



Fraunhofer-Institut für Produktions-  
anlagen und Konstruktionstechnik IPK



# Battery Pass

Supported by:



on the basis of a decision  
by the German Bundestag

## JTC 24 – Digital Product Passport – Framework and System DPP Webinar – June 7th

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**1** **Background Regulation**

**2** **Scope of JTC 24**

**3** **Status and Outlook**

# Digital product passports (DPP) as part of European broader regulatory



## European Green Deal

EU Plan: climate-neutral by 2050, safeguard biodiversity, establish a circular economy and eliminate pollution, while boosting the competitiveness of the European industry



# CEN CLC JTC 24 “Digital Product Passport Framework and System”



## Objectives

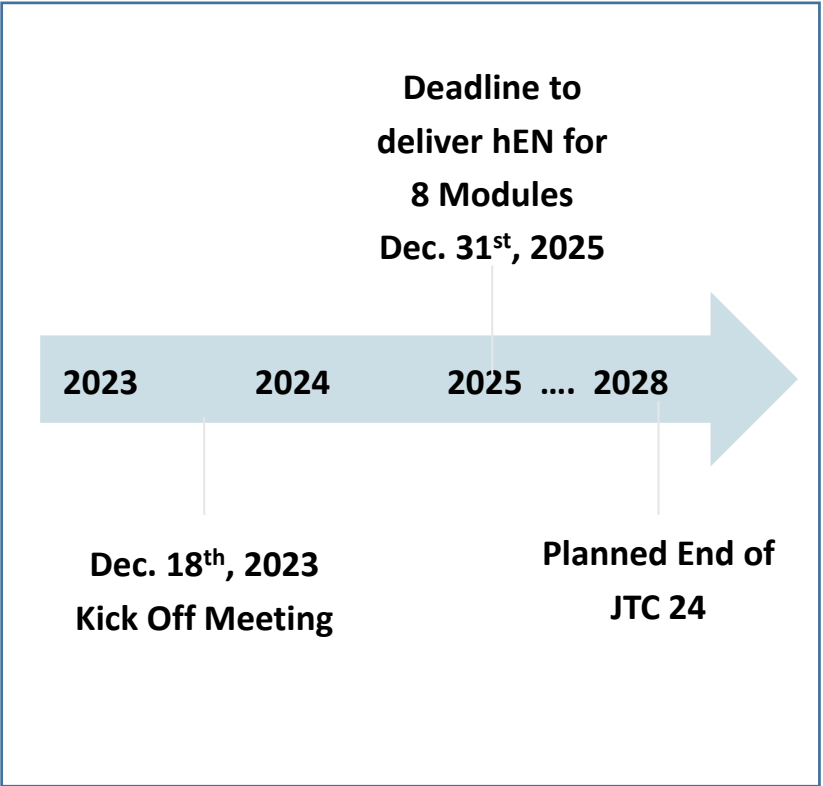
Fulfill the **Standardization Request (SReq)** to define **harmonized standards for the DPP System** according to **Ecodesign for Sustainable Products Regulation (ESPR)** and **Battery Regulation + ...**

## Participants

Appr. 130 Experts in Delegations from 20 Member States + Switzerland

Appr. 15 Liasons requests (e.g. from US, China, Korea, Japan)

## Timing



# European Standard (EN) / harmonized European Standard (hEN)



When a product is not compliant with hEN → can be expelled from the market

## EN

**Increase  
Products safety and quality**

**Lower**    
**Transaction costs and prices**

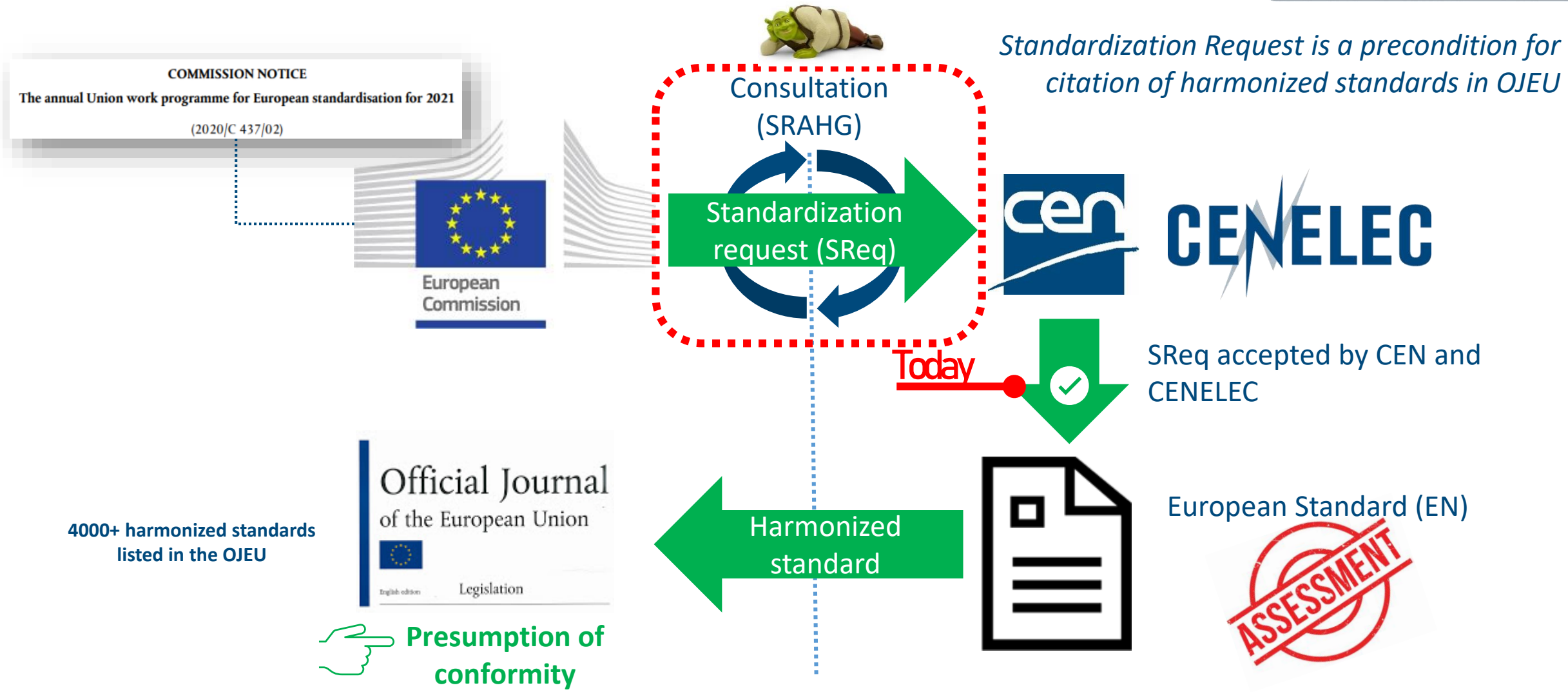


## hEN

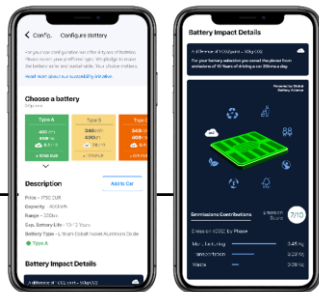
**To demonstrate** presumption of  
conformity regarding  
**relevant EU legislation**  
**of products, services and process**  
**(listed in official journal of EU)**



# EU product harmonization - Workflow



# System Scope: JTC 24 is to deliver hEN for the DPP System



DPP Data

DPP System

Passport Data is out of Scope in JTC 24 and part of other Regulations and Standards e.g. M/ 579 for the Battery

Harmonized technical system for all DPPs:



Data Storage



Data Carrier Identifier



Trust / Security / Sovereignty / Access



Data Exchange



IT Services / APIs



Workflows and Data Processing

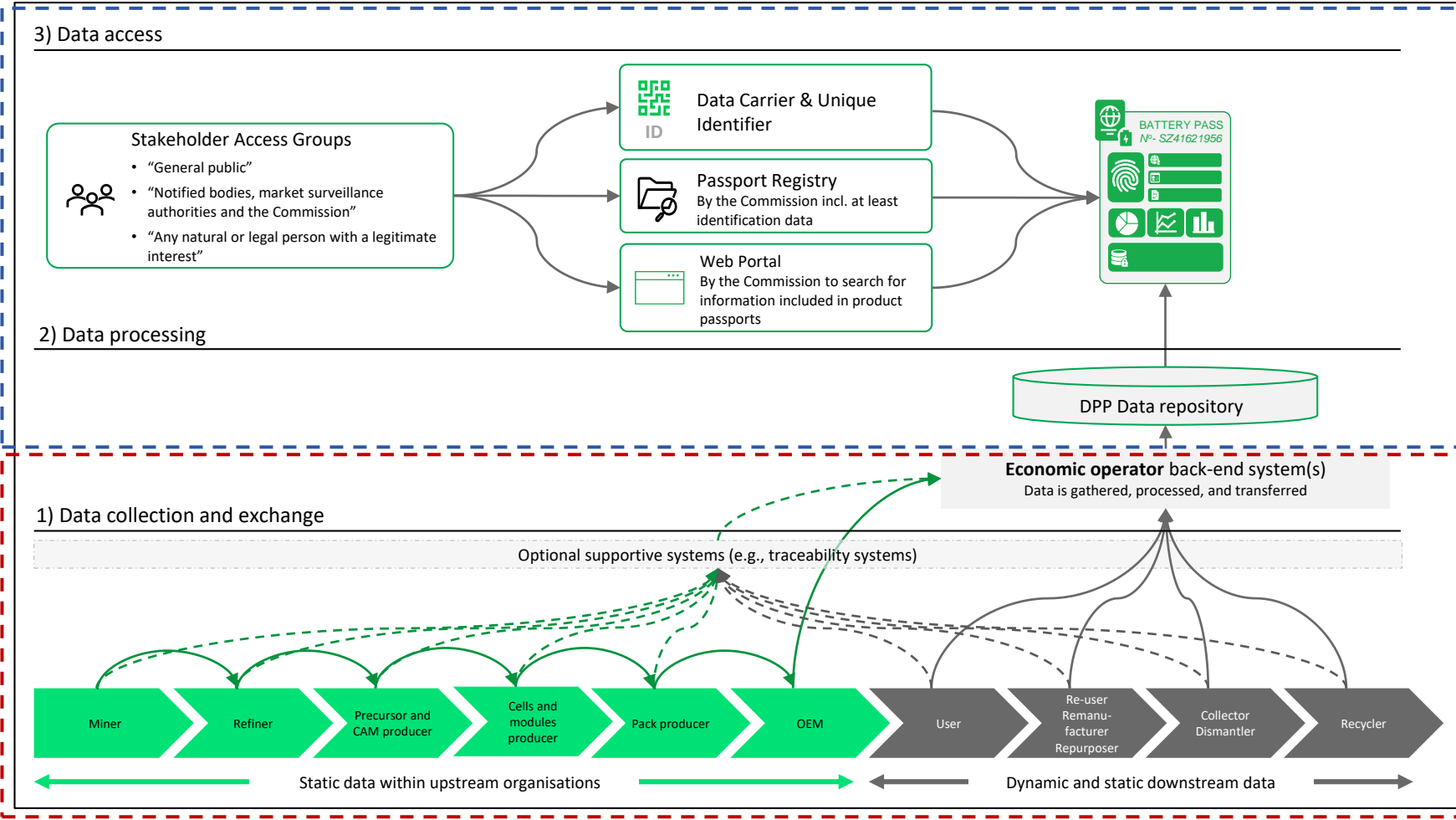
# Most product groups require a DPP and are affected by JTC 24

Main Regulations
ESPR
Batteries (Traction and industry)
Toys
Detergents
Construction Materials
Critical Raw Materials

Iron & steel  
Aluminum  
Textile, notably garments and footwear  
Furniture, including mattresses  
Tires  
Paints  
Lubricants  
Chemicals  
Energy related products  
ICT products and other electronics



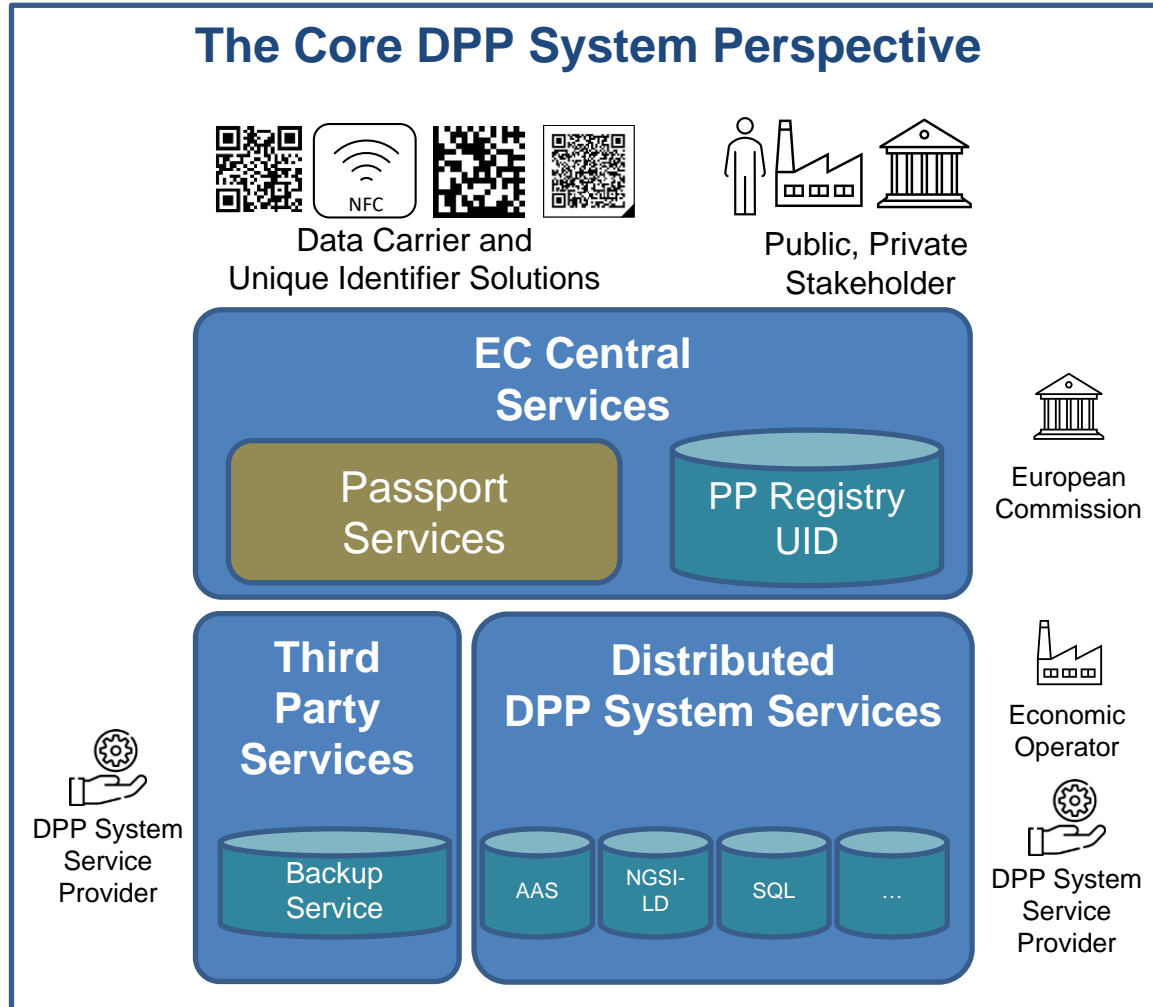
# Process Scope of JTC24 – Example from Battery



**Scope in JTC 24:**  
Data Access,  
Data Processing

**Out of Scope in JTC 24:**  
Data Collection and aggregation

# Organisation Scope : Who should be interested into JTC24



**European Commission and National Authorities**  
(e.g. Market Surveillance)

**Economic Operators**, brings products on the market  
(e.g. manufacturers, importers)

**DPP System and Service Providers**  
(e.g. for operating services, backup services)

**DPP System Component Suppliers**  
(e.g. for Data Carrier)

**Partners in the value chain (e.g. supplier, dealer, recycler)**  
to know how data has to be provided, how to get access

**Standardisation Bodies**  
(e.g. for sector specific data standardisation)

**Consumer Organisations**  
to ensure applicability of DPP

# Standardization Request - Scope

- ▶ Module 1 : Unique identifiers
- ▶ Module 2 : Data carriers and links between physical product and digital representation
- ▶ Module 3 : Access rights management, information, system security, and business confidentiality
- ▶ Module 4 : Interoperability
- ▶ Module 5 : Data processing, data exchange protocols and data formats
- ▶ Module 6 : Data storage, archiving, and data persistence
- ▶ Module 7 : Data authentication, reliability, integrity
- ▶ Module 8 : APIs for the DPP lifecycle management and searchability

# META Structure and Mapping to SReq

★ EC foresee implementing acts for this elements – need interfaces

## Sreq Structure

Module 8 : APIs for the DPP lifecycle management and searchability

Module 3 : Access rights management, information, system security, and business confidentiality

Module 7 : Data authentication, reliability, integrity

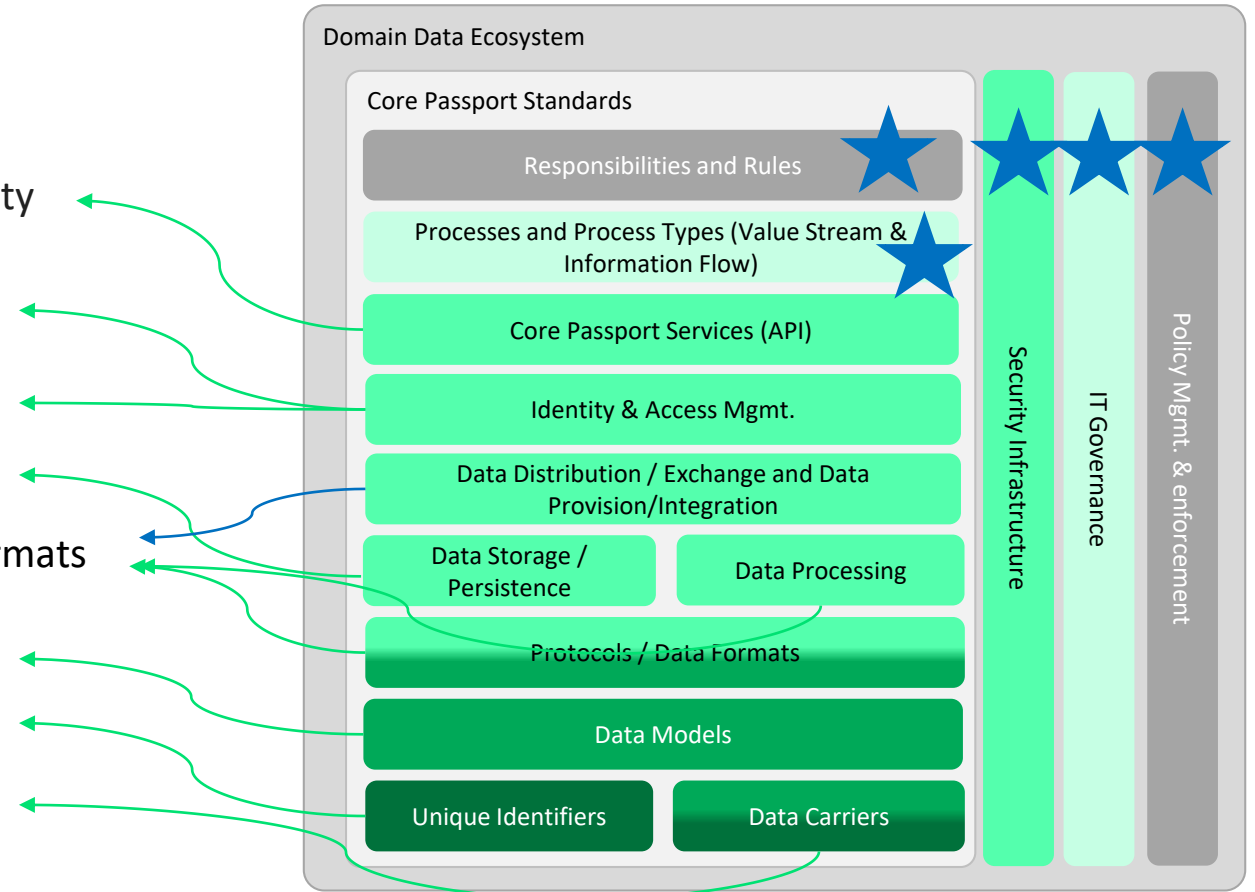
Module 6 : Data storage, archiving, and data persistence

Module 5 : Data processing, data exchange protocols and data formats

Module 4 : Interoperability

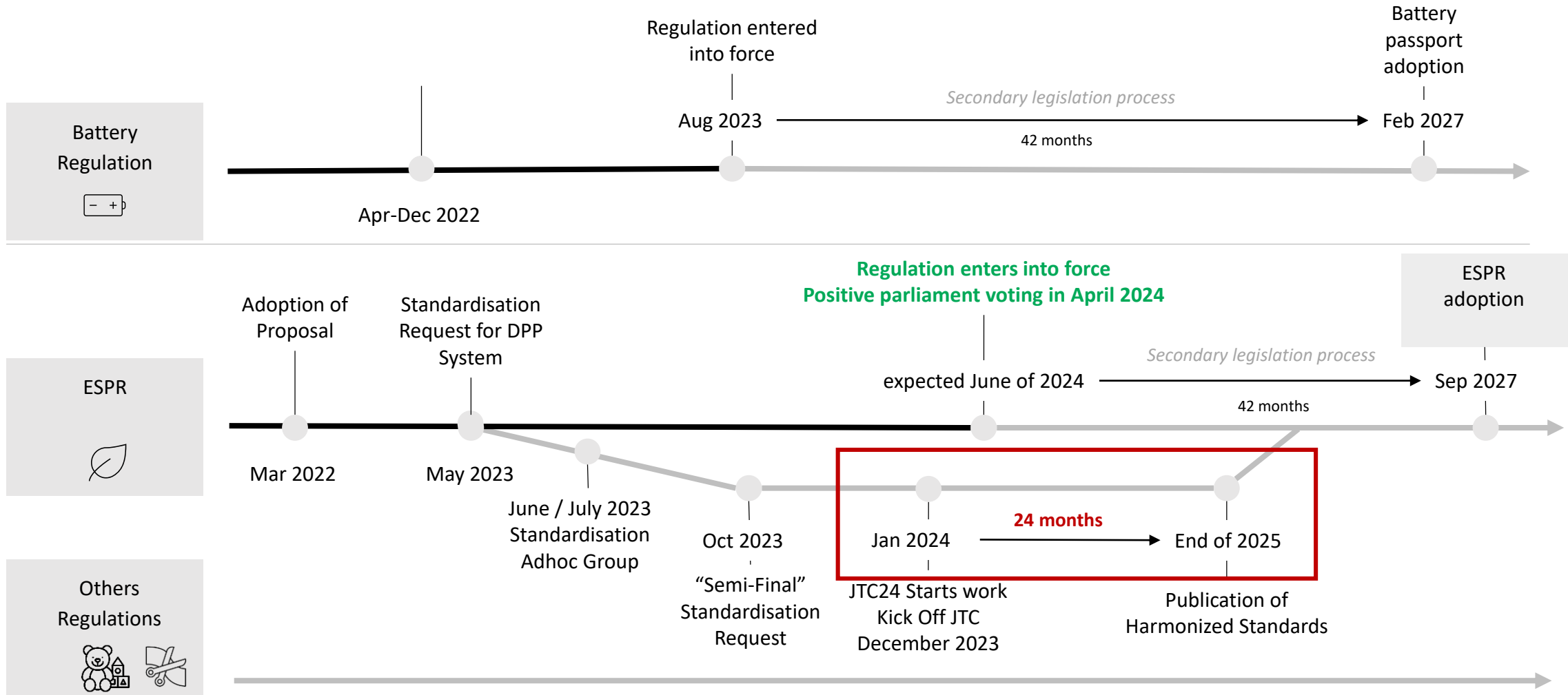
Module 1 : Unique identifiers

Module 2 : Data carriers and links between physical product and digital representation



Meta Structure based on ISO 11354  
From Battery Pass Project

# Finally, Tough Timeline for Standardisation



# JTC 24 WG Structure all WG started



<p>WG 1 Strategic Advisory Group Convener: Martin Schreck (SN)</p>	<p>WG 2 Unique identifiers and data carriers Convener: Johan Dahlgren (SIS)</p>	<p>WG 3 Security (Convener pending)</p>	<p>WG 4 Interoperability framework Convener: Otto Handle (ASI) Co-Convener: Richard Merkel (DIN)</p>
<ul style="list-style-type: none"><li>• Coordinating crosscutting issues across WGs in JTC 24</li><li>• Develops liaison recommendations.</li><li>• Maintaining the JTC24 Business Plan. The WG reports to JTC 24.</li><li>• Does no standards development</li></ul>	<ul style="list-style-type: none"><li>• Unique identifiers</li><li>• data carriers and links between physical product and digital representation</li></ul>	<ul style="list-style-type: none"><li>• Access rights management, information, system security, and business confidentiality</li><li>• Data authentication, reliability, integrity</li></ul>	<ul style="list-style-type: none"><li>• Interoperability (technical, semantic, organisation)</li><li>• Data processing, data exchange protocols and data formats</li><li>• Data storage, archiving, and data persistence</li><li>• APIs for the DPP lifecycle management and searchability</li></ul>

**Two weeks meeting frequency in WG (virtual)**  
**Next Plenary and WG meeting: 13./14. June in Frankfurt, Germany**

# Initial assignment of DPP system components to workgroups coordinated by WG1

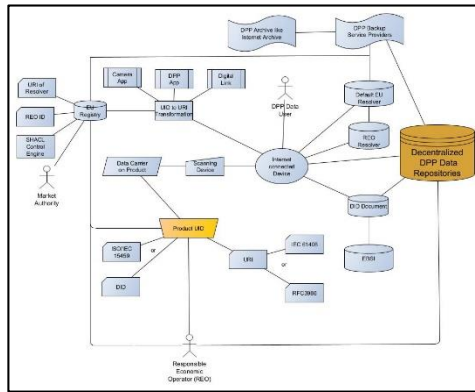


System architecture and stakeholder interaction group	System elements identified from ESPR and SReq			
<u>WG 1 - Strategic advisory group</u>	<u>WG 2</u>	<u>WG 3</u>	<u>WG 4</u>	
no Standardisation Work	<i>Mod 1 &amp; Mod 2</i>	<i>Mod 3 &amp; Mod 7</i>	<i>Mod 4 &amp; Mod 5 &amp; Mod 6 &amp; Mod 8</i>	
Use cases	Unique Identifier for Product	Revocation Service	Product passport registry API	
System architecture	Unique Identifier for Economic Operator	System for (role /function/attribute-based) access rights management	EC Web Portal with different Access Functions for Stakeholder	
Liaisons	Unique Identifier for Facilities	Verification of authentication	DPP Frontend (display)	
Interaction with EC	Registry Unique Identifier	Verification of DPP conformance	Individual decentral Data Repository	
Interaction with sector specific data standardisation	Unique Identity Resolver	Cryptographic verification of DPP (digital	API for CRUD of data	
	Data Carrier	Data verification of data integrity and originality	Querying of Passport Data	
	DPP Front end (read)	Logging and Monitoring	Back Up Data Base	
	Unique identifier		Data Modelling: Modelling Language	
			DPP Issuing Service	
			Data modelling services	
			Schema definition	
			Data exchange network and protocols and APIs	

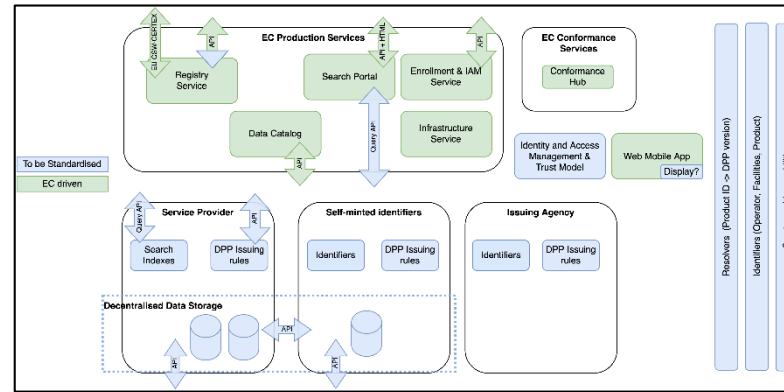
# Example Challenge – System Architecture under development



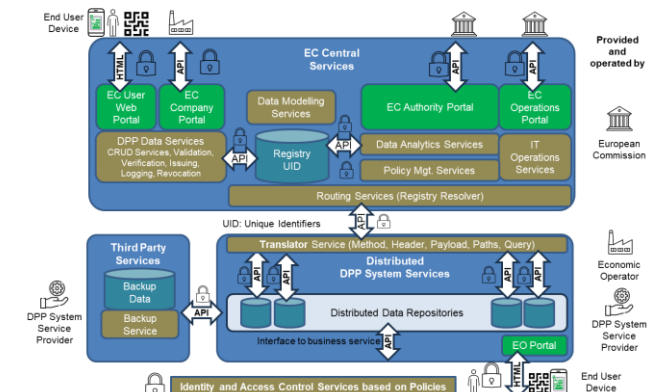
CIRPASS Architecture



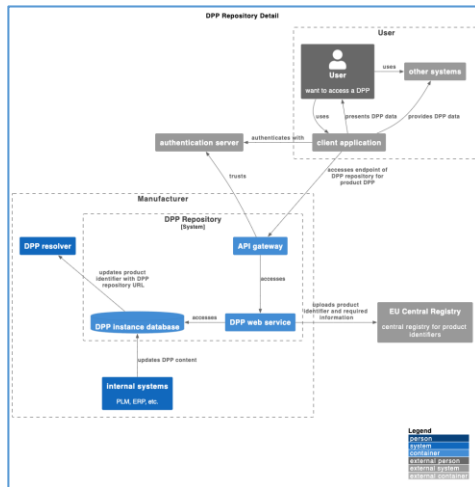
Architecture Ideas from EC



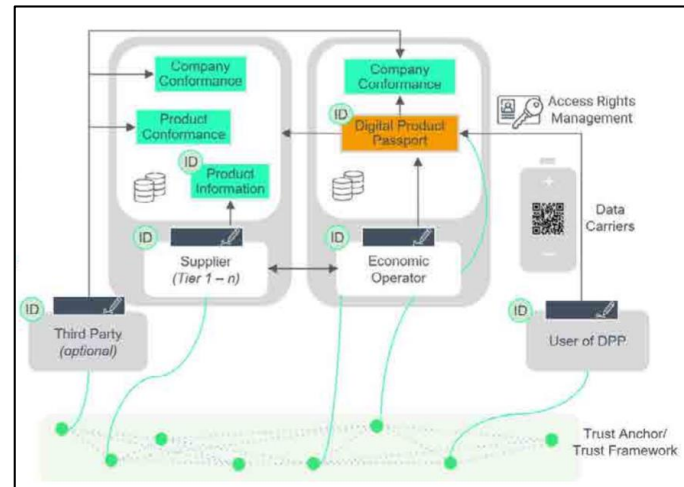
German proposal for CEN CLC JTC 24



DPP 4.0 Architecture



Stand.ICT Report Architecture



## Different

- Scope
- Architecture modelling languages
- Level formalism
- Level of granularity
- Addressing interoperability challenges
- Design principles



# Major Interoperability Goal – Co-existence of standards/technologies

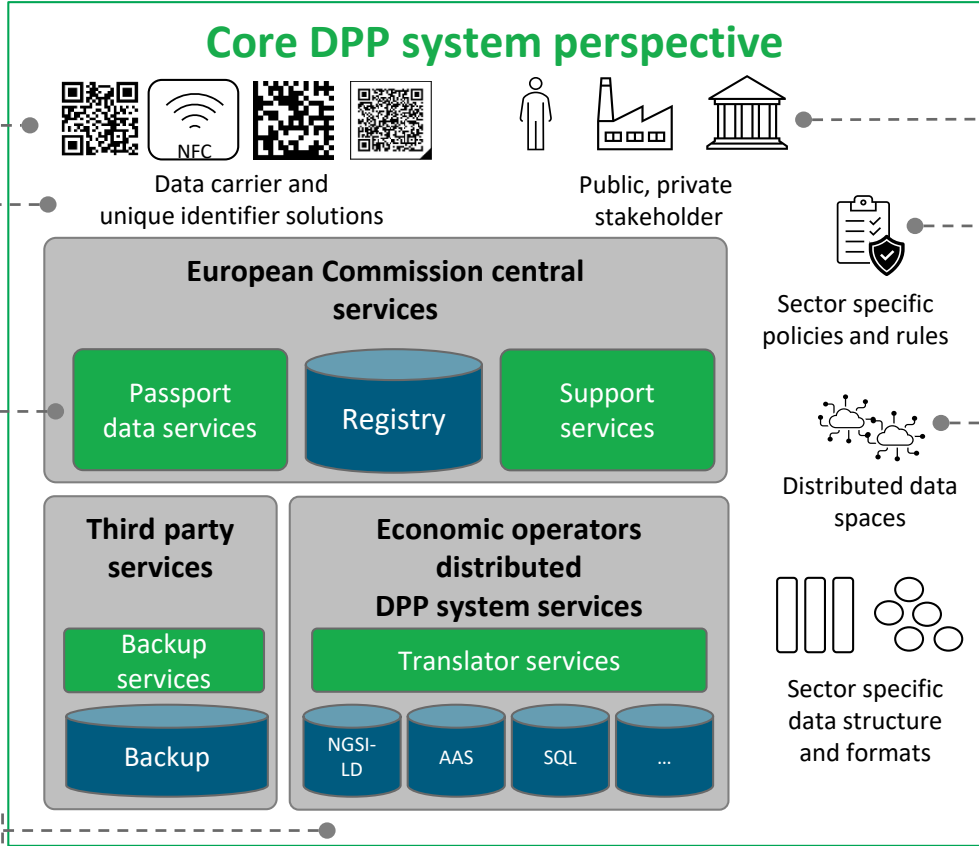
Application of different Data Carriers

Allow different principles of Unique Identifiers

Routing to different distributed DPP Systems

Application of different data management technologies

Secure and reliable supply chain data acquisition and exchange



Seamless and secure provision of access to different stakeholder groups with sector specific policies and rules

Cross-domain interoperability across different data spaces

Realise connectivity to products for dynamic data acquisition in use and r-phases

How to align with global DPP initiatives (sector, country)

