TALISSMAN, THE PROJECT THAT SEEKS TO DEVELOP SAFER, MORE SUSTAINABLE, AND HIGH-PERFORMANCE LITHIUM-SULPHUR BATTERIES FOR THE FUTURE OF ELECTRIC MOBILITY

- **Nine leading organisations from four European countries join forces to deliver the next generation of energy storage solutions for electric vehicles, aerospace, and heavy transport**

- **Receiving €4.9 million in funding under the Horizon Europe research and innovation programme, TALISSMAN will advance key technologies to unlock industrial-scale lithium-sulphur battery manufacturing**

10th July 2025, San Sebastian (Spain) — The TALISSMAN project officially starts with the ambitious goal of transforming the future of electric mobility through safer, more sustainable, and high-performing lithium-sulphur battery (LSB) technologies. Coordinated by CIDETEC Energy Storage, the consortium brings together nine partners from four countries (Spain, France, Germany, and Italy), representing a diverse blend of research institutes, technology developers, and industry leaders.

At its core, TALISSMAN (Technologies for Advanced Lithium-Sulfur batteries toward Safe and Sustainable Mobility Applications) aims to overcome the performance, safety, and manufacturing barriers of current battery systems. Lithium-sulphur technology holds enormous promise due to its higher energy density and reliance on abundant, low-cost materials such as sulphur. However, technical challenges like limited cycle life, instability, and manufacturing hurdles have slowed its commercialisation. TALISSMAN is designed to tackle these issues head-on, providing solutions critical for Europe's transition to cleaner, more efficient mobility systems.

Impacts, methodology, and objectives

TALISSMAN will focus on the following main impact areas:

- **Technical performance**: targeting energy densities up to 550 watt-hours per kilogram and cycle lives up to 700 full cycles.
- **Safety**: achieving enhanced stability with non-flammable, quasi-solid and solid electrolytes.
- **Cost-effectiveness**: reducing manufacturing costs to below €75 per kilowatt-hour by 2030.
- **Sustainability**: minimising environmental footprint across the battery lifecycle through eco-design, responsible sourcing, and end-of-life recyclability.

Funded by the European Union

Funded by the European Union under grant agreement N° 101203047. Views and opinions expressed are however, those of the author(s) only and do not necessarily reflect those of the European Union or the CINEA Agency. Neither the European Union nor the granting authority can be held responsible for them.

The project will integrate novel 3D lithium-metal anodes, advanced carbon-sulphur cathodes, and next-generation electrolytes to create two distinct battery concepts (Gen2027 and Gen2030). Pilot-scale validation will demonstrate the manufacturability and scalability of these systems, fully compatible with existing lithium-ion production lines.

Throughout its development, TALISSMAN will apply a Safe and Sustainable-by-Design (SSbD) framework, ensuring that environmental performance, recyclability, and resource efficiency are built into every stage of the innovation process.

Making a difference for Europe's citizens

By delivering lighter, safer, and more affordable next-generation batteries, TALISSMAN will help make electric vehicles, aircraft, and heavy transport cleaner and more accessible across Europe. This means longer driving ranges, quicker charging times, lower energy costs, and a reduced environmental footprint, supporting greener cities, healthier communities, and boosting Europe's leadership in clean technologies.

About TALISSMAN

TALISSMAN (Technologies for Advanced Lithium-Sulfur batteries toward Safe and Sustainable Mobility Applications) is led by CIDETEC Energy Storage and formed by Airbus Operations S.L., ARKEMA France SA, Fraunhofer Gesellschaft, Justus-Liebig-Universität Giessen, Politecnico di Torino, SAFT, Sustainable Innovations Europe, and Tecnalia Research & Innovation. The project has received €4.9 million in funding from the Horizon Europe research and innovation programme of the European Union under grant agreement number 101203047.

CONTACT

Pablo Morales Moya, Communications Manager, Sustainable Innovations

info@talissman.eu

Follow us on LinkedIn: TALISSMAN PROJECT

Visit the project website: www.talissman.eu

Funded by the European Union

Funded by the European Union under grant agreement N° 101203047. Views and opinions expressed are however, those of the author(s) only and do not necessarily reflect those of the European Union or the CINEA Agency. Neither the European Union nor the granting authority can be held responsible for them.