weight by 25% using a newly developed lightweight material. Battery management systems will be incorporated at the cell and system unit allowing to increase battery lifetime by 20% at a SoH of 80% at cell level with innovative electronic sensing/actuating systems. Two interoperable prototypes will be manufactured, and safety guidelines and methodologies will be established as a result of safety testing campaigns performed by certified laboratories and the end-users, whereas dismantling and reuse of BMS parts will be assessed along with life cycle analysis.

Barcelona Supercomputing Center - Centro Nacional de Supercomputación

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