

Digital Product

Passport Standards

Explained

What They Mean for Business



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A high level overview of **the DPP standards landscape**,

an explanation of **the scope and role of each DPP standard**,

an overview of how **the standards fit together as a system**,

and context on **the current status and expected next steps**.

The publication does not provide implementation guidance, sector specific requirements, or product group data specifications, which are defined separately in regulation and delegated acts.

Purpose and audience of this document

This document provides an overview of the eight European standards underpinning the Digital Product Passport (DPP), explaining their role, scope, and interrelation within the framework established by the Ecodesign for Sustainable Products Regulation (ESPR). The DPP standards are developed by CEN-CENELEC Joint Technical Committee 24 (JTC 24). Developed under Standardization Request (M/604), these harmonised standards provide a presumption of conformity with ESPR requirements when correctly applied. Together, they establish a unified DPP system to be deployed in sector-specific DPP delegated acts.

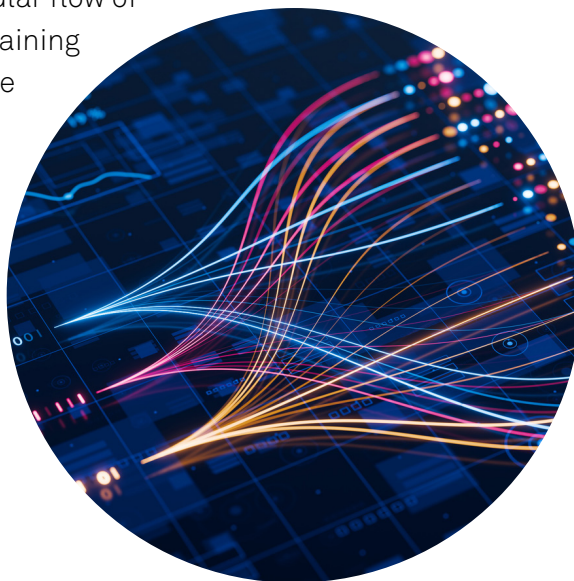
It is intended for stakeholders involved in the development, implementation, or use of DPP-related systems and data, including manufacturers, importers, distributors, repairers, recyclers, digital service providers, public authorities, and organisations working with data infrastructure, interoperability, and standardisation. Consumers are offered easy-to-use access to product data via DPPs.

The purpose is to support a shared understanding of the DPP standards landscape. It should be read alongside the relevant standards and delegated acts, which remain the authoritative sources for detailed requirements.



Definitions/Keys

- 1 Harmonised standard:** A European standard developed by CEN, CENELEC, or ETSI following a request from the European Commission to one of these organisations. Harmonised standards can be used to demonstrate that products, services, or processes comply with relevant EU legislation.
- 2 DPP:** digital record of product characteristics throughout its life cycle
- 3 Economic operator:** manufacturer, authorised representative, importer, distributor, dealer or fulfilment service provider that places the product onto the market
- 4 Interoperability:** capability of two or more entities to exchange items in accordance with a set of rules and mechanisms implemented by an interface in each entity in order to perform their specific tasks.
- 5 Circular economy:** economic system that uses a systemic approach to maintain a circular flow of resources, by recovering, retaining or adding to their value, while contributing to sustainable development
- 6 Normative references:** those documents which are cited in the standards in such a way that some or all of their content constitutes requirements of the document.



What is a Digital Product Passport (DPP)?

A DPP is a structured digital record about a specific product. Depending on the sector, it describes a product at model, batch, or individual-item level and remains accessible throughout the product's lifecycle including any applicable retention periods.

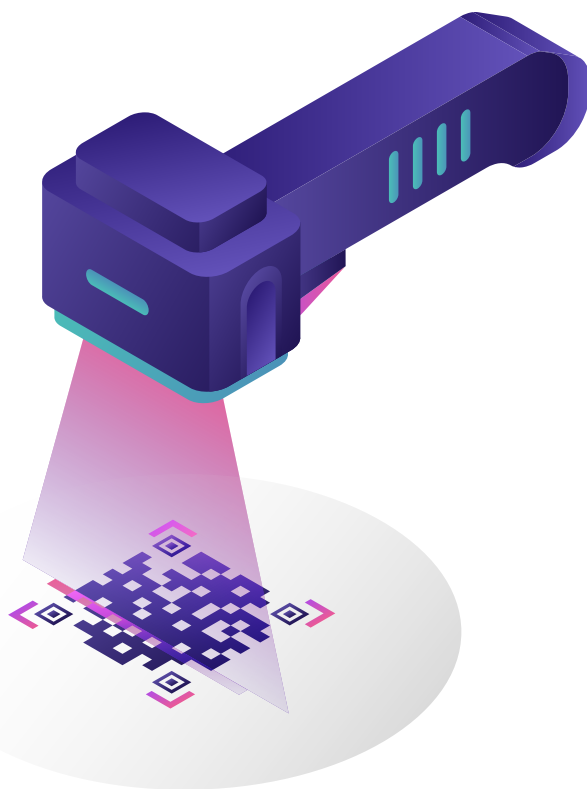
Each DPP is associated with its physical product through a unique identifier carried on the product itself (typically via a QR code or RFID tag). Records are held in repositories operated by economic operators or service providers acting on their behalf; the DPP system comprises the standards, interfaces, and registry services that make these distributed records discoverable and interoperable across the EU.

The concept is introduced under the ESPR as a core mechanism to support sustainability, circularity, transparency, and market surveillance across the EU single market (Regulation (EU) 2024/1781). [Learn more about ESPR](#)

A DPP record connects a physical product to relevant information using:

- a unique product identifier,
- a data carrier (such as a QR code) attached to the product, and
- a digital data layer accessible through interoperable systems.

The economic operator (i.e. manufacturer or importer placing the product on the EU market) holds primary responsibility for creating the DPP, registering it in the EU DPP Registry, and making it available in accordance with ESPR and the relevant delegated act. If the original economic operator withdraws from the market, a backup service will ensure the record is available for a certain time period in accordance with relevant legislation.



Why DPP matters

DPPs are designed to:

- enable transparent information exchange across value chains,
- improve traceability, repair, reuse and recycling,
- enable circular business models,
- facilitate market oversight and compliance verification, and
- support EU regulatory objectives under ESPR.

The DPP establishes shared conventions for exchanging product information across the value chain that may go beyond compliance (e.g., processing recommendations, user manuals, and repair contact information). The DPP is a decentralised system of federated data repositories linked by common identifiers, data carriers, and interfaces, rather than a single platform operated by any one party.



Legal basis

The DPP is a key concept within the framework of the ESPR, which entered into force on 18 July 2024. The ESPR introduces a horizontal framework for sustainability, circularity, and product-related information requirements for products made available on the EU market, whether through physical channels or online.

According to the ESPR Working Plan, product-specific DPP requirements will be introduced progressively through delegated acts over time. The DPP applies to most physical goods, including imports, with exclusions such as food, medicinal products, and defence-related items.

The DPP is introduced by ESPR but is not limited to ESPR. It is also reflected in other EU regulation (e.g., Batteries Regulation, Construction Products Regulation (CPR) and Toy Safety Regulation) and is expected to be further developed across additional sector-specific legislation. ESPR does not prescribe specific technical solutions nor define the exact data points for individual products or sectors. The eight DPP standards should therefore be understood as a cross-regulatory concept implemented through multiple legal instruments.

Together, ESPR and the technical standards for DPP form a complementary system: the regulation sets legal obligations and functional requirements, while the standards provide a framework for practical implementation, supporting operationalisation in a harmonised and scalable way.

How to read the standards

Standards consist of normative requirements (stated as “shall”), normative references, and informative text. Terms and definitions are a mandatory part of all standards, and definitions provided in standards apply to that specific standard. For harmonised standards, Annex ZA provides the connection between the regulation and the requirements as implemented in the standard.

How the standards fit together

The DPP standards are designed to be used together, with clear dependencies, rather than applied in isolation. They provide requirements on technologies used, such as QR code for data carriers or JSON and XML for data protocols.

The standard on unique identifiers defines how products, economic operators, and facilities are identified in a globally unique and persistent manner. The standard on data carriers specifies how those identifiers are linked to the physical product (e.g., through QR codes or RFID) to ensure a reliable, durable, and machine-readable connection throughout the product’s lifecycle.

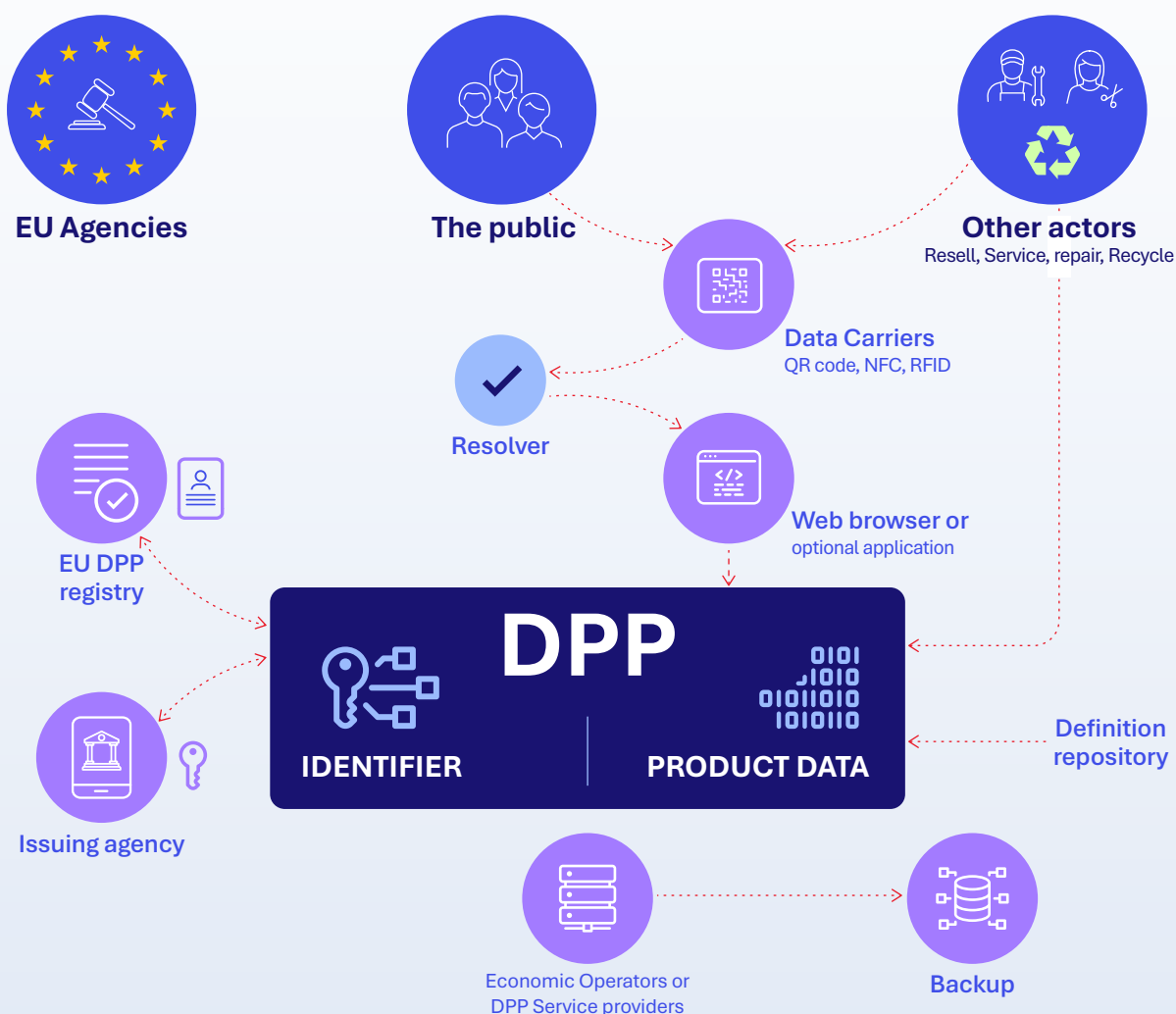
The digital functioning of the DPP is enabled by standards on data exchange protocols and APIs for lifecycle management and searchability, defining secure exchange and how passports are



created, updated, queried, and managed across organisational boundaries. Consistent interpretation is supported by the standards on system interoperability (common information models, metadata structures, and semantic alignment).

Trust, security, and continuity are addressed by standards on access rights management and information security, and on data authentication, reliability, and integrity. Long-term availability is ensured by the standard on data storage, archiving, and persistence (decentralised storage, replication, and continuity even if an economic operator ceases operations).

Technical Framework of the DPP



The DPP system – what it is and what it requires

A DPP is a structured, digital and versioned representation of product information, linked to a specific product, model, batch or serial item through unique identifiers. It makes relevant product data available across the value chain in a controlled, interoperable and persistent way, enabling entitled actors (regulators, customers, retailers, repair companies and others) to access the information they are entitled to see.

In practice, the DPP brings together product information from multiple sources, registers required DPP data to the EU DPP registry through standardised APIs, and makes DPP data available through standardised formats, data exchange protocols and APIs. It is best understood as infrastructure for making product information accessible so it can be trusted, exchanged and reused beyond the organisation that originally produced it.

The role of the economic operator

For the economic operator, the DPP represents a responsibility to make product information available in a structured, reliable and compliant way. Required information is typically spread across internal systems and may depend on external sources (e.g., supplier data, carbon footprint calculations, LCA data, documentation from third-party service providers). A DPP implementation does not usually create a new system of record; it connects, structures and publishes information from existing sources.

The economic operator must ensure the DPP reflects correct product information, is complete and consistent, and remains accessible for the required period. Back-up storage ensures DPP data is available throughout the required life-cycle of the product.

Internal or external DPP service

An implementation choice is whether the economic operator operates the DPP service internally or delegates parts to an external specialist provider. Both models require data collection, transformation, validation, registration, hosting, access control and archiving. The difference is where operational responsibility sits; in both cases, the economic operator remains responsible for the quality and correctness of the product information.



The DPP Standards Support the DPP Ecosystem



What organisations need to prepare for

Economic operators and other organisations should not wait for delegated acts to begin preparations. Much DPP data likely exists but is fragmented across departments, functions, systems, and suppliers. A practical starting point is to understand how product data is currently managed across the value chain.

The DPP standards provide a common framework for exchanging and managing product data consistently and interoperably, supporting the foundations for future product data transparency, circularity and data-driven value creation as described in ESPR.

How the eight DPP standards support an economic operator to comply with ESPR

Accountability for DPP data lies with the economic operator that manufactures or imports to the EU markets a product that falls under the ecodesign regulation. The DPP standards support compliance as follows:

- Select appropriate DPP identifier(s) for your products that comply with DPP standard **EN 18219**.
- Select appropriate data carrier(s) for your DPP data that comply with DPP standard **EN 18220**.
- Decide DPP data according to requirements set out in delegated acts (model, batch or item). By using **EN 18223**, define what product data elements you collect and if these data elements are single or multi-value elements.
- Decide what data formats and data exchange protocols make your DPP data structured, machine-readable and exchangeable by using **EN 18216**.
- Follow **EN 18222** to ensure APIs facilitate registration of DPP data into the EU's DPP Registry and the searchability and accessibility of DPP data.
- Use **EN 18221** to ensure storage and archiving of DPP data throughout the lifecycle of the DPP data, backup included.
- Use **EN 18239** to define access control, data security, protection of confidential business information, and responsibility transfer for DPP data.
- Use **EN 18246** to define mechanisms to ensure authenticity, integrity and reliability of DPP data and to support trust, fraud prevention, and multi-actor data exchange.

Learn more and buy the standards at ds.dk/dpp

DPPs introduce a new way of publishing and maintaining product information. They are not merely a compliance output, but part of a broader digital infrastructure for trusted, interoperable and persistent product data.

Current status

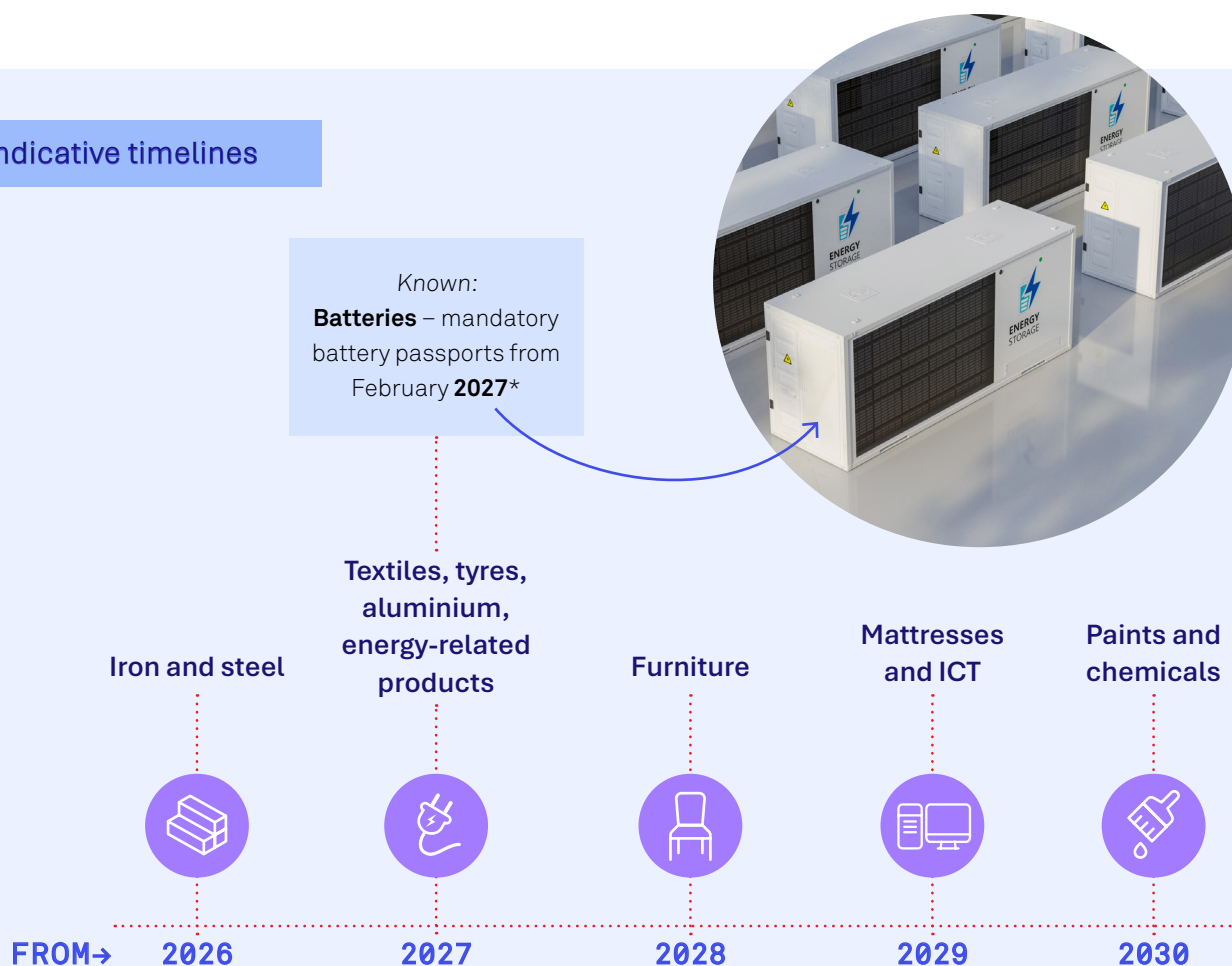
At the time of writing:

- six core standards were published in May 2026,
- publication of the remaining two is expected September 2026,
- JTC 24 continues its work to update and improve the DPP system standards and to develop additional European standards,

- the European Commission has published a draft implementing regulation for the future DPP Registry under ESPR.
- standardisation of DPP will continue at global level in ISO/IEC JTC 5.

DPP requirements enter into force product-group by product-group through delegated acts under ESPR.

Indicative timelines



Estimated:
Once a delegated act is published, economic operators have **18–36 months** to comply as stipulated in the act.

**separate legislation.*

What happens if I don't have a DPP as required?

Products that do not comply with applicable DPP requirements risk non-compliance with EU legislation required for access to the EU single market. Member States define penalty rules and shall ensure they are implemented. Penalties shall be effective, proportionate and dissuasive. Minimum penalty levels include: (a) fines, (b) time-limited exclusion from public procurement procedures (Source: ESPR, Article 74).

The Role of DPP Standards Going Forward

In the coming years, DPP standards are expected to:

- stabilise the technical foundations of the DPP system,
- support cross-sector interoperability,
- reduce implementation costs through reuse and harmonisation, and
- enable both regulatory compliance and value-creating use cases.

References (full list)

Regulation (EU) 2024/1781 – Ecodesign for Sustainable Products Regulation <https://eur-lex.europa.eu/eli/reg/2024/1781/oj/eng>

European Commission (2025). Ecodesign for sustainable products and energy labelling working plan 2025–2030. COM(2025) 187 final.

CENCLC/JTC 24: Digital Product Passport standard descriptions (Working documents)

Dansk Standard: “Guide til det digitale produktpass - sådan forbereder I jer på fremtidens krav og muligheder” (DS-hæfte 67:2026) <https://www.ds.dk>

CENCLC/JTC 24: Business Plan <https://standards.cenelec.eu>

CEN & CENELEC: Standardisation activities on Digital Product Passport <https://unece.org>

KPMG International (2026). European Digital Product Passport Readiness Survey. Available at: kpmg.com/EUDPP

Chawla, K., Chirvasuta, T., Wolf, M.-A., Wolf, K., Rongen, S., Rurup, R., Gonzalez Torres, M., Naumann, G. & Arcipowska, A. (2026). Methodology for defining data requirements for the Digital Product Passport under the ESPR framework. Luxembourg: Publications Office of the European Union.

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