



HELENA PROJECT

Press release

November, 19th

HELENA announces a new Patent Application for Innovative Halide Electrolyte in Solid-State Battery Electrolytes

- **The European HELENA Project (ID 101069681), funded by the EU through the Horizon Europe program to support the development of high-performance batteries, brings together 15 leading European research organizations and companies.**
- **The project has submitted a new patent application (EP4391114), filed by Saint-Gobain Recherche, one of the 15 consortium partners.**

(Vitoria-Gasteiz, 12 November 2026)

The European HELENA project, led by CIC energiGUNE, continues to make progress toward transforming energy storage for strategic sectors such as electric vehicles and aviation. Among the milestones project outcomes is the development of new solutions, in particular related to the solid-state interfaces' stability improvement in contact with electrodes which helps extend the functional life of a rechargeable battery device. One of these recently discovered solutions was deemed worthy of intellectual property protection with filing of a patent application by Saint-Gobain Recherche, which marks a step forward in the development of solid-state battery technologies based on halide electrolytes.

This submitted patent application refers to a specific formation protocol for the full cell, designed to optimize the electrochemical performance of solid-state batteries using halide-based solid electrolytes.

The patent application submitted by Saint-Gobain Recherche consists of one of several valuable results achieved by the HELENA consortium during its execution, which also include another patent application jointly filed with CICE, the publication of scientific articles, and significant progress in the development of innovative materials and solid state batteries. As part of the work in the development of core materials, Saint-Gobain Recherche supplies HELENA partners with halide solid electrolytes having tailored properties. These materials exhibit multiple advantages, such as sulfur-free composition, good compatibility with high-voltage NMC cathodes, good ionic conductivity, and ease of processing at moderate temperatures.

Together, these developments are supporting the consortium's progress toward its main objective: to deliver safe, high-performance, solid-state batteries with high energy and power densities, made on the basis of high-voltage NMC cathode, lithium-indium-alloyed anode, and using halide as solid electrolyte. The focus of HELENA project is currently concentrated on two milestone objectives: 1) improving the stability of halide electrolyte with low-potential Li-metal anode free from alloying dopants; 2) upgrading the halide solid state battery assembling technique towards the implementation of multilayer architectures in pre-industrial pouch cell formats.

Alongside project coordinator CIC energiGUNE, the HELENA Project consortium includes AIT- Austrian Institute of Technology, Saint-Gobain Recherche, Umicore, Lionvolt, TNO, Fraunhofer Institute, CustomCells, RWTH Aachen, Mimi Tech, IFP Energies Nouvelles, Pipistrel Vertical Solutions, Leonardo S.P.A., FEV Europe, FEV eDLP, and Zabala Innovation Consulting.

