PRESS RELEASE

The Standards for the Digital Product Passport are Here – Now is the Time to Bring Them to Life

The digital product passport (DPP) is taking shape: At the international conference DPP4EU 2026 (June 1–3, Brussels), the recently published European technical standards for the DPP will be presented to a broad audience of experts. The Fraunhofer Institute for Production Systems and Design Technology IPK played a key role in their development and supports companies and associations in their implementation.

Interconnected standards

The battery passport kicked things off in 2023 with the EU Battery Regulation. In the coming years, other product categories such as textiles, electronic devices, furniture, and building materials will follow: Digital product passports are intended to provide consumers, companies, and authorities with reliable product information throughout the entire life cycle, from manufacturing through use to recycling. For this to succeed, the underlying technical standards must form a coherent overall system. Prof. Dr.-Ing. Thomas Knothe, Head of the Business Process and Factory Management department at Fraunhofer IPK, chairs CEN CLC JTC 24, the Joint Technical Committee of the two European standardization organizations CEN and CENELEC. Fraunhofer IPK played a key role in developing the interoperable framework in advance, ensuring that the individual technical standards are technology-neutral and interoperable.

»The fundamental technical DPP standards are in place. They create transparency for consumers, industry, and authorities. But a standard alone does not change anything yet. Now it is a matter of bringing it to life: with concrete implementations, open tools, and sector-specific reference solutions that truly make it easier for companies to get started. That is exactly what we are working on at Fraunhofer IPK,« says Thomas Knothe.

Open source as a lever for rapid implementation

To lower the barrier to entry for companies, Knothe and his team at Fraunhofer IPK, together with partners such as GEFEG mbH and the Technical University of Berlin, have developed an open-source test system that organizations can use to validate their DPP implementations. In addition, sector-specific reference systems have been created, including for the battery sector, which serve as a common guide for associations and companies. According to Knothe, experience with these reference systems shows that the system setup is about five times faster and easier than with conventional approaches.

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This topic will be addressed, among other things, on the opening day of DPP4EU in the conference live stream on standardization, which the Fraunhofer IPK expert will lead on June 1 together with Martin Schreck, Convenor, and Thomas Rödding, Co-Chair of JTC 24. They will discuss how the developed standards can already be openly implemented today under the title »JTC 24 Standards Applicable for Everyone – Open Source Implementation of Essential Parts.«

In the afternoon, during the »Solution for Challenges« session, system providers will present concrete technical solutions that enable companies to tangibly implement the standards for both economic benefit and compliance. Various systems will be presented, ranging from the technical GS1 ecosystem to DPP 4.0 based on the Asset Administration Shell, and the test environment for the EU Battery Passport. The session will demonstrate how JTC 24 standards are implemented in practice.

International standardization for global interoperability
A DPP can only achieve its full potential if it functions across borders. As Chair of the CEN/CENELEC JTC 24 Digital Product Passport Framework and System, Thomas Knothe is also actively involved in establishing global standardization under the umbrella of ISO and IEC. The closing panel of the first conference day on global harmonization underscores this role: Only those who actively shape the international standardization landscape can ensure that European DPP solutions remain compatible worldwide. Alongside the Fraunhofer IPK expert, representatives from UN/CEFACT, DIN, DKE, and BASF will discuss the principles of the interoperability required for this.

From implementation to the future of the DPP
On the second day of the conference (June 2), the focus will be on barriers, opportunities, and practical platform solutions. The event will conclude on June 3 with a high-level panel discussion on the future of the DPP, during which Knothe and representatives from the participating directorates of the European Commission will outline the next steps.

DPP as a hub for global product data ecosystems
Fraunhofer IPK views the digital product passport not as an endpoint, but as a starting point: In the medium term, it is intended to evolve into a hub for global product data ecosystems. The consistently open approach to test and reference systems is a deliberate strategic decision. After all, open, interoperable standards ultimately serve both businesses and consumers. »This makes the DPP an efficiency tool and a business enabler for industry and commerce,« says Thomas Knothe. For example, he and his team are currently developing an AI-based DPP solution for the renovation of electrical installations in buildings, which allows skilled trades companies to select an efficient, safe, and at the same time sustainable renovation approach even before work begins. With approximately 14 million homes in Germany currently in need of energy-efficiency renovations, the need is obvious.

About the DPP
A digital product passport (DPP) is the technical provision of product-specific data containing information about a product's constituents, such as components, materials, and chemical substances. In addition, the digital product passport can also include important information relevant to the product's life cycle and sustainability, for example regarding repairability, spare parts, or proper disposal.
Further information: www.ipk.fraunhofer.de/digital-product-passport

About the DPP4EU 2026 Conference
DPP4EU 2026 will take place in Brussels from June 1–3, 2026. It brings together researchers, industry representatives, policymakers, and standards experts from across Europe. Further information: https://digipassforum.eu/

About CEN/CENELEC JTC 24
The Joint Technical Committee 24 of CEN and CENELEC is the central European standardization body for the digital product passport. It develops the technical standards for a uniform, interoperable DPP implementation in the EU.

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