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SODIUM-ION AND SODIUM METAL BATTERIES

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Partners in project 16
5 different EU countries, two
associated countries and one
other country



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The main goal of the SIMBA project is the development of a highly cost-effective, safe, all-solid-state-battery with sodium as mobile ionic charge carrier for stationary energy storage applications.

Concept

The overall approach of SIMBA, comprises the following conceptual elements:

- Development of two anode and two cathode materials and a novel Solid-State Electrolyte (SSE).
- Together with new modelling and characterisation techniques, the main challenges of SIB will be identified and addressed effectively.
- Development of two environmental-friendly production methods for materials incorporation into cells manufacturing.

Challenges

Sodium-ion batteries (SIBs) have the potential to become the next generation sustainable, low cost and efficient energy storage technology. However several challenges still need to be addressed for a successful implementation.

- Development of high performance electrode materials.
- Comprehensive understanding of the electrochemical processes and degradation mechanisms occurring in SIBs.
- Design and incorporation of solid-state electrolytes.
- Upscaling and manufacturing of cell prototypes.

SIMBA aims to solve these challenges and pave the way to market introduction for SIB and SMB batteries.

