

## **A project works on more sustainable, safer, lighter, and longer-lasting batteries to unlock electric mobility in high-performance vehicles**

- **The MODALT project aims to validate a high-performance energy storage module made from thermoplastic composites for integration into modular battery packs.**
- **The research will contribute to the electrification of trucks, buses, airplanes, ships, new rail or hyperloop.**
- **ZELEROS, the Technological Institute of Plastics (AIMPLAS), the CMT Thermal Engines Institute of UPV, and ZIUR are collaborating on this research, funded by the Valencian Agency of Innovation (AVI).**

Valencia September 18, 2023.- Advances in electric mobility are revolutionising urban and short-distance transportation. However, there is a clear need to fulfil the high-performance requirements of long-distance electric transportation, whether it's on the road (such as supercars, trucks, or buses), electric aviation, maritime transport, or for new electric rail or hyperloop. One of the current challenges to harness the full potential of electromobility lies in the development of high-performance energy storage technologies, such as batteries, fuel cells, or other emerging technological alternatives.

The MODALT project, led by ZELEROS with the participation of AIMPLAS, the Technological Institute of Plastics, the CMT Thermal Engines Institute of the Universitat Politècnica de València (UPV), and ZIUR Composite Solutions, tackles this challenge and accelerates the development and validation of high-power electric mobility technologies, empowering the industry to tackle an uncaptured market share.

This industrial research, funded by the Valencian Agency of Innovation (AVI), involves the design, prototyping, testing, and validation of a high-performance energy storage module and its integration into modular battery packs for high-power and energy electric mobility applications.

In the words of Daniel Fons, Program Technical Leader at Zeleros, "Through MODALT we will generate differential knowledge to develop and manufacture more sustainable, lighter, safer, and long-lasting batteries. The storage module we are developing will contribute to unlocking high-performance electrified vehicle applications, as its design meets the power, energy, performance, and operational requirements demanded by these vehicles".

### **Use of thermoplastic composites for enhanced recyclability and properties**

Furthermore, added Guillermo Ulldemolins, a researcher in sustainable and future mobility at AIMPLAS, "from a materials perspective, the use of thermoplastic composites enables the structural components of batteries, when they reach the end of their service life, to have a higher

recyclability percentage compared to conventional systems, contributing to the circularity of the sector and making it more sustainable and environmentally conscious.

Additionally, the treatment and processing with thermoplastic matrixes allow the incorporation of conductive and fire-resistant particles, thereby achieving important properties such as electromagnetic shielding and fire resistance. Reinforcement with long fibers enables the production of high-stiffness materials without compromising impact resistance.

As final deliverable of the project, a storage module will be designed and validated in the laboratory through experimental electrical, mechanical, and thermal tests, simulating various driving cycles.

The research is funded by the Generalitat Valenciana through the Valencian Agency of Innovation (AVI), with co-financing from the European Union under the FEDER Comunitat Valenciana 2021-2027 Program, as part of the 2022 Strategic Projects in Cooperation call.

### **About ZELEROS**

ZELEROS is a Valencian company at the forefront of developing hyperloop technologies for sustainable mobility. The company applies these pioneering technologies in the development of advanced mobility solutions, such as hyperloop, as well as for port automation, like SELF (Sustainable Electric Freight-forwarder).

The company mobilizes more than 180 people worldwide, working with leaders in the railway, infrastructure, aviation, and energy sectors such as Airbus, Acciona, Arcelormittal, CAF Group, Capgemini Engineering, EIT Innoenergy, ITP Aero, Red Eléctrica de España and Renfe, as well as universities and research centres like CIEMAT, UPV, UPM and international investors such as Plug and Play Tech Center (Silicon Valley). More at [www.zeleros.com](http://www.zeleros.com)

### **About AIMPLAS**

At AIMPLAS, the Technological Institute of Plastics, we have a dual commitment: to add value to companies to create wealth and high-quality employment, and to address social challenges to improve people's quality of life and ensure environmental sustainability.

We are a non-profit entity belonging to the Network of Technological Institutes of the Valencian Community (REDIT), and we offer comprehensive and personalized solutions to companies in the plastics sector. These solutions range from R&D&I projects to training, competitive and strategic intelligence services, as well as other technological services like analysis and testing or technical consultancy. Moreover, we support the 17 Sustainable Development Goals (SDGs) of the United Nations Global Compact through our activities and social responsibility.

For more information consult [www.aimplas.es](http://www.aimplas.es)



PRESS RELEASE



**Contacto:**

**ZELEROS**

Ingrid De Keijser

[ikeijser@zeleros.com](mailto:ikeijser@zeleros.com)

[www.zeleros.com](http://www.zeleros.com)

**AIMPLAS**

Lucía Pérez

[lperez@aimplas.es](mailto:lperez@aimplas.es)

[www.aimplas.es](http://www.aimplas.es)