



NEXTGEN+

Press Release



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Climate, Infrastructure and Environment Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

This work has received funding from the Swiss State Secretariat for Education, Research and Innovation (SERI).

Project funded by



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Federal Department of Economic Affairs,
Education and Research EAER
**State Secretariat for Education,
Research and Innovation SERI**

Swiss Confederation

NEXTBAT project forges ahead highlighting the transformative impact of battery design on electrification in the EU

- The project, which kicked off in June 2023, is now in the phase of finalizing the technology choices for developing two prototypes.
- "We aim to demonstrate that battery system designs can speed up electrification".

NEXTBAT, the vanguard battery technologies European project, is making substantial progress towards its mission of **speeding up a safe and sustainable electrification of transport and mobile applications in the EU**. Coordinated by VTT, one of Europe's leading research institutions, the project has successfully rolled out its initiatives since it was launched in June 2023 and has initiated steps toward prototyping next-generation battery technologies. This momentum underscores NEXTBAT's commitment to driving innovation and propelling advancements in sustainable electrification.

Transport contributes 25% of EU CO₂ emissions. To face the challenge, **NEXTBAT aims to decrease the carbon footprint of the innovative battery system** by cutting production costs through the high recyclability of components (100% for hardware, 50-80% for cells) along the production chain.

"There is a need for a battery industry to bring down the costs and, at the same time, increase performance. Simultaneously, we're witnessing the rise of new technologies and materials. This scenario poses multiple challenges, prompting us to explore optimal ways to leverage them" notes Mikko Pihlatie, Research Professor at VTT and project coordinator.

One of these challenges is **the demand for high-performance, safe battery systems**. NEXTBAT technologies will enhance battery performance, including a 30-50% increase in energy density and a 25% reduction in battery weight using innovative lightweight materials. Additionally, battery management systems (BMS) will extend battery lifetime by up to 20% at an 80% state of health through innovative electronic sensing and actuating systems.

Prototyping next-generation battery technologies

Within the project, two prototypes will be manufactured: "The first prototype will focus on innovations aimed at increasing the energy density of battery designs, while the second emphasizes innovations to increase power density. **Through joint analysis, our ambition is to conclude, combine design features, and align them with the diverse requirements of our targeted uses and applications**" explains Mikko Pihlatie. Furthermore, safety guidelines and methodologies will be established through testing campaigns conducted by certified laboratories and end-users. The assessment of dismantling and reuse of BMS parts will be conducted alongside life cycle analysis.

A collaborative endeavor

Collaboration between industry players and research institutions is a pivotal aspect of NEXTBAT. "The project is in the middle of the technology readiness scale, that's where **research and industry need to meet to bridge the gap from research towards applications**", emphasizes the coordinator.

NEXTBAT gathers a strong consortium that brings together the experience and expertise from renowned research centers and SMEs. The partners involved represent six distinct EU countries – Finland, Spain, France, Germany, Greece, and Sweden – and are complemented by an associated partner from Switzerland.

Project partners are [VTT Technical Research Centre of Finland](#), [RISE Research Institutes of Sweden AB](#), [APPLUS](#), [CEA \(Commissariat à l'énergie atomique et aux énergies alternatives\)](#), [Fraunhofer Gesellschaft](#), [BSC CNS \(Barcelona Supercomputing Center - Centro Nacional de Supercomputación\)](#), [Valmet Automotive](#), [Idneo](#), [Sunlight Group](#), [Heart Aerospace](#), [Zabala Innovation](#) and [CSEM \(Centre Suisse d'Électronique et de Microtechnique SA - Recherche et Développement\)](#).

NEXTBAT was launched in June 2023 and will end in November 2026 (42 months). The initiative is funded by EU and Swiss SERI and by the European Commission with a Horizon Europe program grant of almost 5 million euros.

Contact

PROJECT COORDINATOR:

Mikko Pihlatie

Mikko.Pihlatie@vtt.fi

COMMUNICATION TEAM:

Blanca Del Guayo

bdelguayo@zabala.es

Stay tuned!

More information about NEXTBAT can be found on [the official website](#) and on official social media profiles:

