



Fraunhofer-Institut für Produktions-  
anlagen und Konstruktionstechnik IPK



# Battery Pass

Supported by:



Federal Ministry  
for Economic Affairs  
and Climate Action

on the basis of a decision  
by the German Bundestag

European Standardization Organizations

# JTC 24 – Digital Product Passport – Framework and System

Thomas Knothe

Head of Department Business Process and Factory Management at Fraunhofer IPK

Chair CEN CENELEC JTC 24 Digital Product Passport System and Architecture

Fraunhofer Project Manager at Battery Pass Project

Honorary Prof. at University of Applied Science Wildau

# Where I come from – Fraunhofer IPK is working on the factory of the future

... since more than 100 Years



**Mechanized, secure Learn Factory  
1906**



**Automated  
Factory 1976**



**Networked Factory  
2016**



**Empathic Factory  
2026**

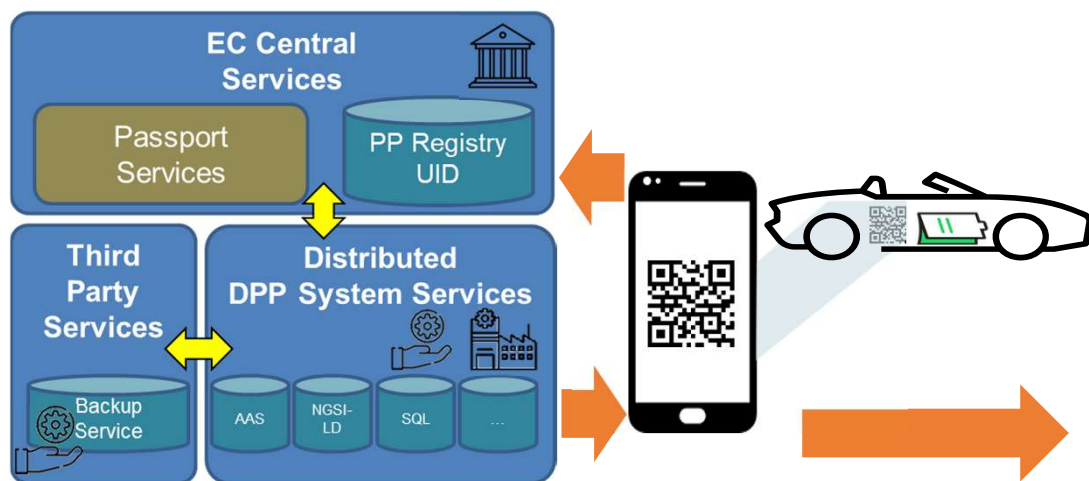
# A small theoretical Input – How the EU DPP is working Example Battery Pass?



Customers, Partners and Authorities receive dedicated digital Information from product life



## Example Battery Pass



## 107 Data Points around the product Life



Selection of mandatory Data

**Battery ID: 0101010**

**General information**

- Manufacturing info (identity, place, date)
- Compliance Labels Certificates
- Circularity
- Supply Chain Due Diligence
- Carbon Footprint
- Manuals
- State of Health**



Typical voluntary Data

**Battery ID: 0101010**

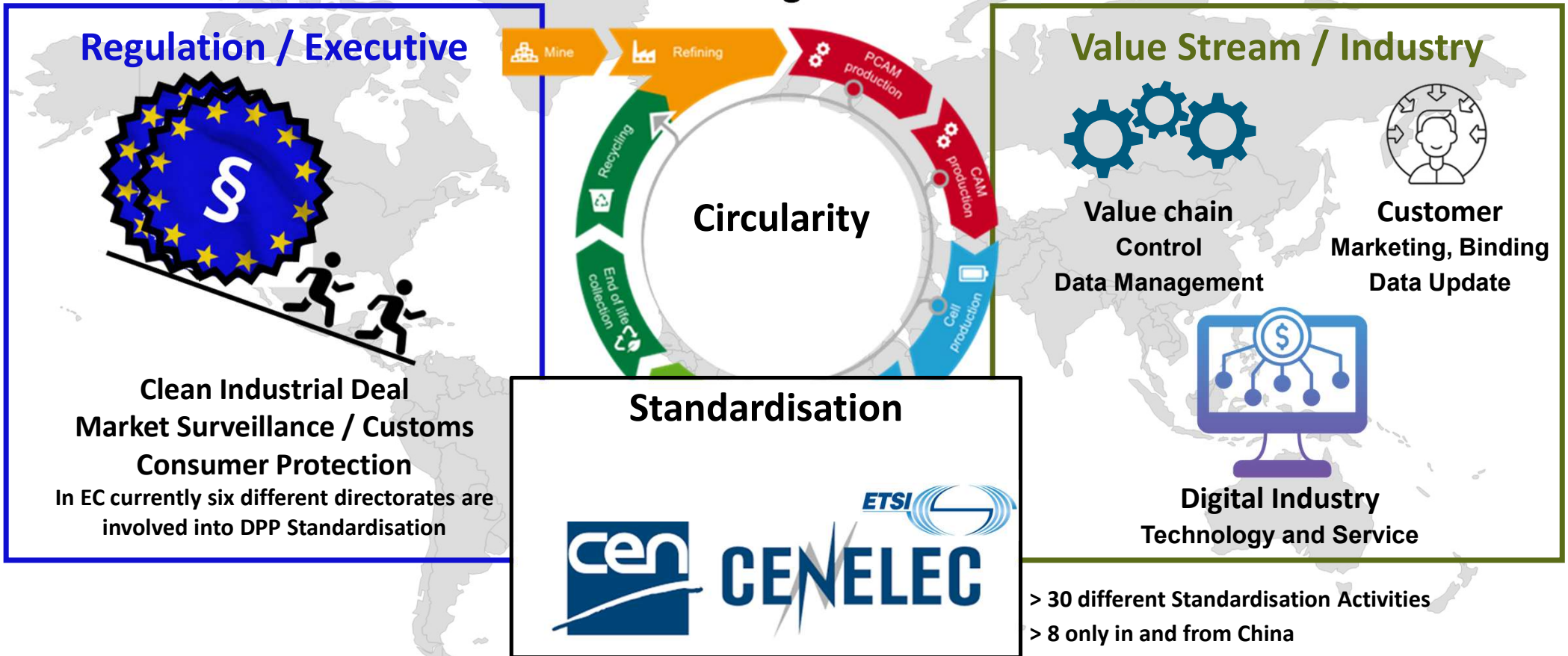
- Benchmarks
- Repair Manual
- Spare Parts
- Connected Products
- Service Centres
- Upgrades



# DPP Orientation – Helicopter View



## Global Alignment



# Why DPP are electrifying



Global und regional economy as well as politics meet Chances and Risks for Enterprises

## Clean Industrial Deal - Regulation

**Ecodesign for Sustainable Product Regulation (ESPR)**  
Centralized Regulation of Green Deal

**Battery Regulation**  
From Feb. 2027 mandatory Provision required

ESPR and other Regulations require EU DPP for most of the products to be established on the market  
Cars: ZEV3, EoL-V, RED III, ESPR (z.B. Tyres), Euro7



## Efficiency - Digitization - Business

**Market Volume**  
for Tech-Giants and in the niche (app.300.000 cars/day)

**Digitization**  
DPP supports digital integration, horizontally and vertically



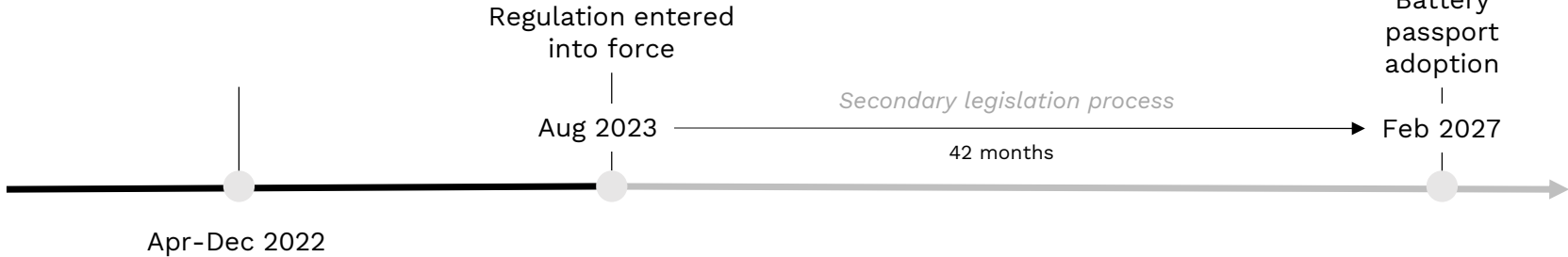
**Technology Push**  
Next chance for existing and upcoming technologies (z.B. Blockchain, Data Spaces)

**New Opportunites**  
e.g for personalized advertisement, know, whats happen with the product after sales.

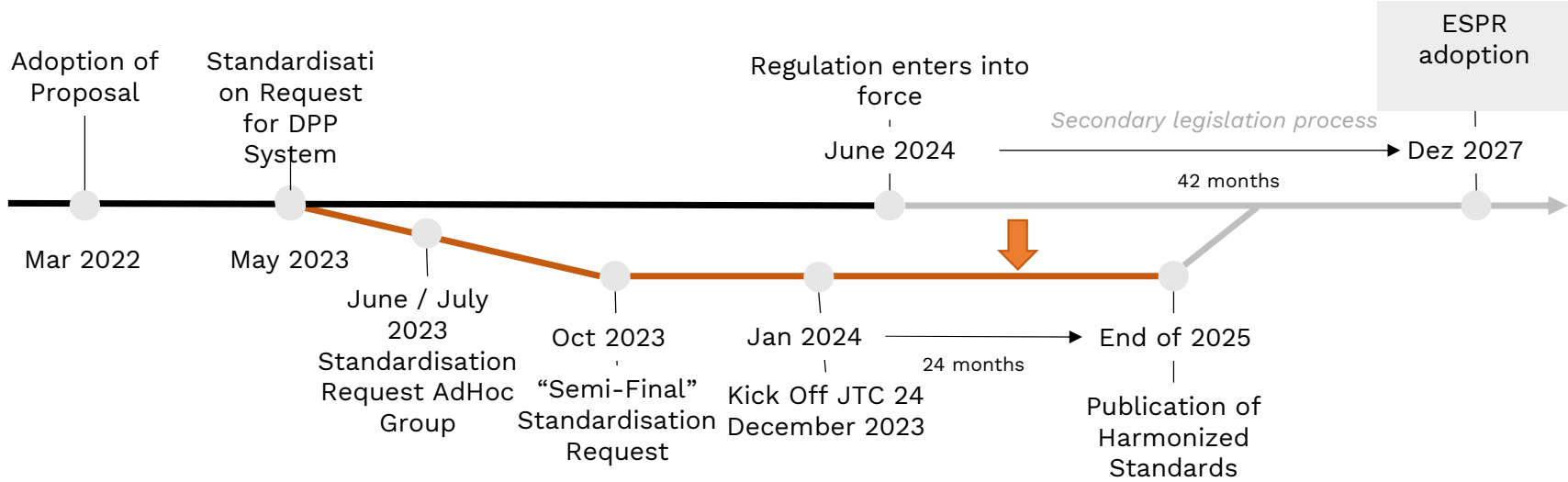
# Tough Timeline for Standardisation



**Battery Regulation**



**ESPR**



**Others Regulation**



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



Objectives	Participants	Timing
<p>Fulfill the <b>Standardization Request (SReq)</b> to define <b>harmonized standards for the DPP System</b> according to <b>Ecodesign for Sustainable Products Regulation (ESPR)</b> <b>Battery Regulation + ...</b></p>	<p>Appr. 300 Experts in Delegations from 20 Member States + Switzerland, UK, Norway</p> <p>Currently 32 Liasons requests (European and Global)</p>	<p><b>Deadline to deliver hEN for 8 Modules Dec. 31<sup>st</sup>, 2025</b></p> <p>2023      2024      2025 .... 2028</p> <p>Dec. 18<sup>th</sup>, 2023 Kick Off Meeting      Planned End of JTC 24</p>

Most product groups require a DPP and are affected by JTC 24, except food, animal food, pharmaceutical

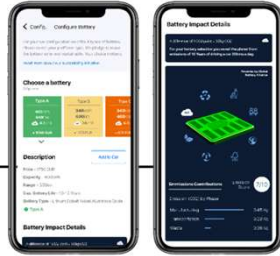


Main Regulations
ESPR
Batteries (Traction and industry)
Toys
Detergents
Construction Materials
Critical Raw Materials

- Iron & steel
- Aluminium
- Textile, notably garments and footwear
- Furniture, including mattresses
- Tyres
- Detergents
- Paints
- Lubricants
- Chemicals
- Energy related products
- ICT products and other electronics



# System Scope of JTC 24 is to deliver harmonised standards for the DPP System



DPP Data

DPP System

Passport Data is out of Scope in JTC 24

Harmonized technical system for all DPPs:



Data Storage



Data Carrier Identifier



Trust / Security / Sovereignty / Access



Data Exchange

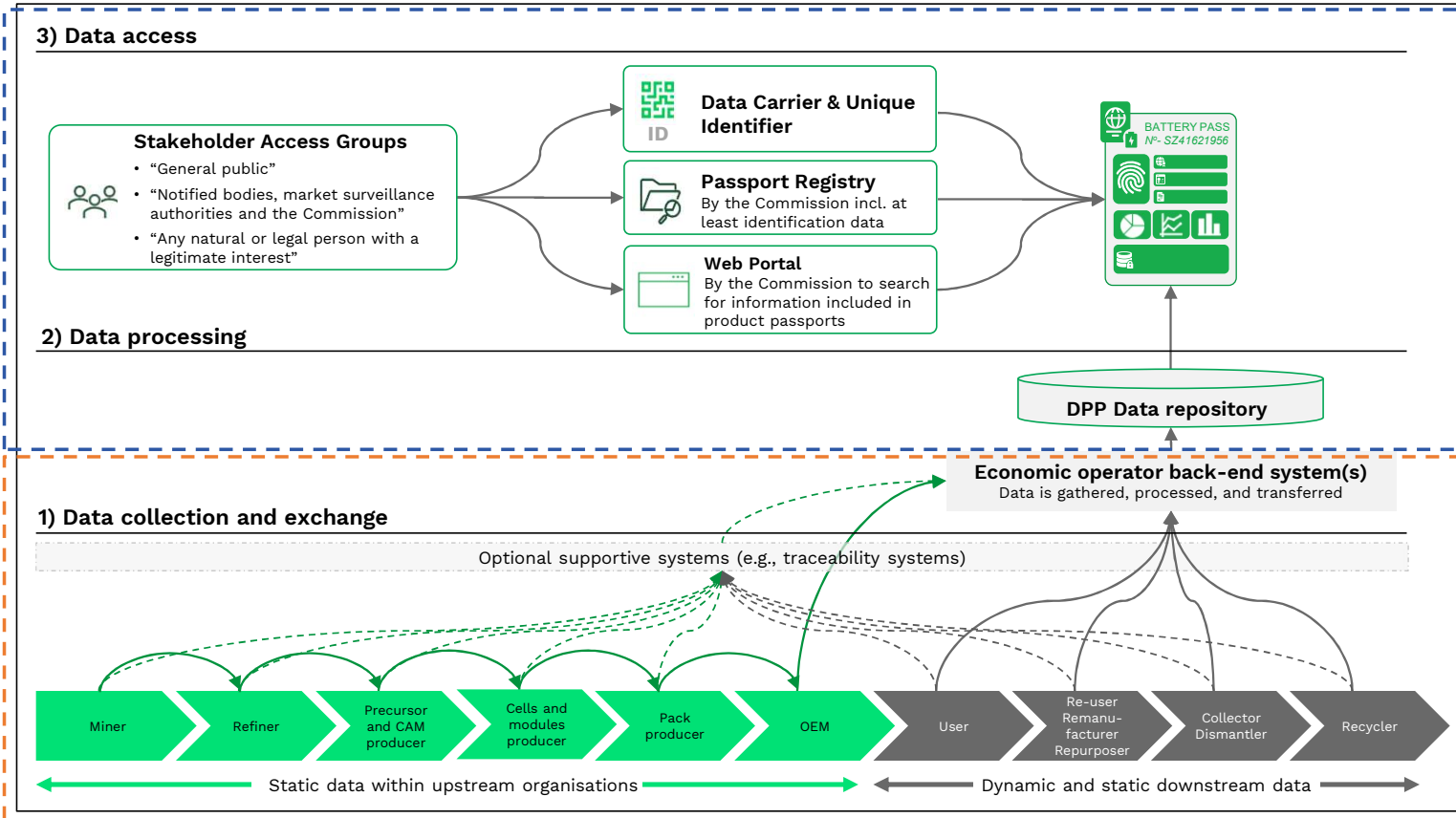


IT Services / APIs



Workflows and Data Processing

# Process Scope of JTC24

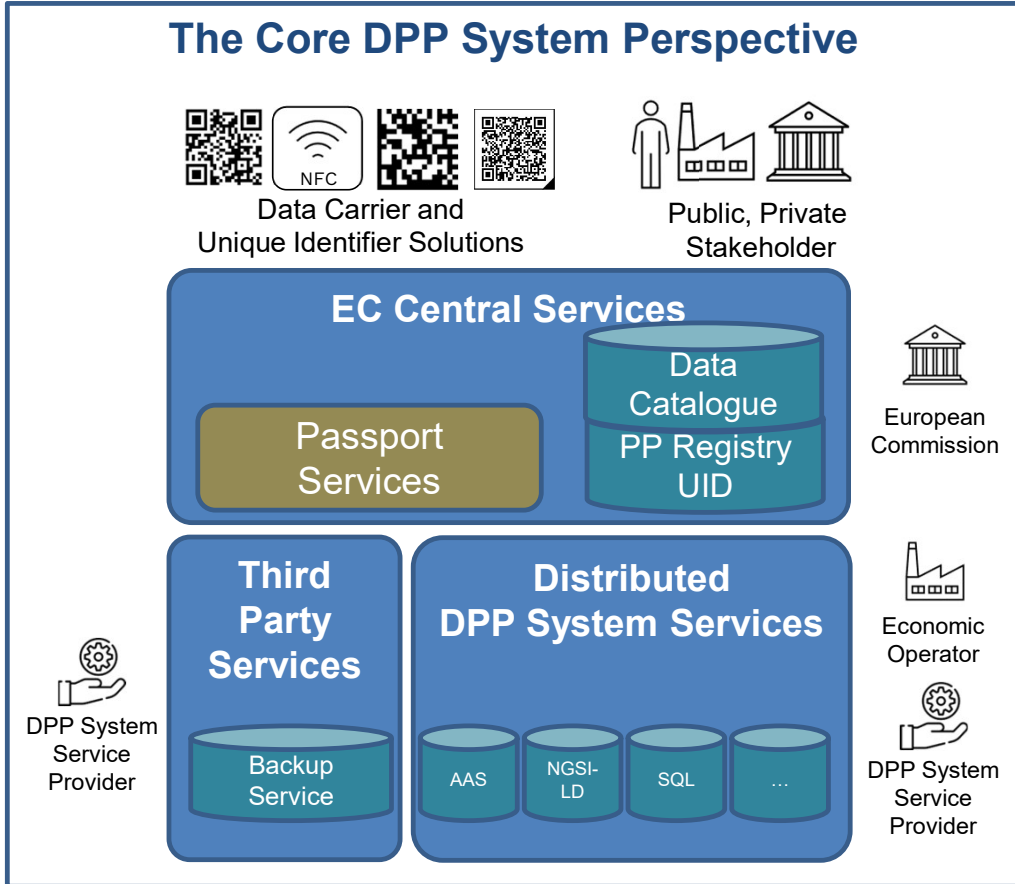


**Scope in JTC 24:**  
Data Access,  
Data Processing

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

1) Galatola, M. Digital Product Passport (DPP). Circular Economy Europe. [Online] [Cited: 20 03 2023.] <https://circulareconomy.europa.eu/platform/sites/default/files/michele-galatola-european-commission.pdf>

# Organisation Scope : Who should be interested into JTC24



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

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

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

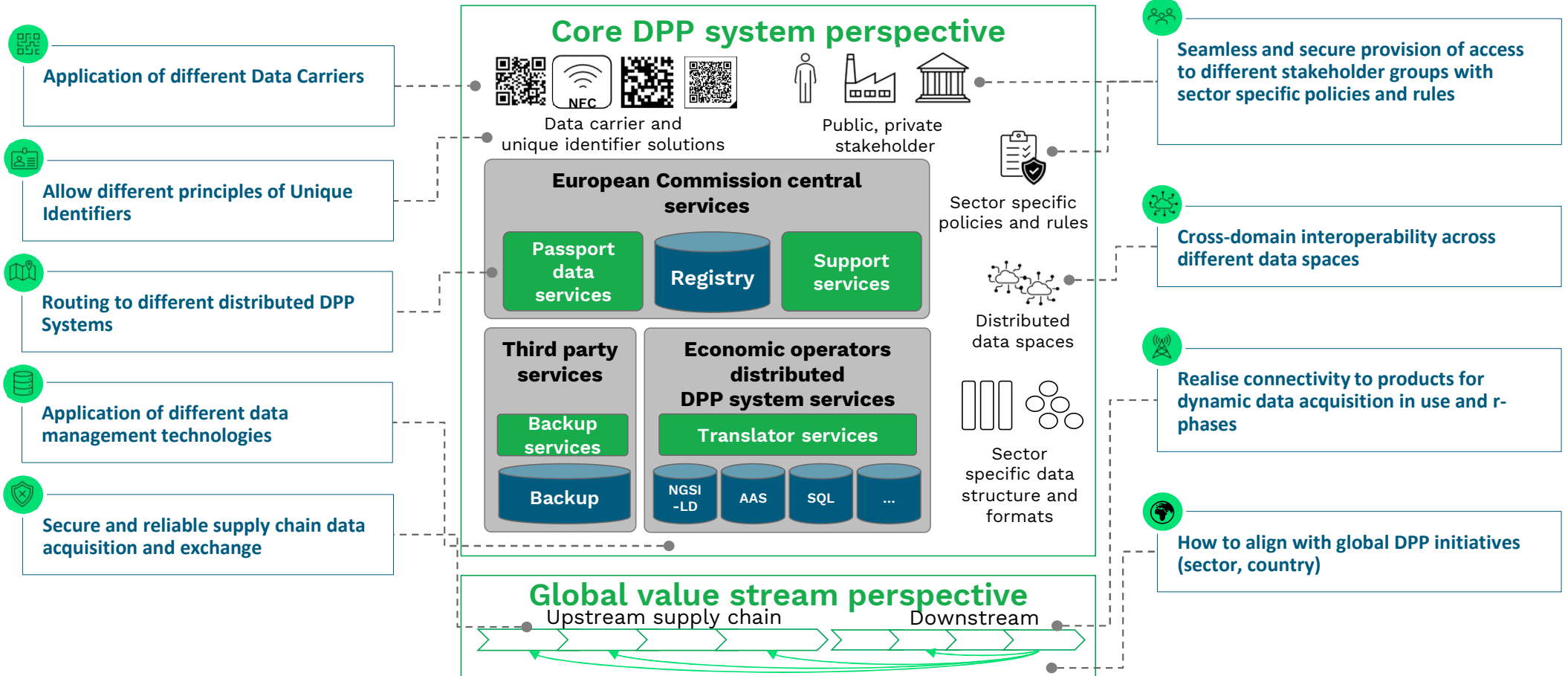
**DPP System Component Suppliers**  
(e.g. for Data Carrier)

**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

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



# How to participate in JTC 24



## Work Group Overview

Strategic Advisory	Unique identifiers and data carriers	Security	Interoperability framework
<u>Work group 1</u>	<u>Work group 2</u>	<u>Work group 3</u>	<u>Work group 4</u>
Facilitate, coordinate and exchange between working groups	Unique Identifier for Product	Individual decentral Data Repository	API for CRUD (Create, read, update, delete) of data
Liaisons	Unique Identifier for Economic Operator	System for (role /function/attribute-based) access rights management	Querying of Passport Data
Clarify non-technical issues	Unique Identifier for Facilities	Verification of authentication	Back Up Data Base
Interaction with sector specific data standardisation	Data Carrier	Verification of DPP conformance	Data Modelling:
Business plan	Registry	Cryptographic verification of DPP (digital signature check)	DPP Issuing Service
	Routing Services	Data verification of data integrity and originality	Data modelling services
		Logging Monitoring	Schema Definition

**Technical Expert** for elaborating harmonised standards (hEN) for system elements

- Select and adopt existing standards
- Elaborate interoperability solutions
- Elaborate new standards

### Meetings

Plenary Meeting – app. 3 times/year

Work Group Meetings – Elaboration – weekly

Alignment with European Commission - monthly

### Time Frame

Delivery of hEN until end of 2025

# Status Workgroups



## WG 1 Strategic Advisory Group

Convener: Martin Schreck (SN)

- Common Time Line elaborated
- System Picture (Architecture) elaborated
- Use Cases and User Stories elaborated
- Business Plan
- Liaisons
- Monthly Update with EC

## WG 2 Unique identifiers and data carriers

Convener: Johan Dahlgren (SIS)

- NWIP for Data Carrier and Unique Identifier established
- **Drafts for Data Carrier and Unique Identifier elaborated**

## WG 3 Security

(Torgeir Waterhouse, SN)

- NWIP established
- Convenor appointed and approved
- **Drafts realized in February 2025**

## WG 4 Interoperability framework

Convener: Otto Handle (ASI)  
Co-Convener: Richard Merkel (DIN)

- NWIP established for all related modules:
  - Data processing and exchange
  - Data storage
  - API
  - Data Modelling
- **First Drafts elaborated in December 2024**

**Complete Drafts expected for official assessment end of March 2025**

Thank you very much



Chair JTC 24  
Thomas Knothe

[thomas.knothe@ipk.fraunhofer.de](mailto:thomas.knothe@ipk.fraunhofer.de)



Co-Chair JTC 24  
Thomas L. Rödding

[thomas.roedding@narravero.com](mailto:thomas.roedding@narravero.com)

[www.cencenelec.eu](http://www.cencenelec.eu)

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Secretary JTC 24  
Samarkhel-Khan Yahya  
[samarkhel-khan.yahya@din.de](mailto:samarkhel-khan.yahya@din.de)