



HyLiST

Hybrid Lithium Metal-based Scalable
Solid-State Battery Manufacturing

Press Release #01

Welcome to the HyLiST Project

23/01/2025



**Funded by
the European Union**

This project has received funding from the European Union's Horizon Europe research and innovation programme under the Grant Agreement No 101147688. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Climate, Infrastructure and Environment Executive Agency (CINEA). Neither the European Union nor the granting authority can be held responsible for them.

Introducing the HyLiST Project

Hybrid Lithium Metal-based Scalable Solid-State Battery Manufacturing

[January 23rd, 2025]

Joining the European efforts towards a cleaner and more resilient future, HyLiST is set to revolutionise the European battery manufacturing industry. Funded by the Horizon Europe programme through the CINEA - European Climate, Infrastructure and Environment Executive Agency under the Grant Agreement No. 101147588, the project focuses on the development of **next-generation hybrid-solid electrolytes** that will allow for the delivery of **safer, high-performance, solid-state Li-ion batteries for application in the automotive and aeronautic industries** with a Technology Readiness Level 6.

The HyLiST project will develop, over the course of 36 months, cutting-edge battery features that include:

- a high-capacity cobalt-free cathode (LNMO) with high areal capacity;
- single-ion polymers (HSIPEs);
- a high-energy, ultrathin Li metal (LiM) anode using Pulsed Laser Deposition (PLD).

These efforts shall establish the groundwork and pave the way for the commercialisation of Generation 4b Solid State Batteries (LNMO|HSIPEs|Li), which are cleaner, longer lasting, and more eco-friendly. It shall directly contribute to the achievement of both the European Green Deal and the Paris Agreement, whilst placing the continent at the forefront of new battery technologies, which brings new market opportunities as well as social and environmental benefits to Europeans. Additionally, the cobalt-free component shall diminish European dependency of raw materials from third countries, strengthening its supply-chain and fostering its sovereignty.

HyLiST's approach consists of three steps:

- (1) Development of the materials, including the LNMO cathode, HSIPEs and LiM as well as the Life Cycle Assessment of Materials for optimisation and upscaling;
- (2) Characterisation of the cathode-HSIPE interface, including the uncoated cathode active material (CAM), and its interface optimisation with Solid Electrolytes (SEs), cell design and its integrations, a mono-layer pouch cell and a multilayer design;
- (3) Creation of a digital twin, battery passport, recyclability testing and the Life Cycle Assessment.



HyLiST Kick-off Meeting and project launch

HyLiST's official launch took place during a meeting that brought all partners together at the Austrian Technology Institute (AIT) facilities in Vienna, Austria, between the 14th and 15th of January 2025.

During the two-day Kick-off Meeting, representatives of partner organisation from the HyLiST consortium presented, discussed and brainstormed ideas for the implementation of the project's activities and its successful outcomes,

Day 1:

- Welcome words from coordinating and host partners (Austrian Institute of Technology - AIT)
- EU Project Officer presentation and clarifications
- Work-Packages presentations:
 - WP1 "Project Coordination" (AIT)
- Pro-action coffee (Workshops)
 - WP2 "Technical Requirements & Specifications" (FEV Europe GmbH)
 - WP3 "Cathode and anode processing and upscaling" (Pulsedeon OY)
 - WP4 "Hybrid Solid electrolyte processing" (CIDETEC)
 - WP5 "Interfaces characterisation and optimisation" (Uppsala University)
 - WP6 "Cell production" (AIT)
 - WP7 "Multiphysics Multiscale modelling of SSB capturing ageing phenomena" (IFP Energies Nouvelles)
 - Working dinner

Day 2:

- Work-Packages presentations:
 - WP9 "Life cycle assessment and recycling" (Vrije Universiteit Brussel)
 - WP10 "Communication, Dissemination & Exploitation" (F6S Innovation)
 - WP8 "Industrial PoC Validation" (Piaggio Aerospace)
 - Lab tour at AIT's Battery Materials Laboratory



Connect with HyLiST

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LinkedIn: www.linkedin.com/company/hylist/

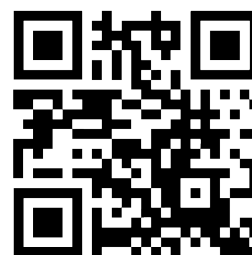
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HyLiST Consortium

HyLiST's consortium is composed of 13 organisations from 9 countries, bringing together universities, research and technology organisations, SME and industrial partners. They are listed below:

- AIT Austrian Institute of Technology GmbH
- IFP Energies Nouvelles
- Centro de Investigación Cooperativa en Energías Alternativas Fundación, CIC energiGUNE Fundazioa
- Fundación Cidetec
- Pulsedeon OY
- Sovema Group S.P.A.
- Specific Polymers
- Uppsala Universitet



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- Vrije Universiteit Brussel
- Tampereen Korkeakoulusaatio Sr
- Piaggio Aero Industries Spa
- F6S Network Ireland Limited
- FEV Europe GmbH

About the Coordinator: AIT Austrian Institute of Technology GMBH

The AIT Austrian Institute of Technology is Austria's largest non-university research institute. With its seven Centers, AIT regards itself as a highly specialised research and development partner for industry. Its researchers focus on the key infrastructure issues of the future: Energy, Health & Bioresources, Digital Safety & Security, Vision, Automation & Control, Transport Technologies, Technology Experience and Innovation Systems & Policy. Throughout the whole of Austria – in particular at the main locations Vienna Giefinggasse, Seibersdorf, Wiener Neustadt, Ranshofen and Leoben – around 1,500 employees carry out research on the development of those tools, technologies and solutions that will keep Austria's economy fit for the future in line with our motto "Tomorrow Today".

At the AIT Center for Transport Technologies, around 200 experts are working on solutions for sustainable, safe, intelligent and thus future-proof mobility. The focus of the research and development work is on material-based lightweight design, on the electrification of the propulsion train and the storage of electrical energy, as well as on a resilient and safe transport infrastructure. This also includes environmentally compatible and intelligent production technologies for mobility components.

