Ecodesign for Sustainable Products Regulation & Digital Product Passport

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Why DPP in ESPR

The ESPR Impact Assessment clearly indicated that some of the problems hindering more circularity of our economy and higher environmental sustainability of the products placed on the market are connected to lack of consistent access to relevant information, where the relevancy is a function of different stakeholders’ interest.

The Digital Product Passport (DPP) is a tool designed to address this problem. In particular:

- It will exploit the great potential that digital solutions provide to collect, organise, and store information in efficient and secure ways.

- It will include product-specific information relevant to promote circularity, sustainability and related legal compliance.

- The final objective is for the DPP to become the “one entry point” to have access to all existing information related to a product during its entire life cycle.
ESPR
Digital Product Passport (DPP)

Tracking of raw materials extraction/production, supporting due diligence efforts

Enable manufacturers to create products digital twins, embedding all the information required

Tracking the life story of a product, enabling services related to its remanufacturing, reparability, re-use/re-sale/second-life, recyclability, new business models

Benefit market surveillance authorities and customs authorities, by making available information they would need to carry out their tasks

Make available to public authorities and policy makers reliable information. Enable to link incentives to sustainability performance

Allow citizens to have access to relevant and verified information related to the characteristics of the products they own or are considering to buy/rent (e.g. using apps able to read the identifier)
ESPR

Key Ecodesign product aspects

- durability, reliability; reusability; upgradability;
- reparability; possibility of maintenance and refurbishment;
- presence of substances of concern;
- energy use or energy efficiency;
- resource use or resource efficiency;
- recycled content;
- possibility of remanufacturing and recycling;
- possibility of recovery of materials;
- environmental impacts, including carbon and environmental footprint;
- expected generation of waste materials.
Legal ‘architecture’ of the DPP in ESPR

There are 3 ‘milestone’ introduced ahead of the full operationalisation of the DPP:

1. Introduction of the **concept**, description of the **scope**, identification of some **key features** already in the ESP Regulation *(art. 2, 8, 9, 11, 12, 13)*

2. Identification of **essential technical requirements** to be developed through **standardisation** process. A safety clause is introduced in case of delays or quality of the standards not ‘fit for purpose’. In such case the Commission shall adopt **common specifications** with the technical requirements needed *(art. 10, 35)*.

3. Identification of the **specific information** to be included in the DPP for each product regulated when developing the corresponding Delegated Act *(art. 7, Annex III)*
DPP main characteristics

- **Interoperability** should be the driving design criterion. This requires, amongst other things, the DPP to rely on **global open standards** (no proprietary solutions). Interoperability is meant both along one value chain and between different value chains (art. 9, 10)

- Information included in the DPP should be **specific** to a product group (art. 8)

- Technical solutions should be developed in close collaboration with stakeholders through a **standardisation process** (art. 10)

- The DPP should rely, to the maximum extent technically possible, on information already provided and included in other databases (e.g. EPREL, SCIP, etc) (art. 8, 10)

- Access to information should granted depending on different “access rights”, depending on the role of each stakeholder in the product value chain (need-to-know principle) (art. 8)
DPP architecture

Decentralised system (information stays where it belongs)

Economic operator

- Product related data
- Circularity/sustainability information
- Supply-chain related information
- Certificates/manuals
- Identifiers (these go also to the registry)

Local data storage

- Better protection of confidential and sensitive information
- Size of a central database would be enormous and very difficult (and costly) to set up and manage
- Dynamicity of product-specific information can be better managed locally

Accessible by

- Market surveillance authorities
- Customs authorities via the EU Single Window Environment for Customs
- EC and Member States (statistical analyses)

registry

- Unique product identifier (what)
- Unique operator identifier (who)
- Unique facility identifier (where)
- Additional information (when relevant)
Working principles

The economic operator organise the information in his/her own web-page and store it on an own server or through an external service provider.

Only a limited amount of information (e.g., the identifiers) are transferred to the DPP registry managed by the Commission. All the attributes (including the more confidential information) remains with the economic operator.
Working principles

Access to information is enabled through a data carrier and the corresponding unique identifier

1. https://{domain}/identifier1
2. Local storage system
3. Manufacturing (preparing, weaving, etc)
4. Cotton grower
5. Manufacturing jeans
6. Economic operator placing the product on the market

Classes of performance: Provenance/traceability, Footprint, Durability, Warranty, Compliance documents, Labels, Substances of concern, Classes of performance

Working principles diagram:
- Access to information is enabled through a data carrier and the corresponding unique identifier.
- The data carrier is connected to a local storage system.
- Provenance/traceability, footprint, durability, warranty, compliance documents, labels, substances of concern, and classes of performance are connected to the local storage system.
- The economic operator places the product on the market, completing the cycle.
DPP – article 10: technical design and operation

DPP-system

(to be developed before DPP deployment)

- All standards and protocols related to the IT architecture, like standards on:
  - Data carriers and unique identifiers
  - Access rights management
  - Interoperability (technical, semantic, organisation), including data exchange protocols and formats
  - Data storage
  - Data processing (introduction, modification, update)
  - Data authentication, reliability, and integrity
  - Data security and privacy