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Welcome to the first SPRINT newsletter!

Powering Europe's energy future
with safe, sustainable, and scalable sodium-ion batteries.

SPRINT is a European Horizon Europe project gathering 18 partners to develop **safe, sustainable and affordable sodium-ion batteries** for stationary energy storage. By combining innovative materials, advanced battery concepts and industrial scale-up, the project aims to support the energy transition and strengthen European value chains.

This newsletter will keep you up to date on **key milestones, innovations and impacts** as SPRINT progresses since its start in January 2025, from the lab to real-world demonstrations in Europe and beyond. **Discover how sodium-ion technologies can power a more sustainable future.**

Update on the project's progress⚡

Discover our animated project video!
Curious about our mission and innovations? Watch our animated video to explore the project in a simple, visual, and comprehensive way.

The **project's website** was launched by our valued partner Euroquality, where you will find comprehensive information about the project's concept, objectives, demonstration sites, partners and latest news. Make sure to check it out!

Visit our website | Watch our video

Work package WP1 – Definition and update of specifications and requirements

The first work package of the SPRINT project was successfully completed in April. This initial phase laid the foundation for smooth project progress by delivering an internal guideline document that consolidates technical and commercial specifications, agreed protocols, and relevant regulatory frameworks. Beyond setting these standards, this preparatory work also enabled the Consortium to define a clear strategy for international collaboration, ensuring strong alignment and shared objectives across all partners.

Work package WP2 – Refining of materials at lab-scale

Led by **Fraunhofer**, WP2 focuses on optimizing the cathode, electrolyte, and anode at lab scale to boost performance, safety, and scalability. Partners are refining synthesis processes and material properties to deliver the first optimized samples for testing in WP3, a key step toward high-performance, sustainable sodium-ion batteries.

Main progress until now:

- **Optimized quasi solid-state electrolyte:** partners have improved the overall electrochemical performance of thermally cured QSPEs.
- **Hardcarbon anodes:** partners have optimized and developed hard carbon anodes and validated the performance of sodium ion cells.
- **Cathode development**: partners have investigated NFP and NFPP cathodes and various synthesis and structural properties.

Work package WP3 – Cell optimisations & in-depth characterisation and modelling for rapid final chemistry selection

Led by **TNO**, WP3 started in May 2025 and focuses on optimising cell interfaces and electrode processing, while leveraging advanced characterisation and modelling to guide the final chemistry selection and battery design.

Key activities include:

- **Interface optimisation**: Partners are developing additives and surface coatings to improve stability and performance at electrode/electrolyte interfaces.
- **Dry electrode processing**: Investigating fluorine-free binders and extrusion techniques to enable greener, scalable manufacturing.
- **In-depth characterisation & modelling**: Using operando and in-situ techniques combined with simulation to understand material behaviour and predict interface stability.
- **Final chemistry selection & design**: Testing optimised materials from WP2 in coin cells to select the best-performing combinations and define pouch cell and battery designs.

These efforts will ensure robust, high-performance sodium-ion batteries tailored to SPRINT's technical and commercial targets.

Key progress until now:

- **Interface optimisation:** The impact of surface modifications on NFP cathodes was studied, including fluorination treatments and ALD coatings, to elucidate their influence
- **Dry electrode processing:** Dry electrode coating processes for hard carbon anodes using PTFE-based and fluorine-free binders were developed and optimised. In particular, PTFE-enabled processing yielded high-quality electrodes, which were successfully validated in sodium-ion cells.
- **In-depth characterisation & modelling**: DFT calculations on NFP olivine and maricite phase were conducted. These simulations rationalised the observed electrochemical behaviour and identified promising alternative phases for further experimental investigation.

Project-related events

Recent events

Kokkola Material Week 2025
November 2025

Read more

Battery Innovation Days
2-3 December 2025

Read more

ACS 150 JACS Symposium
12-13 January 2026

Read more

Upcoming events - come and meet us!

18-21 May 2026
Advanced Automotive Battery Conference Europe 2026 - AABC Europe
Mainz, Germany

28 June - 3 July 2026
International Symposium on Beyond Lithium-Ion Batteries 2026
Zürich, Switzerland

24-26 August 2026
Swiss Battery Days 2026
Zürich, Switzerland

6-11 September 2026
77th ISE meeting, 77th Annual Meeting of the International Society of Electrochemistry
Sydney, Australia

22-24 September 2026
NordBatt 2026,
7th Nordic Battery Conference
Espoo, Finland

Stay tuned for the latest news from SPRINT!

Co-funded by the European Union

Co-funded by the European Union (project 101191903, SPRINT). 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.