Everything you need to know about the Digital Product Passport

And everything we don't know (yet)

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The European Digital Product Passports (DPPs) should deliver transparency across product lifecycles. It should enable actors to manage, mitigate, or avoid environmental and social risks as well as drive sustainable product design. This requires access to information that is actively used, coupled with performance requirements. Policy makers must ensure that the EU DPP provides net environmental benefits compared to the environmental cost of collecting and hosting vast amounts of data[1]. In 2026, the European Commission is set to adopt several implementing legislations that will form the basis for the DPPs foreseen in several regulations. There is much anticipation of what the DPPs can do, but what do the laws actually say? What remains uncertain?

As new legislation in many sectors revises or introduces information requirements, it is important to clarify what the current legislative framework already provides for or not, and what the DPP will actually cover and when. This will help avoid gaps arising from incorrect assumptions about the scope and deployment of the DPP.

This paper points out some of the uncertainties we need to tackle to ensure the DPPs successfully support the bloc's environmental objectives.

Table 1 A summary of (almost) all the questions you might want to know – find the full answers in the paper

Frequently asked question	More work needed	It depends	No	Why?
1. When will all products have a DPP? Will it be soon?			■	Legislators will need at least a decade to develop rules for all DPPs
2. Will the DPP make all information available very soon?			■	Information disclosure requirements are needed
3. Will the DPP ensure interoperability and streamline data sharing?	■			Rules and tools still need to be developed
4. Will we be certain that the data is accurate?	■			Data quality assurance needs to be developed
5. Will the DPP provide enough added value to surpass the environmental cost of collecting data?	■			An efficient IT infrastructure still needs to be set up
6. Can the DPP replace existing databases from the start? Can we get rid of the database for substances of concern SCIP?			■	We risk losing all this information
7. Can the DPP fully replace all information on packaging, labels and manuals?		■	■	No, because consumers may not check DPPs
8. Will the DPP critically raise consumers' understanding of environmental issues?		■		No necessarily, because consumers need different information channels
9. Will we know all the details about products' environmental footprints?			■	Data may be hard to find
10. Will the DPP support economic operators, such as manufacturers or repairers, in advancing circular processes?	■			Concrete rules to ensure this still need to be developed
11. Will we know what happens during products' use phase to inform circular design?		■		Consumer privacy comes first
12. Can DPPs crack down on non-compliant imports?	■			Enforcement needs to be improved
13. Can the DPP improve the enforcement of Extended Producer Responsibility (EPR) requirements?	■			Legislative alignment is needed
14. Does the DPP require any social information?	■			Mostly missing for now

What is the EU Digital Product Passport?

The exact shape of the Digital Product Passport is still unknown. However, the overall concept can already be described.

- **A DPP is linked to a product.** The product can be anything, from a car to a T-shirt, or a component, like spare parts.
- **An online repository of information.** The DPP consists of a digital repository containing information about the product, as defined by legislation. Information requirements may be at the level of the specific product, but also at batch or model level if deemed more appropriate.
- **Accessible through a data carrier.** The information in the DPP can be accessed through a data carrier attached to the product, such as a QR code or RFID tag (radio-frequency identification).
- **Different levels of access.** Some information in the DPP will be publicly accessible. Other information will require authentication and specific user rights to be accessed. For example, by market surveillance authorities or repairers, to protect confidential business information and personal data. What is public or not will be decided for each product category and may vary from one legislation to another.
- **Possibility to update information.** The DPP may be designed to allow updates, and what updates are possible will be defined in each specific legislation. The company responsible for the DPP can update information when necessary. In some cases, legislation may require manufacturers to keep certain information up to date (e.g. vehicle regulation). Other actors may also be able to add information. Most legislation foresees the possibility for repairers and resellers to add information on the DPP. However, the extent of what they can access and modify in the DPP is still to be defined. For products covered by the Ecodesign for Sustainable Products Regulation (ESPR), it will depend on Delegated Acts that do not yet exist.
- **The DPP moves with the product.** When a product is sold, the DPP remains linked to it. For example, if a product is sold second-hand, the buyer will receive the original DPP, potentially with updated information.

Are DPPs new?

Many companies already use digital product passports or similar systems to communicate information about their products. In that sense, the concept is not new and or novel to the EU. What is new is that DPPs will become **mandatory for key products**, as set out in several legislations, and most notably the ESPR.

Who has obligations?[i]

Under the ESPR, obligations apply to **economic operators** who make products available on the market. However, the work of creating and operating the DPP can be delegated to service providers. According to Article 2 of the ESPR, economic operators include:

- manufacturers (any natural or legal person that manufactures a product, or has a product designed or manufactured and markets it under their name or trademark);
- authorised representatives;
- importers;
- distributors;
- dealers; and
- fulfilment service providers (offering services such as warehousing, packaging, addressing and dispatching).

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[i] NB: here we take the example of the ESPR. Legal obligations may vary in other legislations like the Vehicle Regulation, the Batteries regulation, etc. See Table 2 for list of legislations introducing a DPP.

All of these actors must take the necessary measures to ensure that the products they place on the market comply with the Regulation, including by having a DPP where relevant.

However, the **ultimate responsibility for compliance lies with the economic operator who places the product on the market**, meaning the actor who first makes the product available on the EU market. While a range of actors have responsibilities, the primary responsibility sits with the company or brand placing the product on the market. In practice, economic operators are expected to make use of DPP services offered by independent third-party service providers. The Regulation does **not** require every company to build and operate its own in-house DPP system.

Frequently Asked Questions

1. When will all products have a DPP? Will it be soon? No, it will take at least a decade.

You may have heard that all products will have a DPP very soon. The truth is, it will take time.

- For products covered by the Ecodesign for Sustainable Products Regulation (ESPR), **delegated acts will define information requirements incrementally for each product group.**
- The first working plan under the ESPR includes four "final products" (**apparel textiles, tyres, furniture, and mattresses**) and two "intermediate products" (**iron and steel, aluminium**).
- **DPPs are created only if information requirements are defined. Until the specific information requirements for each product sector are defined in a Delegated Act, there will be no DPP for these products**, and no new information will be made available.
- The exact timeline for each product group is currently unknown, apart from a few (apparel textiles expected in 2027, tyre in 2027, furniture in 2028, mattresses in 2029, iron and steel originally foreseen in 2026 but likely delayed).

Some key products will notably be absent for many years: **the DPP is not currently foreseen for consumer electricals and electronics**. The European Commission has indicated that products currently covered by the EPREL (European Product Registry for Energy Labelling) database will not be a priority for the DPP, to focus on products for which there is no existing database to share information. EPREL includes dishwashers, washing machines, refrigerators, ovens, light sources, smartphones and tablets, electronic displays (screens), air conditioners, boilers, and several others.

For products where DPPs are foreseen under other legislations, the timeline varies (see Table 2 for some examples).

The European Product Act may further expand the reach of the DPP to become the mandatory information tool for conformity assessment and market surveillance, making it a single repository for all conformity documentation. While we support this, it may be years before it is voted into law. The European Commission is still in the process of drafting its proposal, and it will then go through the ordinary legislative procedure.

Table 2. Overview of DPPs foreseen in EU legislation

Law	Products	Mandatory DPP	Possible information[ii]
Batteries Regulation	Certain batteries	February 2027	Sustainability and circularity information, due diligence information
Ecodesign for Sustainable Products Regulation	Potentially all products except food, feed, medicinal products	Incrementally with adoption of sectoral delegated acts (first ones expected 2027, timeline for DPP adoption unknown)	Sustainability and circularity information
Critical Raw Materials Act	Permanent magnets in products	November 2028: add information to DPPs introduced by other acts, if they exist.	Chemicals presence and information on removal
Toys Safety Regulation	Toys	August 2030	Conformity, supplement safety information. The ESPR is responsible for environmental information
Construction Products Regulation	Construction products	18 months after adoption of a delegated act on the DPP, timeline unknown	Environmental information, conformity data and safety instructions
Detergents and Surfactants Revision	Detergents and surfactants	18 months after application date, timeline unknown	Conformity data and safety information
Regulation on Circularity Requirements for Vehicle Design and on Management of End-of-Life Vehicles	Vehicles	6 years after entering into force (expected 2032)	Information on part removal and replacement, recycled materials, spare parts catalogue, and hazardous substances.

2. Will the DPP make all information available soon? No, information requirements are needed.

While the infrastructure for the DPP may be available as of late 2026, the DPP will not serve its purpose until information is actually stored on it. As long as deadlines for information requirements differ from the deadline for the DPP to be operational, we should not expect this information to be available. For example, while the DPP for batteries may be rolled out as of February 2027, information on due diligence has been postponed to August 2027.[2]

Several steps are needed to develop information requirements. Firstly, the scope of information must be clarified. Then it may be necessary to adopt the methodologies which will be used to collect the information. This can easily add a year to the process before companies know how and what data to collect. This is often where delays can creep in.

For construction products, the conversation on information requirements has only started for lifecycle global warming potential, but not on other topics. They will be gradually developed until 2030. However, delays are expected.

[ii] As defined in the legislation. Exact definition may vary from one law to another

All this means that when the DPP exists, but information requirements are not yet in force, the DPP is an empty shell, not a success story.

3. Will the DPP ensure interoperability and streamline data sharing? No, more work is needed.

Since DPPs may exist for **intermediate products and components**, they need to be **interoperable.** For example, the DPPs of vehicle components and materials may connect to the DPP of the vehicle itself (referred to as a "circularity vehicle passport" in the new Vehicles Regulation). **It is critical that technical standards ensure this interoperability, as set in the European Commission standardisation request for the digital product passport.**

Besides the IT infrastructure, Delegated Acts must introduce compatible information requirements, so that data from parts can be rolled up to the final product. Standards will also play a big role in ensuring compatible methods for data collection, measurements and assessments, verification, etc. It is critical that the European Commission closely monitors the standardisation process once delegated acts are adopted to ensure the compatibility of the standards drafted or updated to support information requirements, especially for intermediary products that may be used by different sectors.

If done well, the DPP will drive the standardisation of reporting formats. This will lower costs for suppliers and cooperatives that currently face uncoordinated data requests, asking for similar but different information or reporting formats.

4. Will we be certain that the data is accurate? No, more work needed.

Article 9 of the ESPR states that "The data in the digital product passport shall **be accurate, complete and up to date**". However, **how this will be ensured is not yet defined.** Delegated Acts could introduce **quality assurance mechanisms** like independent third-party verification, but this is not guaranteed at all. It is possible that Delegated Acts leave businesses free to decide how to ensure the accuracy of their data.

The ESPR does foresee that supply chain actors must have documentation ready to provide to notified bodies and national authorities to perform ex-post checks. The nature, timing, extent and frequency of these checks are not yet defined and may be left to the discretion of national authorities.

Without effective data verification before and after the publication of DPPs, we may be accumulating vast amount of false information, putting the **credibility of the DPPs at risk.**

5. Will the DPP provide enough added value to surpass the environmental cost of collecting data? No, more work is needed.

The goal of the DPP is to vastly improve data collection and access to support ecodesign, circular business models, and sustainable consumption. But this will require an entire IT infrastructure, the storing of data in data centres, the development of IT tools to collect, verify, manage and use the data, most likely involving the use of artificial intelligence. All this will come at an environmental cost which is not well estimated at the moment. **More work needs to be done to understand the environmental cost of the DPP versus the environmental benefits it could have.** Legislators need to ensure that the data stored is true, meaningful, and usable by securing systems that remove outdated, duplicated, or inaccurate data.

6. Can the DPP replace existing databases from the start? Can we get rid of the database for substances of concern SCIP? No.

The DPP will not be automatically hosting information from existing databases like the **SCIP or EPREL** because there is currently no legal obligation to do so. **Existing databases should be kept in operation until it becomes mandatory to host their information on the DPP.** Similarly, existing information requirements (e.g. on substances of concern) should not be phased out before equivalent replacement requirements are included in Delegated Acts.

7. Can the DPP fully replace all information on packaging, labels and manuals? No.

The DPP should allow access to new information with the goal of **increasing transparency.** It should primarily focus on information that is not critical for purchasing decisions or safety. However, it can replicate this important information as an additional repository.

Information that is key to making purchasing decisions should be available at the point of sale and not hidden in the DPP. Important safety information should be available with the product and not hidden in the DPP. **The CE marking should also stay on the product, and not be entirely digitalised into the DPP.**

8. Will the DPP critically raise consumers' understanding of environmental issues? It depends.

Consumers will have the possibility to look at the DPP, but will they? While almost all consumers in Europe now own a smartphone[3], internet coverage remains imperfect, as well as digital skills to navigate the DPP[iii]. **Designing the DPP to be inclusive, and easy to access online** (also in terms of loading times) will be critical.

The data that legislations foresee to include in the DPP may be very technical in nature. For example, not everyone understands what a carbon footprint is, and even less so what a specific number means without an understanding of magnitude. Delegated Acts could add rules to ensure that the information is provided in terms that average consumers understand, besides the technical raw data.

However, the DPP may help to remove the frictions that currently prevent consumers from engaging in circular behaviours: **buying and selling second hand, repairing, and renting**. This may not even require consumers to engage with the DPP themselves (e.g. repairers can do it for them).

9. Will we know all the details about products' environmental footprints? No.

Some DPPs foresee the inclusion of **environmental footprint data** or empower the European Commission to include this (ESPR). Importantly, this is **not always the case**. The circularity vehicle passport, for example, does not consider impact related information at all.

When this is included, manufacturers placing finished products on the market will have to upload environmental data on the DPP. However, to do this they may need information from their suppliers. Some of these suppliers may not have any direct link with the EU market and therefore have no enforceable legal obligation to collect and provide this information to their customers. Companies placing products on the market will need to find solutions to solve this issue. As a result, we expect that some data will be lacking at the start, and that companies will use secondary data, when it exists, to fill the gaps.

Besides the **lack of legal obligations, and potential unwillingness to share data, lack of skills and infrastructure may limit data sharing.** Manufacturers and suppliers along the supply chains, especially

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iii The State of the Digital Decade 2025 report states that "Just over half of Europeans (55.6%) have a basic level of digital skills".

those involved in the informal sector, often lack the digital skills and infrastructure to track and document product information that may be required in the future. DPP effectiveness and availability of reliable information will depend on the readiness of supply chains actors within and beyond the EU borders to adapt to new data requirements and digital realities as well as the technical support and financial assistance the EU will provide in this regard.

Transparency and traceability are the goal, but don't expect it from day one.

10. Will the DPP support economic operators in advancing circular processes? No, more work is needed.

Legislators must ensure that the DPP is convenient to use by the main identified users, if the data is to truly improve circular processes.

- **Reuse and repair operators:** language support (e.g. translation) maybe critical if products move across national borders. As for consumers, interfaces that are easy and even fun to navigate can boost chances that repairers and resellers will update the information. Digital skills may need to be improved, resulting in costs related to training and upskilling, especially for social enterprises.
- **Waste management operators and recyclers:** policymakers must carefully consider how they will access the DPP, so it can be incorporated in their workflows. In most cases, large quantities of materials are processed at once: they arrive in large containers, are added to conveyor belts with partly automated sorting, and may be directed towards large shredders or sorting stations. In this context, it is inconvenient or impossible to stop and search a databank for each object, for example to identify where substances of concern or recyclable materials are located. In these cases, technologies like RFID are more appropriate than QR codes, to be able to scan large batches at once.

Many more use cases have been detailed in projects such as CircThread and their results should be used to inform legislative work.

11. Will we know what happens during products' use phase to inform circular design? It depends.

Besides manually adding information on repair and resell, some hope that the DPP may collect consumer use data, which could help improve product design. However, privacy rights of consumers should come first. The Toys Regulation is clear on this: "*Economic operators shall not track, analyse or use any usage information for purposes other than what is absolutely and strictly necessary for providing the information on the digital product passport online. In particular, personal data related to the customer shall not be stored in the digital product passport without the explicit consent of the consumer or other end user*" (article 20, paragraph 10).

12. Can DPPs crack down on non-compliant imports? No, more work is needed

Customs authorities are only mandated to verify the presence of the CE marking on imported goods. While the DPP can facilitate this check electronically, customs lack the authority to inspect the DPP's additional contents. This responsibility falls to market surveillance authorities.

For market surveillance, the DPP can streamline access to product documentation, provided authorities have the necessary electronic tools. However, the DPP itself is not immune to fraud and could introduce new avenues for non-compliance.

DPPs improve transparency, but enforcement still suffers from divided competencies and the need for better digital infrastructure. Further integration and investment are essential to close these gaps.

13. Can the DPP improve the enforcement of Extended Producer Responsibility (EPR) requirements? No, more work is needed.

Today, 5–10% of the online Electrical and Electronic Equipment (EEE) market in the EU is estimated to consist of products that are illegally imported. These products present a high risk of non-conformity with EU requirements on hazardous substances (e.g. under RoHS for EEE or REACH for other products), ecodesign, labelling and product safety. In addition, importers of these products often avoid paying Extended Producer Responsibility (EPR) fees, which are essential to fund EPR schemes responsible for the collection and treatment of EEE waste.

As previously mentioned, many electrical and electronic products covered by EPR schemes are unlikely to have a DPP in the short term because they are already covered by EPREL. This is a shortcoming, as the DPP could help address the issue of illegal imports and free riding.

The DPP will be machine-readable, and market surveillance authorities are expected to use it to conduct automated compliance checks. For this reason, legislation that does not necessarily introduce a DPP should nevertheless be aligned so it can benefit from DPPs introduced under other frameworks. In particular, EPR verification and product conformity checks should be legally and technically aligned with the DPP architecture. Authorities should be able to access core compliance data (e.g. producer registration number, authorised representative, conformity status) directly through the passport interface. This would significantly reduce enforcement costs and increase the detection of non-compliant operators. The EU Product Act can support this alignment.

14. Does the DPP require any social information? No, more work is needed.

At the moment, the Batteries Regulation is the only legislation introducing a mandatory DPP that foresees some form of social information (due diligence information), and these requirements have been delayed.[2]

Notably, social information is not included in the ESPR. However, in future revision, the inclusion of social aspects should be explored. Therefore, the infrastructure set up now should be made in such a way that further information about social aspects, such as working conditions at manufacturing level, could be included later on where appropriate in accordance with a future updated delegated act.

Information foreseen in the current ESPR already opens the door for future social information: in Annex III of the ESPR listing the possible information that can be included in delegated acts, is included a "unique facility identifier", which must comply with specific ISO standards listed. Depending on access rights to this unique facility identifier, this may provide useful insights into the social aspects of production, as such location traceability can support consumers, regulators and other actors in tracing, for instance, whether a garment has been made at a factory known for labour rights abuses.

References

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