



PRESS RELEASE

Battery Pass Consortium Publishes Technical Guidance and Software Demonstrator For EU Battery Passport

Berlin, 26 March 2024 – A consortium of eleven leading international industry, technology, and science organisations has released the first [Technical Guidance and demonstrator for the EU Battery Passport](#). Published by the [Battery Pass](#) project with co-funding from the German Federal Ministry for Economic Affairs and Climate Action (BMWK), the Guidance provides a framework and recommendations for the technical implementation of the battery passport mandated by February 2027 in the EU Battery Regulation. With the help of the battery passport demonstrator, some of the technical approaches described in the guidelines have already been verified and implemented as examples.

The Technical Guidance and demonstrator aim to contribute to recommendations and verification of technical implementation of a battery passport that shall help to increase transparency and sustainability in the battery value chain through a standardised approach. Key highlights:

- **Comprehensive framework:** Designed to support the battery ecosystem stakeholders, including economic operators, data providers, standard development organisations, and regulators, the document presents a comprehensive overview of the technical standards that are suitable to support the development of a reliable and seamlessly interoperable battery passport system. It will result in the implementation and operation of the system to be less cost and time intensive for each stakeholder across the entire value chain.
- **Supporting other industry sectors:** The battery passport's technical aspects, outlined in the Guidance and brought to life in the demonstrator, will serve as a pilot for the Digital Product Passport (DPP) and become relevant to other industry sectors such as textiles, electronics, and building materials in the coming years.
- **Contribution to standardisation:** The resources contribute to standardisation processes related to the battery passport which will be mandatory from February 2027 for all light means of transport batteries, industrial batteries above 2 kWh, and electric vehicle batteries placed on the EU market, thus ensuring compliance with the EU Batteries Regulation and Ecodesign for Sustainable Products Regulation (ESPR).
- **Holistic system architecture:** The Technical Guidance depicts a holistic system architecture for the battery passport system, emphasising interoperability, trust, and coexistence of standards. It addresses the major challenges to be overcome to ensure full interoperability between the different battery ecosystem stakeholders, as well as different European and global DPP initiatives.
- **Secure Information Sharing:** The demonstrator showcases aspects of securely sharing information along the battery value chain and how the public and restricted access to the battery passport could work in practice, imitating the proposed architecture of distributed

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data repositories for economic operators with the central registry in accordance with the EU Battery Regulation and ESPR.

The Technical Guidance is based on the requirements of various additional EU legislative actions, including the ESPR, the End-of-Life Vehicles Regulation and the standardisation request for the DPP System Regulation.

Benjamin Helfritz, Head of Quality in Green and Digital Transformation, DIN-German Institute for Standardisation, said: "The Battery Pass project is certainly one of the most relevant projects worldwide on the entire spectrum of digital product passports. With its integrative considerations regarding different sector- and system-specific approaches, technologies, and standards, the work has already been formative in the development process for the upcoming standardisation mandate of the EU Commission within the framework of the ESPR and an important contribution to the framework European standards on the DPP system now being developed in CEN CENELEC Joint Technical Committee 24 — far beyond batteries. The results of the project will also be reflected in international efforts regarding DPPs, essentially in the area of digitalisation of the world's quality infrastructures. We can only wish and recommend that this approach to digitisation projects sets a precedent."

Prof. Thomas Knothe, Head of the Business Process and Factory Management department at Fraunhofer IPK, said: "The battery passport is the pilot for a series of product passports which will become reality in the next three to ten years. The Technical Guidance is considering this and provides a comprehensive information package for affected companies in particular for batteries but applicable for other sectors as well. Based on an interoperability framework, system components, suitable technologies and respective standards are reflected to fulfil the EU Battery Regulation requirements. The overall design objectives for the DPP System are technology openness and cost effectiveness by enabling interoperability through co-existing standards."

Published alongside the Technical Guidance is a working battery passport prototype — the [software demonstrator](#) — which brings the core concept and functionalities of a battery passport system to life and allows for technical feasibility testing. Real but anonymised battery passport data populates the platform, simulating data flows and transactions across the battery lifecycle, from raw materials to recycling, including second-life use cases. The software demonstrator also illustrates how public and restricted access to the battery passport could work in practice.

Douglas Johnson-Poensgen, CEO, Founder of Circular, said: "Circular is proud to have led the demonstrator work package. In doing so, we have drawn on many years of practical experience helping auto-manufacturers and their supply chains implement critical minerals traceability from source and preparing for their collective obligations under the EU Battery Regulation. The demonstrator shares some of these lessons for the industry as a whole and will help accelerate the strategic benefits of product passporting".

Andrea Battaglia, CEO at FIWARE Foundation, said: "The Technical Guidance is a great milestone to future investments from the private sector to make all the technologies and processes behind batteries to become an asset to develop a real circular economy and improve overall global sustainability. FIWARE is proud to contribute its open source software components

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and data exchange standards to the project and the recommended principal system architecture, one of the core results of the Technical Guidance. The work on the document is intended to be a strong and valuable contribution to the standardisation processes related to DPP, both as required by European regulations and in the global context. Finally, it is a call-to-action for all stakeholders involved and the entire ecosystem to start soon with preparatory actions, investments, and co-creation activities.”

From 22–26 April 2024, at Hannover Messe (Hannover, Germany), the Battery Pass Consortium will be part of the Fraunhofer booth in Hall 2, Stand B24. It will present the Technical Guidance, the software demonstrator, and the Battery Pass demonstrator built of LEGO® bricks*, showcasing the complete circular battery value chain and its relation to the data in real life.

To access the Technical Guidance visit <https://thebatteryypass.eu/resources/>

*Disclaimer: LEGO® is a trademark of the LEGO Group of companies which does not sponsor, authorise or endorse the Battery Pass demonstrator.

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Battery Pass media contacts:

Kseniia Chernikova, Public Relations Manager, FIWARE: kseniia.chernikova@fiware.org
Ulrike Stein, Senior Communications Manager, Systemiq: ulrike.stein@systemiq.earth

NOTES TO EDITORS

About the Battery Pass consortium

Co-funded by the German Federal Ministry for Economic Affairs and Climate Action (BMWK), the Battery Pass consortium project aims to advance the implementation of the battery passport based on requirements of the EU Battery Regulation and beyond. Led by system change company Systemiq GmbH, the consortium comprises eleven partners and a broad network of associated and supporting organisations to draft content and technical standards for a digital battery passport, demonstrate them in a pilot application and assess its potential value. The project started in April 2022 and runs over three years. In 2023, the consortium released the Battery Passport Content Guidance, which provides a detailed perspective on the battery passport content reporting requirements as per the EU Battery Regulation and beyond. <https://thebatteryypass.eu/>

Consortium lead: Systemiq GmbH

Consortium partners: acatech - National Academy of Science and Engineering, AUDI AG, BASF SE, BMW AG, Circular GmbH, FIWARE Foundation e.V., Fraunhofer IPK, Systemiq GmbH, TWAICE Technologies GmbH, Umicore AG & Co KG, VDE Renewables GmbH (under subcontract).

Associated partners: Global Battery Alliance (GBA), GS1 Germany GmbH, Kompetenznetzwerk Lithium-Ionen-Batterien e.V. (KLiB), Mercedes Benz AG, RWE Generation SE, SAP SE.

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