PULSELiON

Newsletter #7 – August 2026

In this final newsletter, we share the latest achievements and highlights from the PULSELiON project as it reaches its conclusion. Over the past four years, the consortium has worked together to advance solid-state battery manufacturing technologies, resulting in important scientific, technological, and dissemination achievements. In this edition, we look back on some of the key results, celebrate recent successes, and reflect on the project's future impact.

We would like to sincerely thank all project partners, stakeholders, and followers who have supported PULSELiON throughout this journey. Although this is the final newsletter, project results, publications, videos, and public reports will remain available through www.project-pulselion.eu. We also invite you to stay connected with us through LinkedIn and X.

PULSELiON Reaches Its Final Stage

In August 2026, the PULSELiON consortium gathered in Stockholm, Sweden, for the project's Final General Assembly, hosted by **RISE Research Institutes of Sweden**. The meeting provided an opportunity for partners to review the project's achievements, discuss lessons learned, and identify opportunities for further development beyond the project lifetime.

A key highlight of the final phase of the project was the successful **production of a functional single-layer pouch cell** based on the PULSELiON sulfide-based solid-state battery concept. This important achievement **demonstrated the industrial feasibility** of the manufacturing approach developed throughout the project and represented a significant step towards future commercial implementation.

During the General Assembly, partners discussed how the knowledge, technologies, and collaborations established within PULSELiON could serve as a foundation for future research, development, and industrial uptake. The consortium expressed a strong interest in continuing the journey beyond the project through follow-up initiatives, future collaborations and the further maturation of the developed technologies. As part of these efforts, stakeholders will be invited to participate in the final online exploitation event organised on the 6 October 2026, where key project results, lessons learned, and future opportunities will be presented.

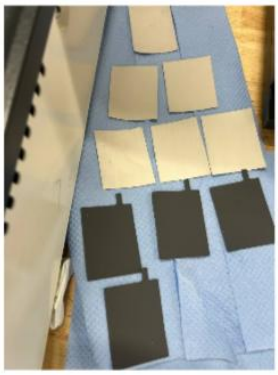
PULSELiON

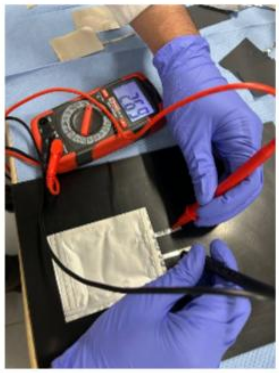
Newsletter #7 – August 2026

Functional Single-Layer Pouch Cell Successfully Demonstrated

One of the most important achievements of the final phase of the PULSELiON project was the successful production of a **functional single-layer pouch cell** based on the project's sulfide-based solid-state battery technology.

Over the past four years, consortium partners have worked together to develop and optimise materials, manufacturing processes, interfaces, modelling tools, and testing methodologies required for next-generation solid-state batteries. The production of a functional pouch cell demonstrates that these developments can be integrated into a complete battery cell assembly and demonstrates that **industrial manufacturing of the PULSELiON technology is technically feasible**. This marks an important milestone towards future industrial implementation.



Several functional pouch cells were assembled and tested during the final phase of the project. These activities provided valuable insights into cell assembly, interface engineering, electrolyte processing, and testing procedures. In addition, the project generated important know-how in the fabrication of sulfide-based solid electrolyte membranes and the manufacturing of advanced solid-state battery components.

While further optimisation remains necessary, the knowledge and expertise generated within **PULSELiON provide a strong foundation for the continued development of all-solid-state battery technologies.** The consortium believes that the project has contributed valuable building blocks for future research, scale-up activities, and industrial innovation in Europe.

New Patent Submitted by IKERLAN for Battery Cell Stack Compression Technology

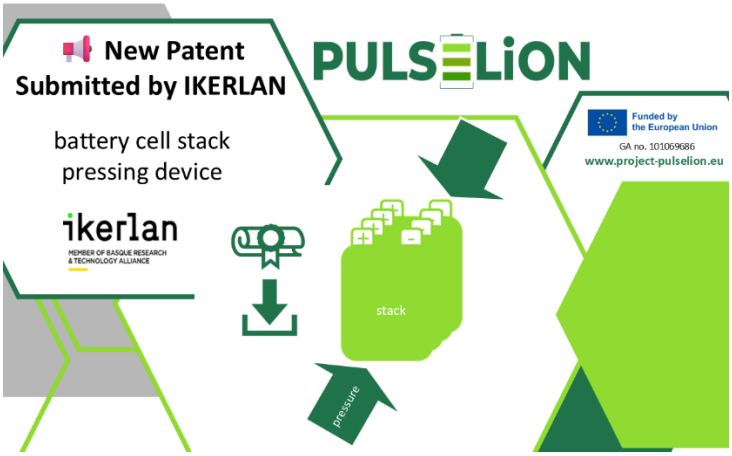
Innovation does not stop at the battery cell itself. During the final phase of the PULSELiON project, our partner **IKERLAN** submitted a **patent application for an innovative battery cell stack pressing device** developed within the project.

Battery cells naturally change in thickness during operation due to factors such as temperature variations, state of charge, and ageing. Maintaining the right amount of pressure on a battery cell stack is important because it directly influences performance, efficiency, and long-term durability.

The patented solution introduces a novel compression approach that helps maintain pressure within the desired operating range. The innovation lies in the design and integration of a dedicated

compression element, enabling a more compact and robust compression system compared to conventional approaches.

The technology was specifically adapted for the solid-state battery concept developed within PULSELiON and has the potential to improve module design by reducing the space required for compression components while supporting battery performance and lifetime.



We congratulate the IKERLAN team on this important achievement and are proud to see innovations generated within PULSELiON progressing towards future industrial application.

👉 **Read the full story and learn more about the patented solution: https://project-pulselion.eu/new-patent-submitted-by-ikerlan/**

New PULSELiON Project Videos Showcase Progress, Innovation and Collaboration

As the PULSELiON project approaches its conclusion, two new project videos have been released, providing a unique behind-the-scenes view of the project's achievements, the people involved, and the journey towards next-generation solid-state battery manufacturing.

The first video was recorded during the General Assembly hosted by **INEGI in Porto, Portugal**, and features **interviews with representatives from RISE, ABEE, INEGI, and UPORTO**, together with

impressions from the meeting and visits to the **research facilities of INEGI and UPORTO**. The video highlights the progress achieved during the final phase of the project and demonstrates the strong collaboration between partners from across Europe.

Building upon this, a second and final project video was recorded during the **Final General Assembly hosted by RISE in Stockholm, Sweden.** The video includes interviews with representatives from across the partnership, reflecting on four years of collaboration, key scientific and technological achievements, lessons learned, and future opportunities beyond the project. The video also includes footage from the RISE battery research facilities and highlights the successful completion of the project.

Together, these videos provide a visual summary of the innovation, expertise, and teamwork that have characterised PULSELiON throughout its lifetime, while offering valuable insights into the technologies, facilities, and people behind the project.

👉 **Watch the videos and discover the story of PULSELiON:**

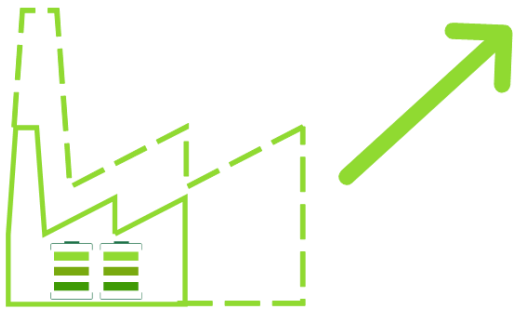
- **Porto General Assembly video and interviews**
- **Stockholm final General Assembly video and interviews**

The videos will remain available through the project website and **YouTube channel** after project completion, ensuring continued visibility of the project's results and achievements.

Join the Final PULSELiON Exploitation Event

As the PULSELiON project reaches its conclusion, the consortium will organise a **final online exploitation event on 6 October 2026**. During this event, partners will present the main project results, discuss the exploitation potential of the developed technologies, and reflect on future opportunities arising from the project.

The event will provide an opportunity for stakeholders from industry, research organisations, public authorities, and the wider battery community to learn more about the results generated within PULSELiON and their potential contribution to the future of solid-state battery manufacturing.



Interested stakeholders are invited to participate in the event. To receive more information and registration details, please contact the PULSELiON consortium via the contact details provided on the project website.

👉 Visit **https://project-pulselion.eu/contact/** or send an email to **pulselion@project-pulselion.eu** to express your interest in participating.

We look forward to welcoming you online and sharing the final outcomes of four years of collaboration, innovation, and research within PULSELiON. 🔋⚡

PULSELiON Reaches 30 Scientific Publications

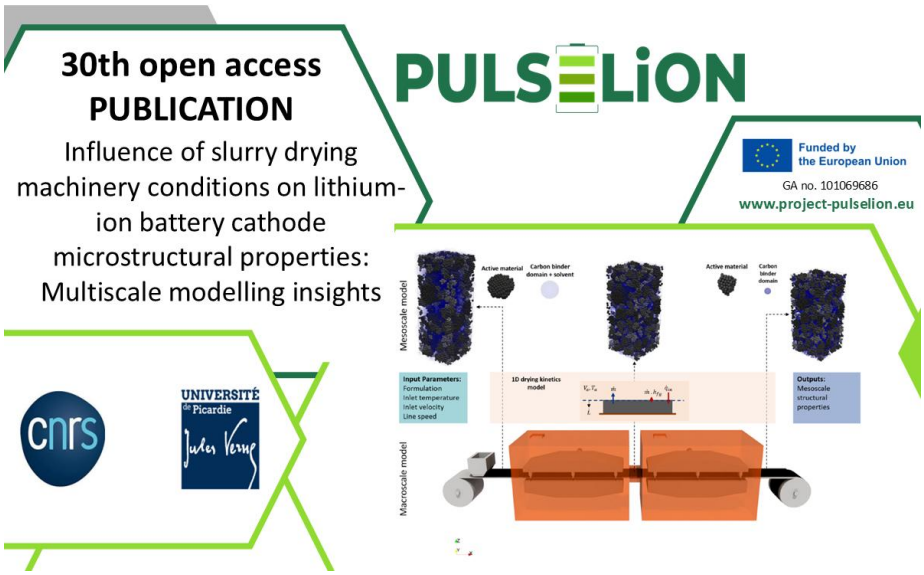
Scientific dissemination has been one of the major success stories of the PULSELiON project. While the consortium originally aimed to deliver **5 to 10 scientific publications**, the project concludes with an impressive total of **30 peer-reviewed scientific publications** acknowledging PULSELiON funding.

Over the past four years, researchers across the consortium have published results covering a wide range of topics, including solid-state battery materials, battery manufacturing processes, modelling and simulation, battery recycling, sustainability assessments, and next-generation energy storage technologies. These publications have helped disseminate project results to the international scientific community and contributed to advancing knowledge in the field of sulfide-based solid-state batteries.

The most recent publication, and the 30th publication of the project, is entitled:

"Influence of Slurry Drying Machinery Conditions on Lithium-Ion Battery Cathode Microstructural Properties: Multiscale Modelling Insights"

This publication by **CNRS** investigates how manufacturing conditions influence battery electrode properties and contributes to the development of improved battery manufacturing processes. You can **read the article on our website**.



Reaching 30 publications is a remarkable achievement and reflects the scientific excellence, collaboration, and dedication of the researchers involved in PULSELiON. The publication target defined at the start of the project was exceeded by a factor of three, demonstrating the strong scientific impact generated by the consortium.

📚 A complete overview of all PULSELiON publications can be found on the project website: **https://project-pulselion.eu/results/**

All publications remain available through established scientific publishing channels and will continue to contribute to the advancement of battery research beyond the lifetime of the project. 🔋📖🚀

New Public Summaries and Results Available

As the PULSELiON project reaches its conclusion, several new public summaries and project results have been made available through the project website. These publications provide stakeholders with access to key outcomes generated during the project while respecting confidentiality and intellectual property considerations.

Recently published public summaries include:

- **D3.4 – Report on Full Cell Chemistry and Pouch Cell Manufacturing**

Providing an overview of the development, assembly, and testing of the PULSELiON solid-state battery cell concept.

- **D4.3 – Report on Battery Module Design and Manufacturing**

Presenting the work carried out on battery module design and the integration of innovative solid-state battery technologies into module-level concepts.

- **D7.3 – Report on Recycling Process and Upscaling Requirements**

Summarising the work performed on recycling pathways for solid-state batteries and the requirements for future industrial implementation and scale-up.

Together with scientific publications, newsletters, videos, and other public dissemination materials, these reports provide valuable insights into the technological developments achieved within PULSELiON and contribute to the broader sharing of knowledge within the European battery community.

All public reports, summaries, publications, videos, and project results are available through the PULSELiON website: https://project-pulselion.eu/results/

The consortium remains committed to Open Science and ensuring that publicly funded research results remain accessible to researchers, industry stakeholders, policymakers, and the wider public beyond the lifetime of the project.

PULSELiON

Newsletter #7 – August 2026

PULSELiON by the Numbers

Over the past four years, the PULSELiON consortium has worked together to advance the manufacturing of solid-state batteries, generate new scientific knowledge, and engage with stakeholders across the European battery ecosystem.

As the project reaches its conclusion, we look back at some of the key figures that illustrate the scale and impact of the dissemination and communication activities carried out throughout the project lifetime:

- **Several hundred battery cells** manufactured and tested throughout the project
- **Several functional single-layer pouch cells** successfully demonstrated the feasibility of industrial manufacturing during the final phase of the project
- **30 peer-reviewed scientific publications**
- **26 conference, workshop, webinar and event contributions**
- **7 project newsletters** distributed to a growing stakeholder community
- **8 project videos** produced and shared through the website, YouTube, and social media channels
- **15 partners from 10 European countries** collaborating towards next-generation solid-state battery manufacturing
- **48 months of collaboration**, launching the PULSELiON project on 1 September 2022
- **€ 6,998,543 of EU funding**

These figures reflect not only the scientific and technological achievements of PULSELiON, but also the dedication, expertise, and collaboration of all consortium partners. Together, they have contributed to strengthening Europe's knowledge base and innovation capacity in the field of solid-state batteries.

Thank you to everyone who has followed, supported, collaborated with, and contributed to the PULSELiON journey.

PULSELiON

Newsletter #7 – August 2026

ABOUT PROJECT PULSELiON:

Project PULSELiON has the ambition to develop a manufacturing process for Generations 4a – 4b solid-state batteries, while improving the battery energy density (450-475 Wh/Kg and 1300-1450 Wh/L), costs and safety. The main innovation in project PULSELiON is bringing Pulsed Laser Deposition (PLD) based solid-state battery manufacturing technology from TRL3 to TRL6. The results of PULSELiON will help increase global competitiveness of the European battery ecosystem, increase safety of batteries, decrease battery production costs, and improve battery recyclability. PULSELiON is a Horizon Europe project bringing together a multidisciplinary consortium of 15 partners from 10 countries.

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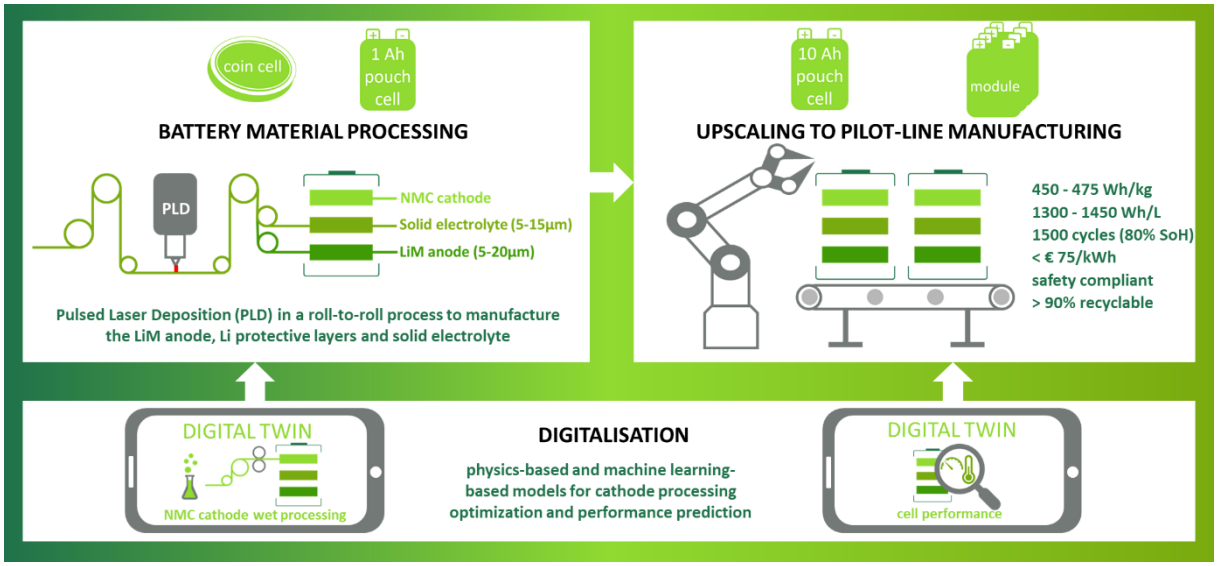
PUlsed Laser depoSition tEchnology for soLid State battery manufacturIng supported by digitalizatiON



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