Digital Product Passport (DPP) – new requirements for products placed on the European market

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Espen Schulze, CEN/CLC JTC 24

Espen Schulze

Group VP Research, Cobuilder

- Expert in numerous standardization projects in CEN and ISO
- CEN/TC 442, ISO/TC 59/SC 13 – BIM
  - Leader of 3 projects related to object/product data
- CEN/CLC/JTC 24 – Digital Product Passport
- Member of buildingSMART Product Domain Steering Committee

A European Green Deal

Striving to be the first climate-neutral continent

Climate change is the biggest challenge of our times.
And it is an opportunity to build a new economic model.

Ecodesign for Sustainable Products Regulation (ESPR)

Making sustainable products in the EU the norm

- the cornerstone of the European Commission's approach to more environmentally sustainable and circular products
  - framework for the setting of ecodesign requirements
  - aim of improving the environmental sustainability of products in order to make sustainable products the norm
  - reduce the overall carbon footprint
  - ensuring the free movement of sustainable products within the internal market

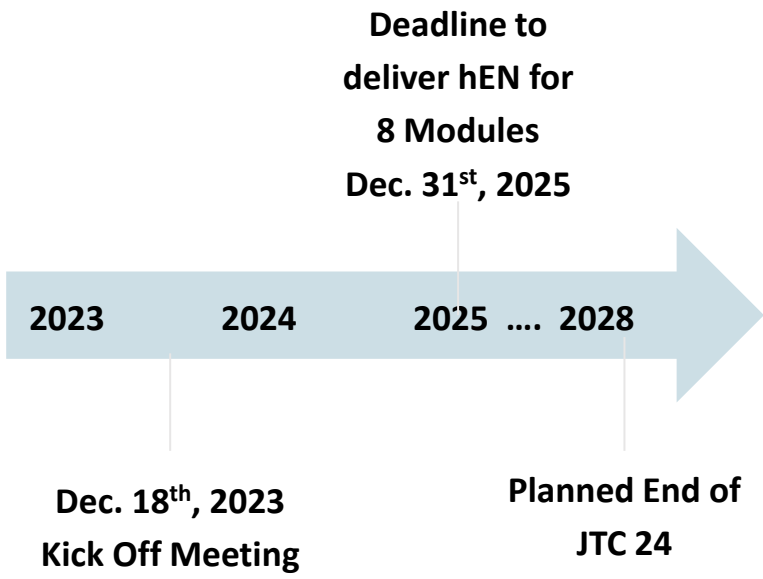
Ecodesign for Sustainable Products Regulation (ESPR)

Making sustainable products in the EU the norm

- This Regulation also establishes a **Digital Product Passport (DPP)**

'digital product passport' *means a set of data specific to a product that includes the information specified in the applicable delegated act adopted pursuant to Article 4 and that is accessible via electronic means through a data carrier in accordance with Chapter III;*

CEN CLC JTC 24 "Digital Product Passport Framework and System"

Objectives	Participants	Timing
Fulfill the **Standardization Request** (SReq) to define **harmonized standards for the DPP System** according to **Ecodesign for Sustainable Products Regulation (ESPR)** **Battery Regulation** + …	Appr. 300 Experts in Delegations from 20 Member States + Switzerland, UK Currently 24 Liasions requests (European and Global)	

Slide by Thomas Knothe/Thomas L. Rödding

List of Standards to be delivered by JTC 24

List of European standards to be drafted and deadlines for their adoption as referred to in Article 1

Reference information		Deadline for the adoption by the ESOs
1.	European standard(s) on unique identifiers	31 December 2025
2.	European standard(s) on data carriers and links between physical product and digital representation	31 December 2025
3.	European standard(s) on access rights management, information, system security, and business confidentiality	31 December 2025
4.	European standard(s) on interoperability (technical, semantic, organisation)	31 December 2025
5.	European standard(s) on data processing, data exchange protocols and data formats	31 December 2025
6.	European standard(s) on data storage, archiving, and data persistence	31 December 2025
7.	European standard(s) on data authentication, reliability, integrity	31 December 2025
8.	European standards on Application Programming Interfaces (APIs) for the product passport lifecycle management and searchability	31 December 2025

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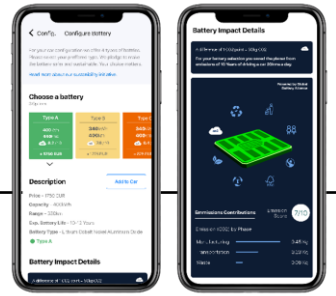
System Scope of JTC 24 is to deliver harmonised standards for the DPP System



DPP Data

Passport Data is out of Scope in JTC 24

DPP System

Harmonized technical system for all DPPs:

- Data Storage
- Data Carrier Identifier
- Trust / Security / Sovereignty / Access
- Data Exchange
- IT Services / APIs
- Workflows and Data Processing

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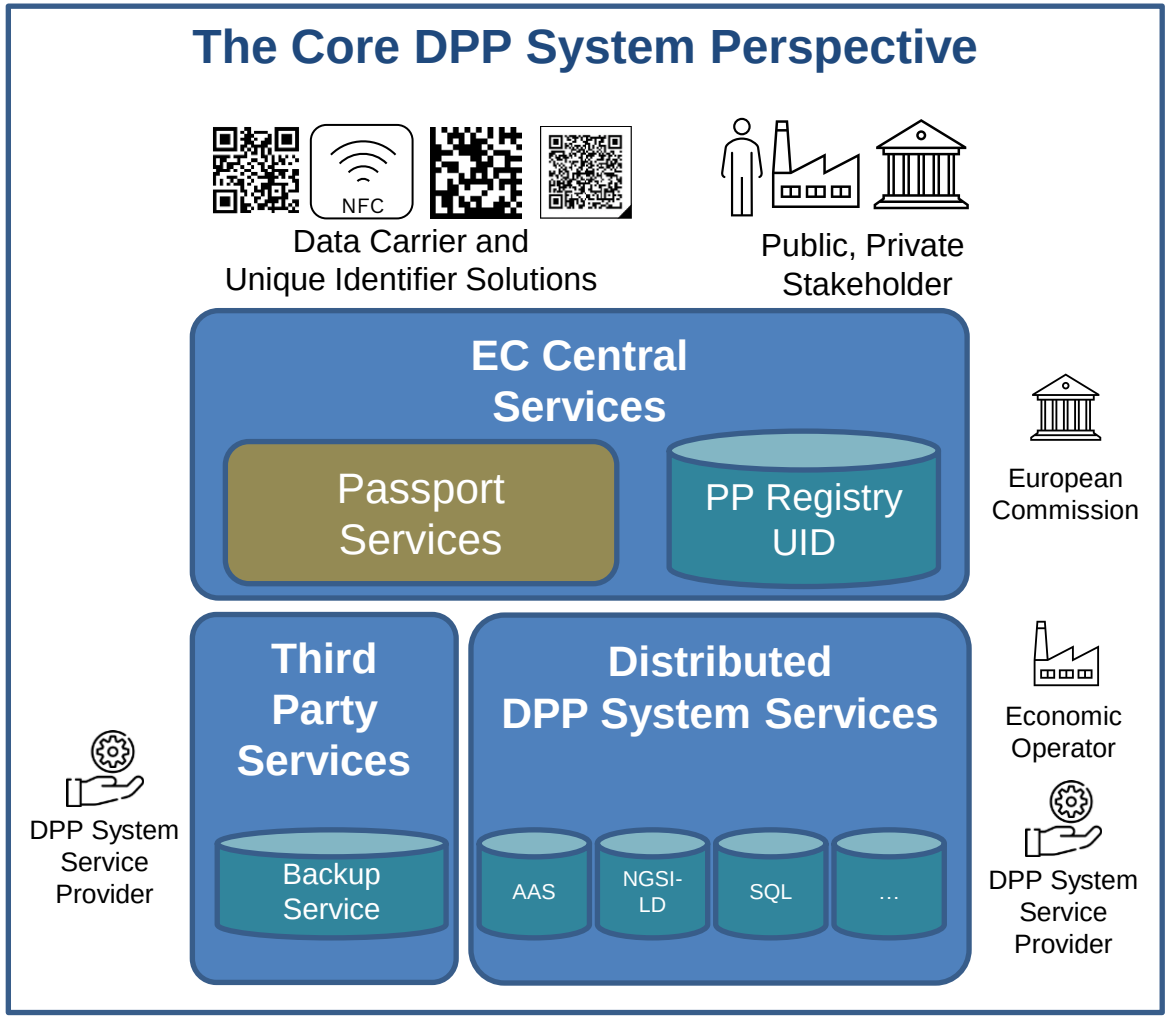
Organisation Scope :
Who should be interested into JTC24



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

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Cross sectoral semantics
industrial requirements

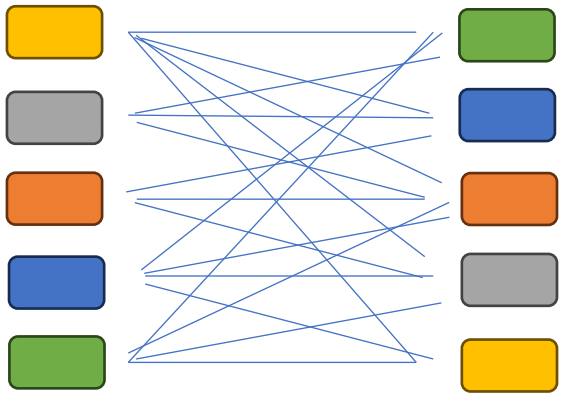
- **Limit extent of internal change**
  internal process must not change
  continue existing semantic systems
  existing software shall be adaptable to DPP with low efforts
  cross process usability

- **Decrease upstream difficulties**
  better data exchange processes with upstream partners using coordinated information flow of DPP

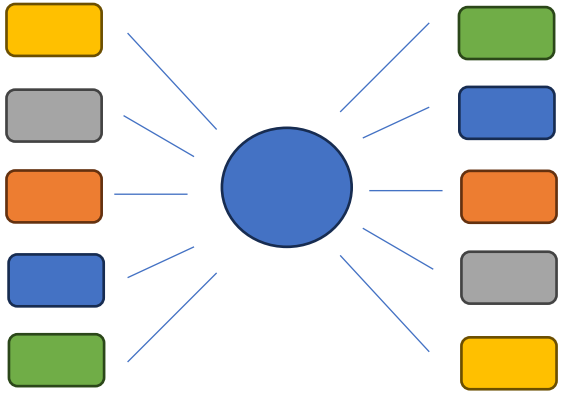
- **Compareability**
  features of part products integrateable with own dpp data

- **Stability and trust**
  adaption to DPP with long time reliance

n:[n-1] mapping



less effort: 1:n:1 mapping



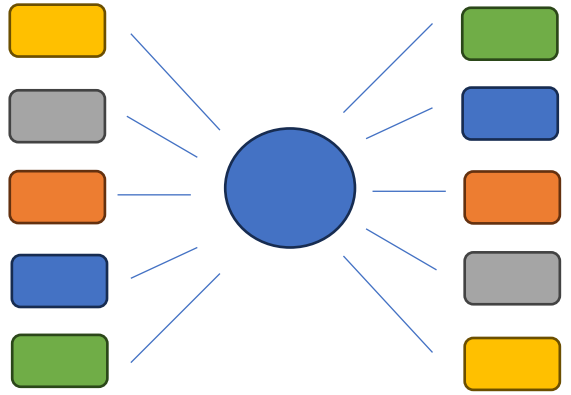
Solutions
repository approach

- Adaption to sector specific semantic systems
  - DPP definitions:

    Done in delegated acts
    Uniform access
    Uniform identification
    Uniform definition, value range, unit system, reference systems, translations
    Reliable long term definition of meaning

  - Integration with sectoral semantics

    Single, unique reference point
    Long term stability
    Easy adaption and long term use
    Increases possibilities in upstream



- **Semantic gateway**
  - a function or a protocol to be used when exchanging data with other semantic frameworks

Sector specific example – Construction industry

(New) Construction Products Regulation

Implementing digitalization through the use of **data dictionary** and **machine-readable format**

It is necessary to establish well-functioning information flows, including via electronic means and in a machine-readable format
Whereas: (4)

To improve machine readability, it is necessary to establish ***a common data dictionary*** *based on European standards, a tool to govern and publish the data structure and their meaningful definitions and descriptions for all relevant construction products. For each product family or category, the data dictionary should include all the essential characteristics and other properties as set out in the harmonised technical specifications as well as other information required according to this regulation. A data dictionary harmonised at the EU level allows for the classification and use of structured definitions by both competent national authorities and in the further digitalisation of the construction sector, in particular in Building Information Modelling, building logbooks, digital passports and registries.*
Whereas: (84a)

(New) Construction Products Regulation

Digital Product Passport

(including Declaration of Performance/Conformity)

Article 81a

Construction digital product passport system

The construction digital product passport system shall:

- *be compatible, interoperable and built on the digital product passport established by the regulation (EU) .../... [Regulation on eco design for sustainable products], without compromising interoperability with Building Information Modelling (BIM) while taking into account the specific characteristics and requirements related to construction products;*

Article 81c

General requirements for the product passport

all information included in the product passport shall be based on open standards, developed with an interoperable format and shall be, as appropriate, machine-readable, structured, searchable and transferable through an open interoperable data exchange network without vender lock-in

BIM standardization

TC 442

TC 59

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BIM standardization

TC 442

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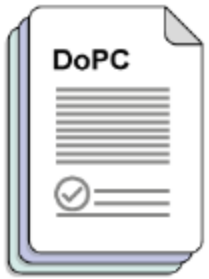
Standards supporting data dictionaries

TC 442

TC 59

DPP content



Declaration of performance and conformity

General product information, instructions for use and safety information

Technical documentation

Label (when applicable)

Unique product identifier
dpp:GTIN:**3234567890126**

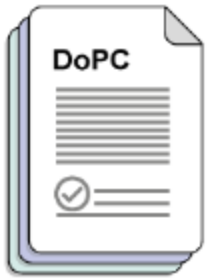
Unique operator identifier
dpp:VAT:**AT U14589505**

Unique facility identifier
dpp:ISO3166-2:**BE**

Data carriers

European Commission

DPP content



Declaration of performance and conformity

CEN/TC 442

NWI – Digital structure for Declaration of Performance (DoPC)

- CPR requirements for construction products
- BIM compliance
- Data templates/data dictionaries
- Semantics from harmonised technical specifications
- Data format neutral
- Compliance with JTC 24

Describe, author and maintain properties	Data model for data dictionaries	Data templates
EN ISO 23386	EN ISO 12006-3	EN ISO 23387

European Commission

Thank you!

Contact me for further information and discussions

schulze@cobuilder.no

/espen-schulze