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Digital Product Passport

DIGITAL-2023-CLOUD-DATA-04-DIGIPASS
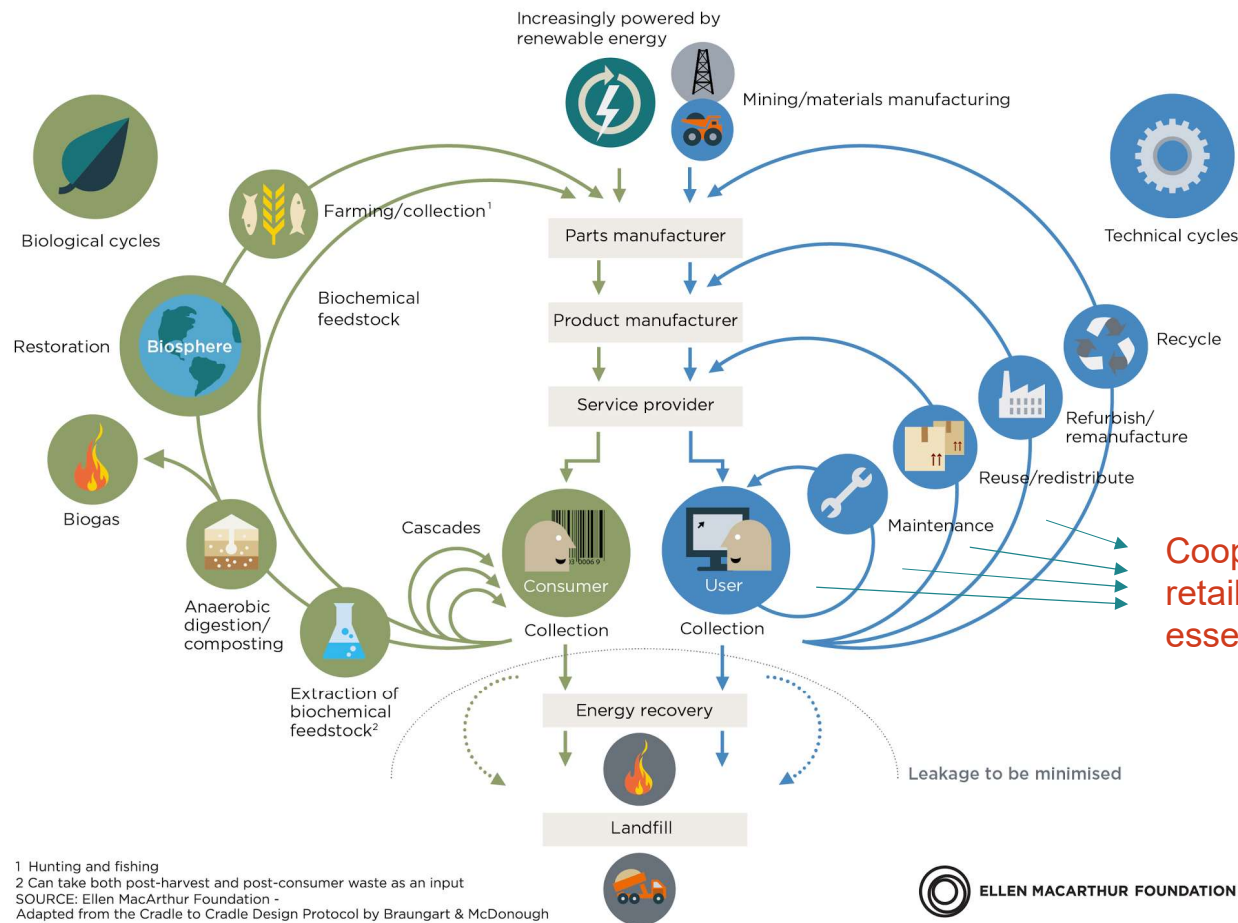
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DIGITAL PRODUCT PASSPORT
A key tool for Circular Economy supporting Cooperation & Information exchange

CIRCULAR ECONOMY - *an industrial system that is restorative by design*

Increasingly powered by renewable energy

Mining/materials manufacturing

Biological cycles

Farming/collection[1]

Technical cycles

Biochemical feedstock

Restoration

Biosphere

Recycle

Refurbish/remanufacture

Parts manufacturer

Product manufacturer

Service provider

Biogas

Reuse/redistribute

Cascades

Maintenance

Anaerobic digestion/composting

Consumer

User

Collection

Collection

Extraction of biochemical feedstock[2]

Energy recovery

Leakage to be minimised

Landfill

Cooperation among manufacturers, retailers, repairers, recyclers, is essential to enable these 'circles'

1 Hunting and fishing
2 Can take both post-harvest and post-consumer waste as an input
SOURCE: Ellen MacArthur Foundation -
Adapted from the Cradle to Cradle Design Protocol by Braungart & McDonough
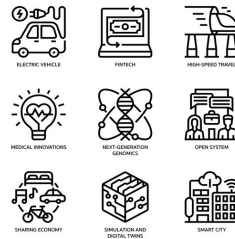
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Digital Product Passport – expected benefits

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

Digital Product Passport – the legal construct

DPP introduced by the Ecodesign for Sustainable Products Regulation (ESPR) on 30.3.2022

There are 3 'stages' on the road to 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)**

1. 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)**.

2. 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)**

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Key features as described in the ESPR

- **No proprietary solutions**: All information included in the product passport shall be written in an **open, standard, inter-operable format** and shall be machine-readable, structured, and searchable, in accordance with the essential requirements included in Article 9.

- **Granularity**: The information included in the product passport shall refer to the product **model, batch** or **item** as specified in the applicable delegated act referred to in Article 5(1).

- **Access rights ('need-to-know')**: the access to information included in the passport shall be regulated in accordance with the essential requirements included in Article 9. The specific access rights at product group level will be identified in the applicable delegated act referred to in Article 5(1).

- **Liability**: The **economic operator** placing the product on the market is responsible for making available the EU DPP and for the information included therein.

- **Track & tracing**: Article 11 specifies that unique **operator** identifiers and unique **facility** identifiers may be requested. These are key information component to allow the track & tracing of information along the supply chain

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Further elements to be considered by the pilot

There are some key decisions that have already been taken, when designing the DPP, and that should be adequately reflected in the pilot proposal In particular:

- The DPP shall **specifically and uniquely identify / be linked to** products or components, not a document or a website

- DPP is based on a **decentralised** approach for data storage

- Access to DPP-data based on a **need-to-know** basis (there will be public and restricted data)

- All standards should be global and open. The starting point should be **existing international standards** (ISO and/or IEC). When those are not considered sufficient, they should be complemented with **existing standard at EU level** (CEN). When this is not sufficient, they should be complemented with **existing standards at national or fora level**

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DPP design

Digital Product Passport

DPP-system

(to be developed before DPP deployment)

DPP-data

(to be identified when developing product-group specific secondary legislation)

- 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

- The DPP registry

Possible Track & Trace identifiers

- Economic operator's name, registered trade name
- Global Trade Identification Number or equivalent
- TARIC code
- Global location number
- Authorised representative
- Reference of the back-up data repository
- …

Example of potential attributes

- Description of the material, component, or product
- Recycled content
- Substances of concern
- Environmental footprint profile
- Classes of performance
- Technical parameters
- …

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The timing of the DEP projects and legislative work

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. **CIRPASS.eu – October 2022 - March 2024**

3. **DPP Pilot – expected to start in Q2 – flexibility is expected from the consortium to adapt to the evolving legal developments**

4. Identification of **essential technical requirements** to be developed through <u>standardisation</u> 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)**.

5. 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)**

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DPP Pilot of the Digital Europe Programme 1/3

- **1 Pilot** in at least 2 (complex) value chains /product categories, except batteries

- 6M€, simple grant - 50% funding

- Deployment at scale, with numerous economic actors – including SMEs,

- Manageable consortium of EU beneficiaries, international organisations are eligible to receive funding in case they are organisations for which the majority of members are Member States or whose headquarters are in a Member State. If this is not the case, they can still participate as associated partners, i.e. without funding.

- Finding out in real setting the technical, legal and organisation challenges as well economic and sustainability benefits of enhanced **B2B,** B2C and B2B communication and data sharing

- Important to demonstrate well-functioning of the **DPP system** serving at least two value chains with standards preferably chosen from the list published by the *StandICT report*
https://www.standict.eu/landscape-analysis-report/landscape-digital-product-passport-standards

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DPP Pilot of the Digital Europe Programme 2/3

Objectives:

- To enable sharing of key product related information that are essential for products' sustainability and circularity, including those specified in Annex III of ESPR proposal

- To accelerate the transition to circular economy, boosting material and energy efficiency, extending products lifetimes and optimizing products design, manufacturing, use and end of life handling.

- To provide new business opportunities to economic actors through circular value retention and optimisation (for example product-as-a-service activities, improved repair, servicing, remanufacturing, and recycling) based on improved access to data;

- To help consumers in making sustainable choices;

- To allow authorities to verify compliance with legal obligations.

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DPP Pilot of the Digital Europe Programme 3/3

Outcomes and deliverables

- Deployed and validated at scale and real life setting Digital Product Passports in at least two value chains.

- Report on further needs for standardisation and specifications to ensure interoperability, security, and acceptance by all the stakeholders.

- Recommendations based on the lessons learnt for the deployments of DPP in other value chains.

KPIs to measure outcomes and deliverables:

- Number of actors in value chain of varying sizes including the number of consumers' interactions;

- Number of products targeted within each value chain;

- Number of interactions, speed, user friendliness of the system in particular for SMEs, cyber security and performance; and

- Rating of consumes' and market authorities understanding of information in the DPP and their satisfaction.

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