MAXIMA Press Release – Project Launch

MAXIMA: upgrading Europe's battery factories for the solid-state era

New Horizon Europe project develops plug-and-play, solvent-free modules that let existing production lines make next-generation solid-state batteries

3rd November 2026

A new European consortium today announced **the official** launch of MAXIMA, a research and innovation project funded by the European Union's Horizon Europe programme (call HORIZON-CL5-2026-01). The project will pioneer a faster, cost-effective route to manufacturing solid-state batteries (SSBs) in Europe. Instead of building new gigafactories, MAXIMA will upgrade existing lithium-ion production lines with solvent-free, retrofit-ready manufacturing modules.

Solid-state batteries are safer, lighter and store more energy than today's batteries, making them key for electric vehicles and electric aviation. MAXIMA's goal is to help European cell manufacturers make the switch while protecting the billions already invested in their plants.

The MAXIMA project runs for 42 months, from October 2026 to March 2030. It is coordinated by the Karlsruhe Institute of Technology (KIT) and brings together 19 partners from 10 countries. The consortium covers the whole value chain, from materials and machinery to digital tools, cell testing and industrial uptake.

The need and the challenge: avoiding a technology lock-in

Electrifying transport is key to the European Green Deal's 2050 climate-neutrality goal. Europe has invested €127 billion in lithium-ion battery manufacturing across 111 projects, raising capacity from 44 GWh per year in 2020 to 238 GWh in 2024. But most of this capacity makes third-generation (Gen.3) liquid-electrolyte batteries, while the market is shifting to fourth-generation (Gen.4) solid-state batteries.

Gen.4 cells cannot simply be made on today's wet-slurry lines. They need dense, defect-free layers, exact thickness and perfect contact between solid materials, while solvent-based coating adds variability that hurts yield, scrap rates and energy use. Without an upgrade path, Europe risks being locked into yesterday's technology and losing the value of billions in recent investment.

MAXIMA's main objectives

By the end of the project, MAXIMA will have validated a manufacturing platform that can be applied to existing European production lines. It will be ready to support medium-term scaled production of premium solid-state batteries. To get there, the project will:

1. Develop and validate a solvent-free twin-screw extrusion module for continuous cathode and solid-electrolyte films, designed to integrate with existing lines.
2. Develop lithium manganese iron phosphate (LMFP) cathode and polymer-ceramic electrolyte formulations that can be extruded without solvents and deliver strong solid-state cell performance.
3. Develop and validate roll-to-roll laser texturing, lamination and edge-finishing for lithium metal anodes on copper current collectors.
4. Demonstrate the full solvent-free process chain on an integrated pilot line (TRL 5). The demonstration will quantify gains in yield, quality, energy use and environmental impacts against today's production, while incorporating the Safe and Sustainable by Design framework.
5. Implement data integration, model-based monitoring and AI-supported process control to improve efficiency, detect defects and reduce waste.
6. Deliver an exploitation, scale-up and deployment plan for the MAXIMA modules. The plan will include a business case backed by techno-economic and life-cycle assessments.

"With MAXIMA, Europe does not have to choose between protecting its recent battery investments and moving to the next generation of technology. By upgrading existing lines, we can bring solid-state batteries to European factories faster, cheaper and with a lower environmental footprint."

Wilhelm Pfleging, MAXIMA Project Coordinator, Karlsruhe Institute of Technology (KIT)



Iconiq Innovation (UK): Iconiq Innovation specialises in securing R&D funding and delivering projects across the full innovation lifecycle, from initial concept and proposal writing to funding strategy, project delivery and long-term commercialisation. Iconiq's expert guidance supports organisations ranging from SMEs to multinational corporates, and from leading universities to renowned RTOs, all united by a shared goal: securing funding for high-impact innovation projects. In MAXIMA, Iconiq Innovation leads the communication, dissemination and exploitation work package.

Contacts

Coordinator: Wilhelm Pfleging (KIT), maxima@for.kit.edu

Media contact: Iconiq Innovation Ltd (IIL) [Beatriz Riesco, Beatriz.Riesco@iconiqinnovation.com]

Follow the project on LinkedIn: https://www.linkedin.com/company/maxima-eu-project/





Funded by the European Union under grant agreement No. 101319063. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.