



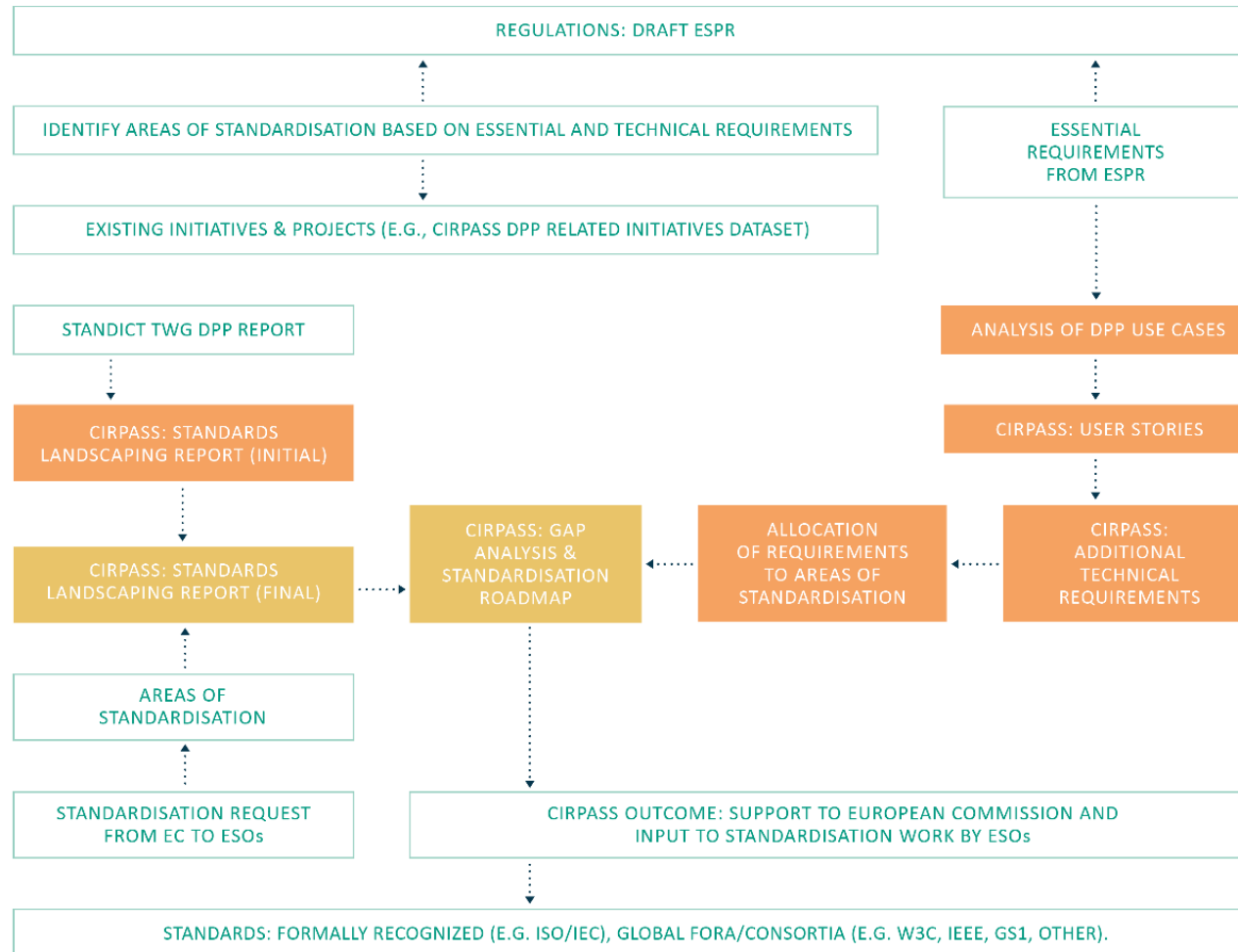
# State of play and possible future developments of the Digital Product Passport (DPP)

CIRPASS – DPP user stories: Defining technical requirements for the DPP system thanks to user interactions

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# Methodology - IEC 62559 series "Use case methodology"



## Regulation

- draft ESPR
- Battery Regulation

## 1.1 Scope and purpose of this document

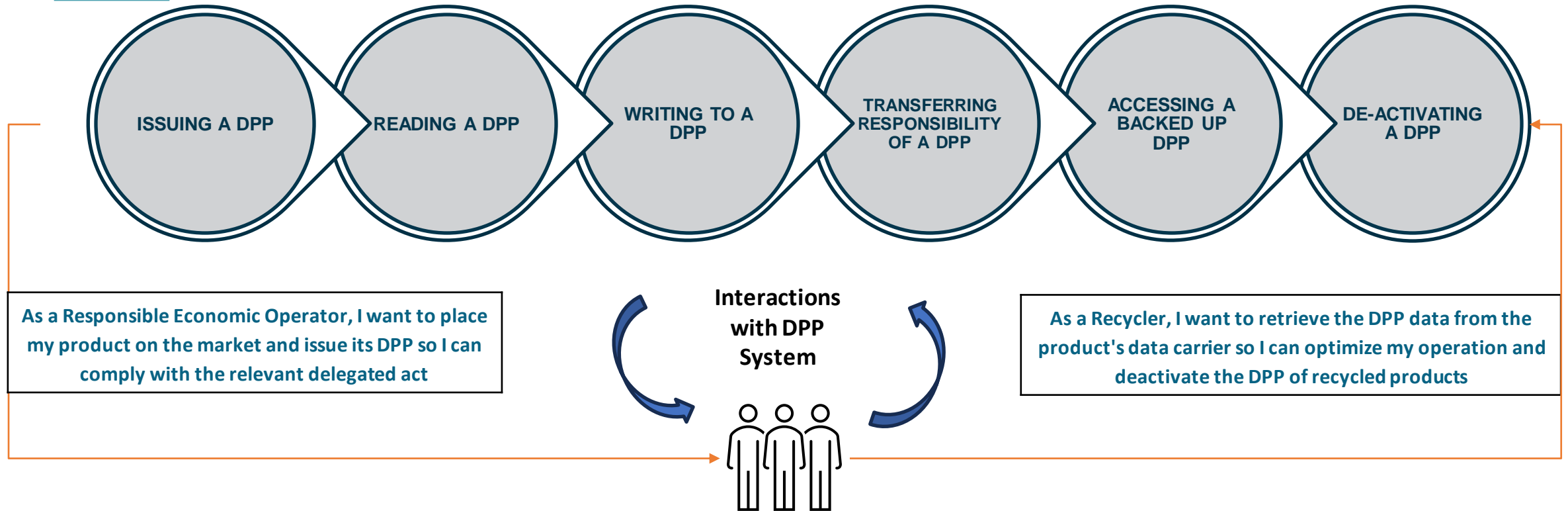
The intent of the user stories is not to cover every theoretically possible situation, but rather to frame the overall process flows needed to perform the main activities in issuing, delivering, and consuming DPP data.

The user stories are an attempt to bridge the gap between the intentions of the European regulators, as expressed in the above-cited regulatory acts, and both technical implementation and standardisation activities. Their purpose is to support reasoning on how the future DPP system needs to function.

## 1.2 Disclaimer

This document was produced by the CIRPASS consortium as an attempt to reformulate the functionalities of the DPP system described in the ESPR. Its aim is to support exchanges and foster a common understanding of these functionalities, in discussions with the European Commission and with stakeholders both within and outside of the consortium. It is a tool designed for exploration and should not be seen as expressing the opinion of the European Commission.

# User Stories – The LifeCycle of a DPP

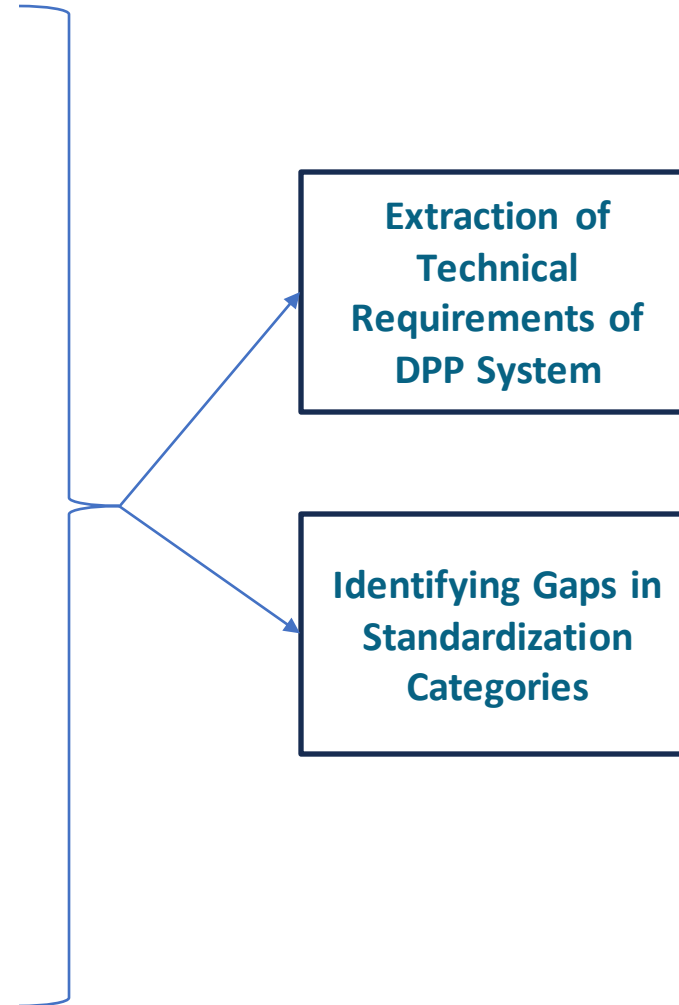


## Actors in User Stories



# User Stories

1. Issuing a DPP for a new product
2. Reading with default or restricted access to DPP data
3. Batch reading of DPPs before purchase
4. Batch access to DPP data by authorities
5. Writing into the original REO's repository
6. Writing into another data repository
7. Accessing backed-up DPP data
8. Transferring the responsibility for providing up-to-date information about a product
9. Deactivation in case of recycling
10. Other DPP deactivation options and considerations



# User Stories - Reading

- Reading a DPP with default or restricted access to DPP data
- Addressing ESR Art. 10, section (b).
- Assumptions:
  - The user starts a DPP-capable app on their mobile phone,
  - or the user starts a QR-enabled camera on their mobile phone,
  - or the user uses other technologies.

**As an actor in the Circular Economy, I want to retrieve DPP data from a data carrier physically on the product**

1. The user reads the DPP data carrier.
2. The app uses the url from the data carrier (e.g. the QR code) to request all available links from the resolution service component. The service component can be managed by the economic operator or a service provider acting on their behalf. The app can run locally on the mobile phone or be a server-based web app.
3. The resolution service component responds back to the app with a list of links and their associated link types.
4. If the product is identified through an item-level unique identifier, and the user is interested in all data related to the product (including downstream activities), the app shows such data (provided by repairers/refurbishers, etc.)
5. (Optional) The DPP-capable app selects the relevant links and sends queries to them.
6. The data sources receiving the request determine the appropriate access level of the querying party and the app receives machine readable data from multiple data sources identified by the links.
7. The DPP-capable app or web browser processes the data received and presents the relevant data to the user.

# User Stories - Standard

Area of standardization	CIRPASS finding on the implications on standards
Unique identifiers	Product Centric: The ID will link to the product data. Coexistence of different ID-schemes, which need to be in the EU Registry
Data carriers and links between physical product and digital representation.	
Representation access rights management, information system security, and business confidentiality	Mechanisms on the access to the DPP-Data. Proposal for a variety of policy control mechanisms for access control, e.g., classic web identity management, eID, verified credentials
Interoperability (technical, semantic, organisation)	The ontologies and information model as described in the vocabularies.
Data processing, data exchange protocols and data formats	
Data storage, archiving, and data persistence	This would need further clarification
Data authentication, reliability, integrity	This would need further clarification
APIs for the DPP lifecycle management and searchability	Different technologies and providers are available. For the sectors, de facto system standards are available with existing data spaces



# Thank you!

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# User Stories - Standard

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1. Unique identifiers
2. Data carriers and links between physical product and digital representation.
3. Representation access rights management, information system security, and business confidentiality
4. Interoperability (technical, semantic, organisation)
5. Data processing, data exchange protocols and data formats
6. Data storage, archiving, and data persistence
7. Data authentication, reliability, integrity
8. APIs for the DPP lifecycle management and searchability



# User Stories - Assumptions

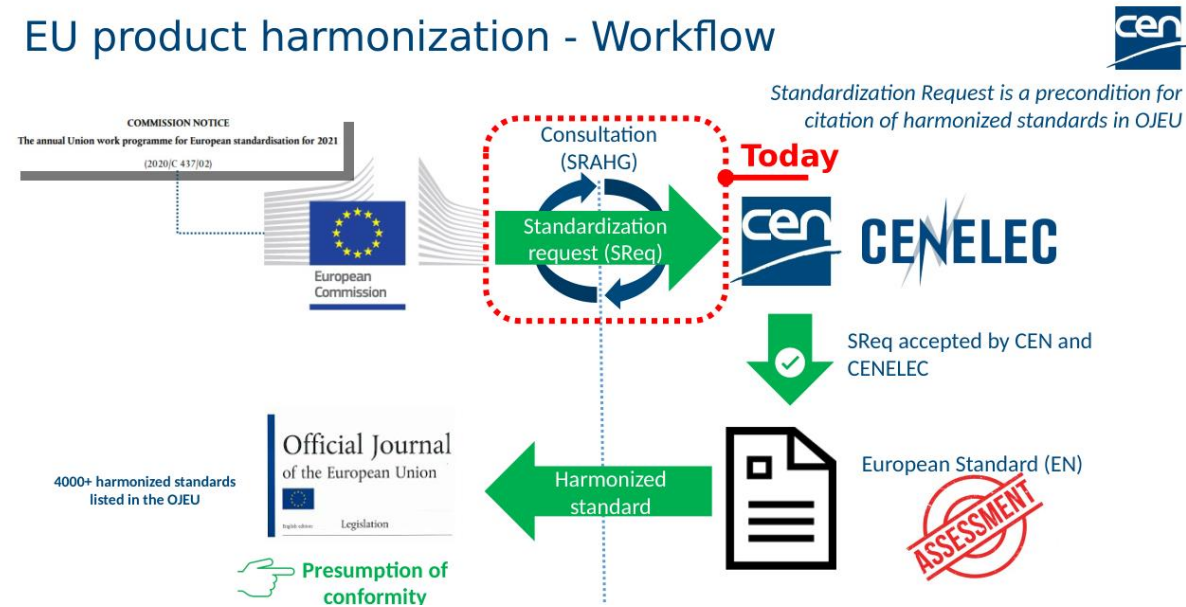
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For the following user stories, the following assumptions are made:

- The “Responsible Economic Operator” (REO) is responsible for issuing the DPP for a product placed on the EU market and all legal obligations therewith.
- Process traceability mechanisms, such as data timestamp, will always be part of the process. This addresses the topic of data timestamp management requirements in the user stories, which seems to be an important data characteristic, to track changes and update needs.
- Cyber security: The user stories do not detail the implementation of required cyber security measures.
- Interoperability (Ontology): It is assumed that sector-specific data models for required DPP data are based on a common cross-sectoral ontology, to facilitate semantic interoperability.
- The user stories have been formulated to be as technological and sector agnostic as possible. Sector and technological specific requirements may be mentioned as “optional”.
- In case the use of specific dictionaries is imposed by sector-specific delegated acts, it is assumed that interoperability mechanisms are in place to enable semantic interoperability between sectors and between different sector-specific dictionaries.
- It is assumed that an IT-System with access to the internet is used for all interaction with the DPP system, including consuming DPP data at scale.

# Motivation

## EU product harmonization - Workflow



# Motivation

