

The background features a network of white icons on a dark blue gradient. The icons include a smartphone, a tablet, a laptop, and server racks, all enclosed in circular frames. These frames are interconnected by thin white lines, suggesting a digital network or data flow. The overall aesthetic is clean and modern, typical of a professional presentation.

Digital DoPC



Espen Schulze

Group VP Research, Cobuilder

- Expert in numerous standardization projects in CEN and ISO
- CEN/TC 442
 - Convenor WG12 – Digital DoPC
 - Project leader in WG 7 – Methodology for CEN TCs
 - Project leader of EN ISO 23387 – Data templates
- 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



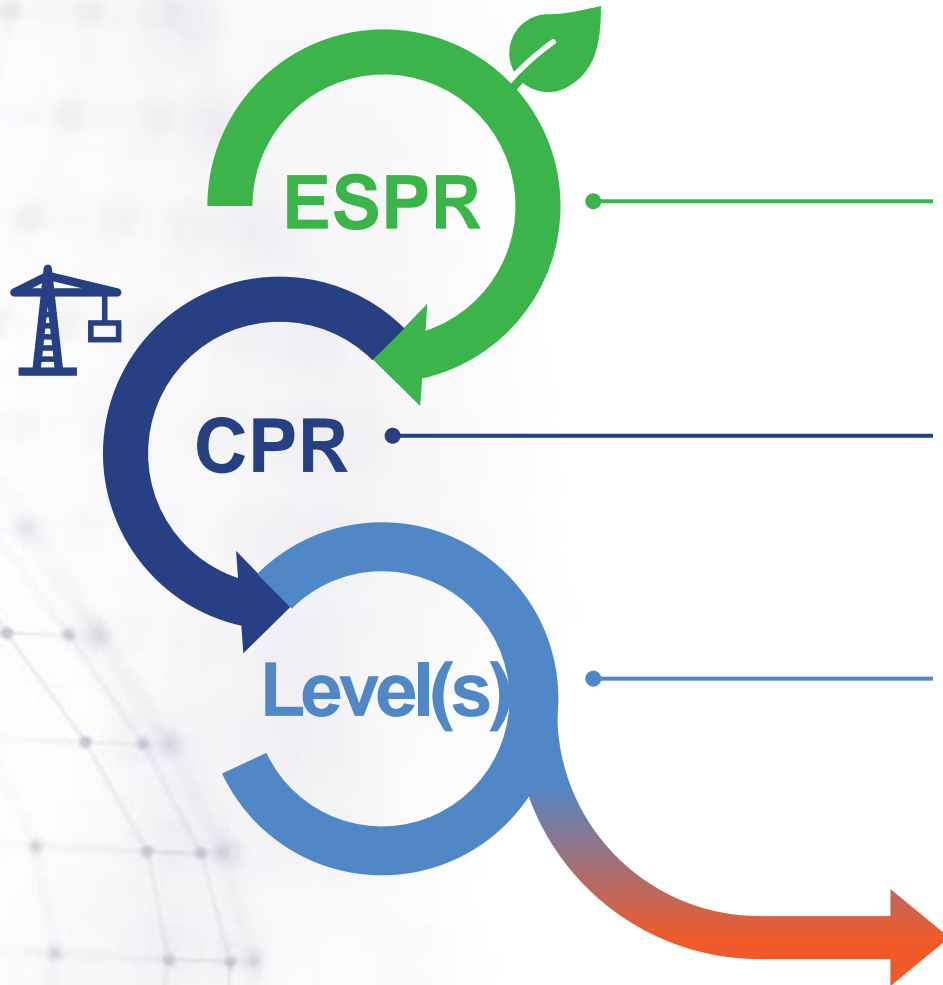
Ecodesign for Sustainable Products Regulation (ESPR)

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;

EU Regulatory framework



ESPR

Ecodesign for Sustainable Products Regulation
Setting performance and information requirements for products placed on the Single Market

CPR

Construction Products Regulation

Delivery of environmental information from construction products and implementation of requirements

Level(s)

Level(s) methodology

Sustainability assessment of buildings

Taxonomy

Sustainable activities

EPBD

Sustainable buildings

EED

Public procurement of buildings



(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 75

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 77

General requirements for the product passport

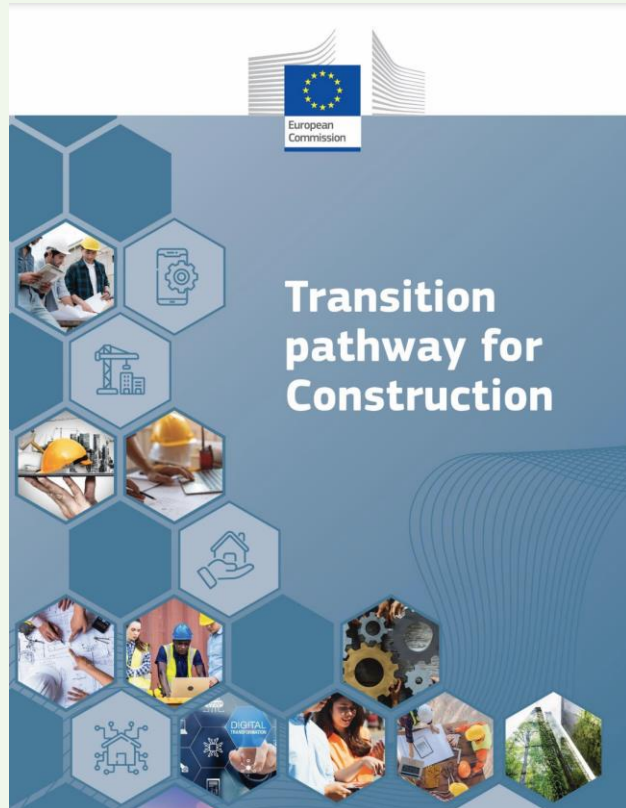
all information included in the product passport shall be based on open standards, developed with an interoperable format and shall be, as appropriate, machine-readable, structured, searchable and transferable



A European Green Deal

Striving to be the first climate-neutral continent

The updated EU Industrial Strategy



Information management systems, product data. The BIM standards developed for Construction and infrastructure to digitise products, **EN ISO 23386** & **EN ISO 23387**. Also, the standard for digitising Environmental Product Declarations (EPD) that is using the above-mentioned standards is relevant. This is also relevant for EU legal framework of REACH, CPR, LVD, MD etc. as the use of **machine-readable Data Templates (EN ISO 23387)** support the use of harmonised European Norms (product standards/test standards).

The publication of the international standard **EN ISO 22057** on data templates of the use of environmental product declarations (EPDs) provides a clear signal of the importance of the worldwide markets in this field.



Vienna agreement





BIM standardization supporting data dictionaries



Horizontal (cross-
domains) technical
framework

EN ISO
23386

Expert
process,
meta data

EN ISO
23387

Data
templates

EN ISO
12006-3

Data
dictionaries

Methodology to
support domain
specific
development -
format independent

WI
00442061

Digital
DoPC

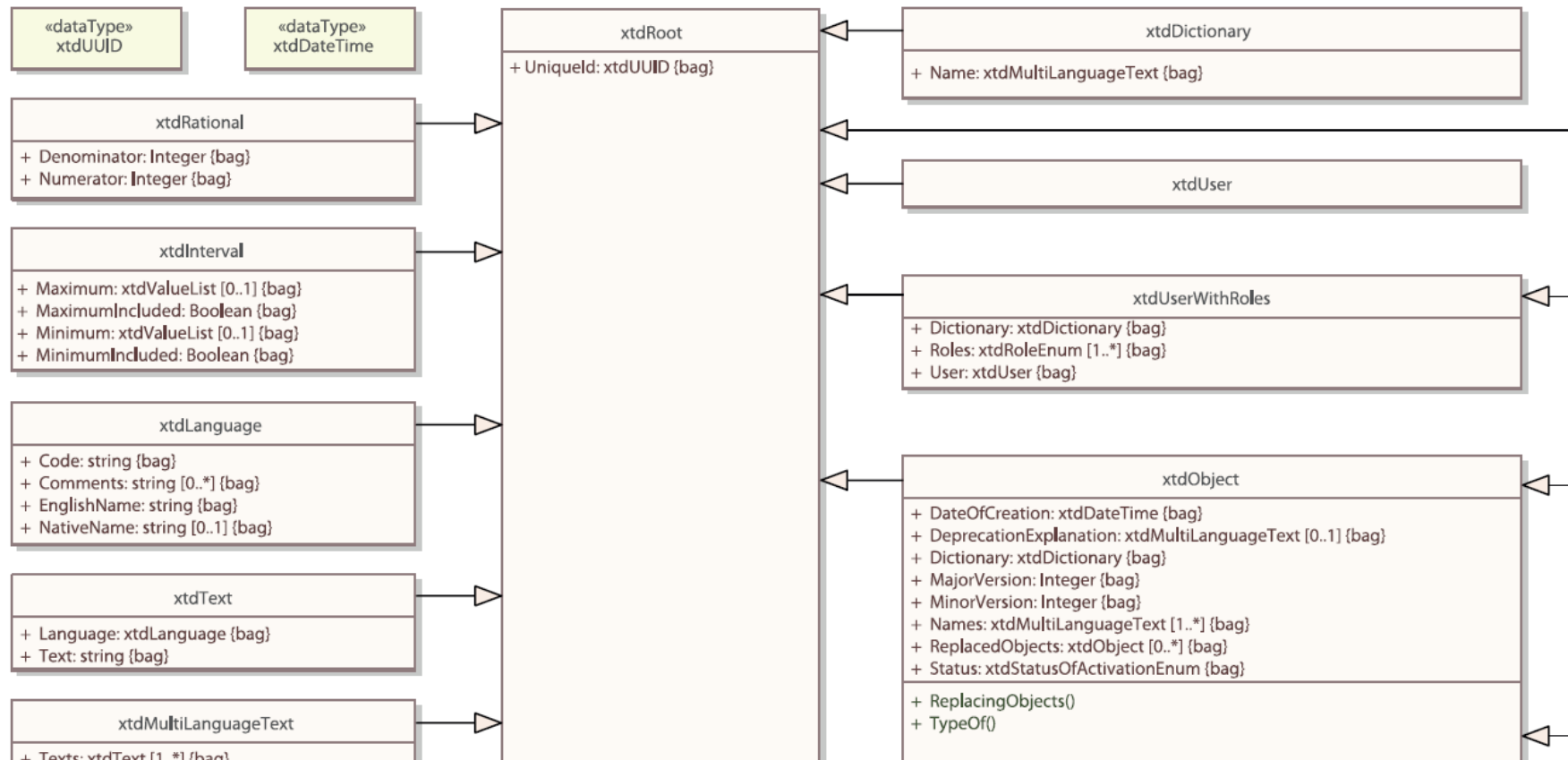
WI
00442051

Guideline
for TC

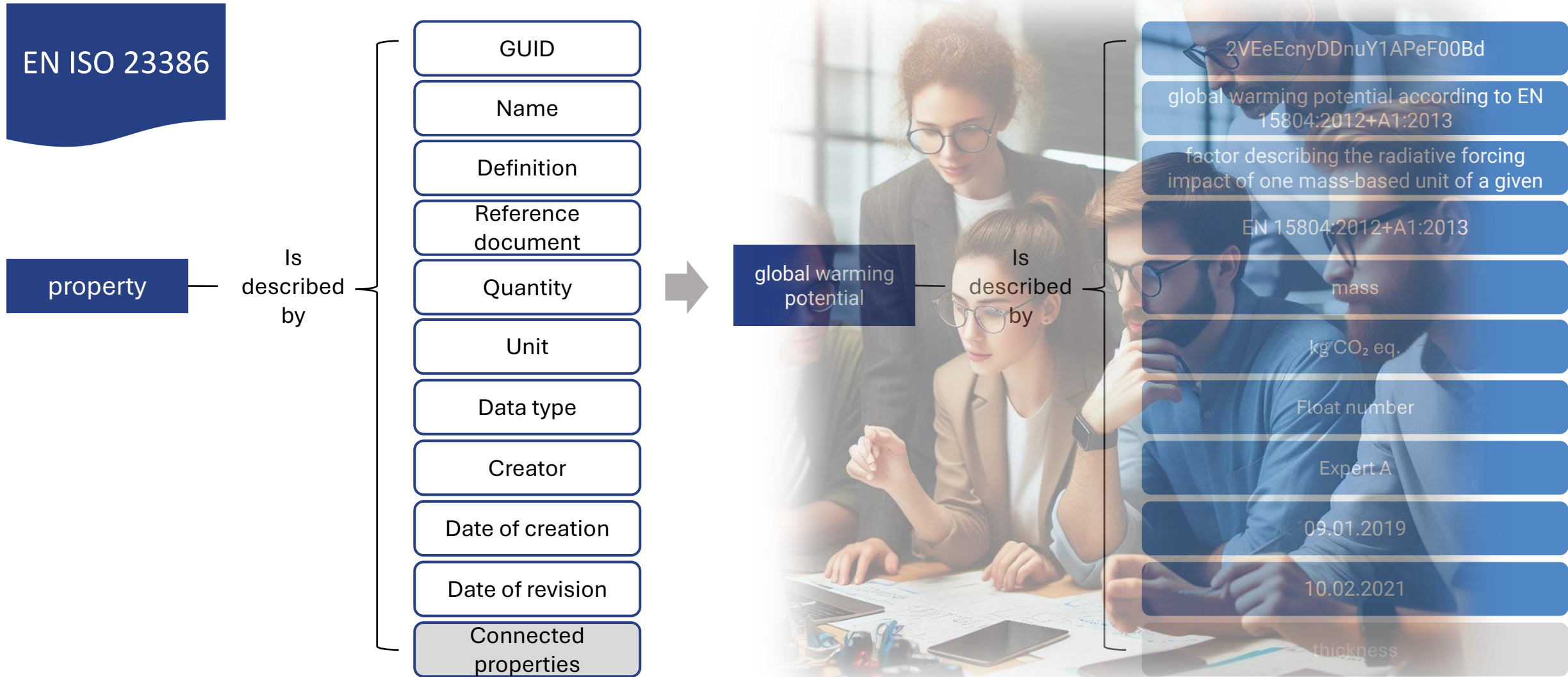
EN ISO
22057

Digital EPD

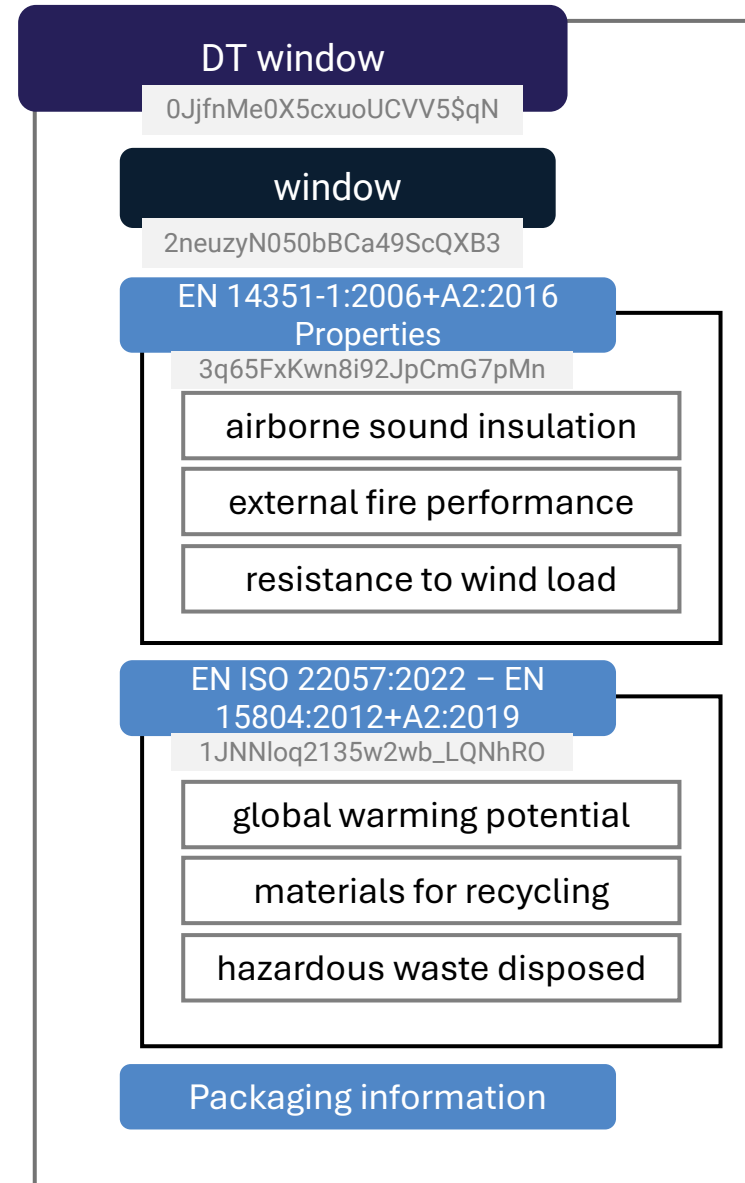
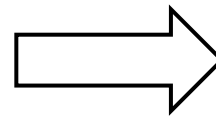
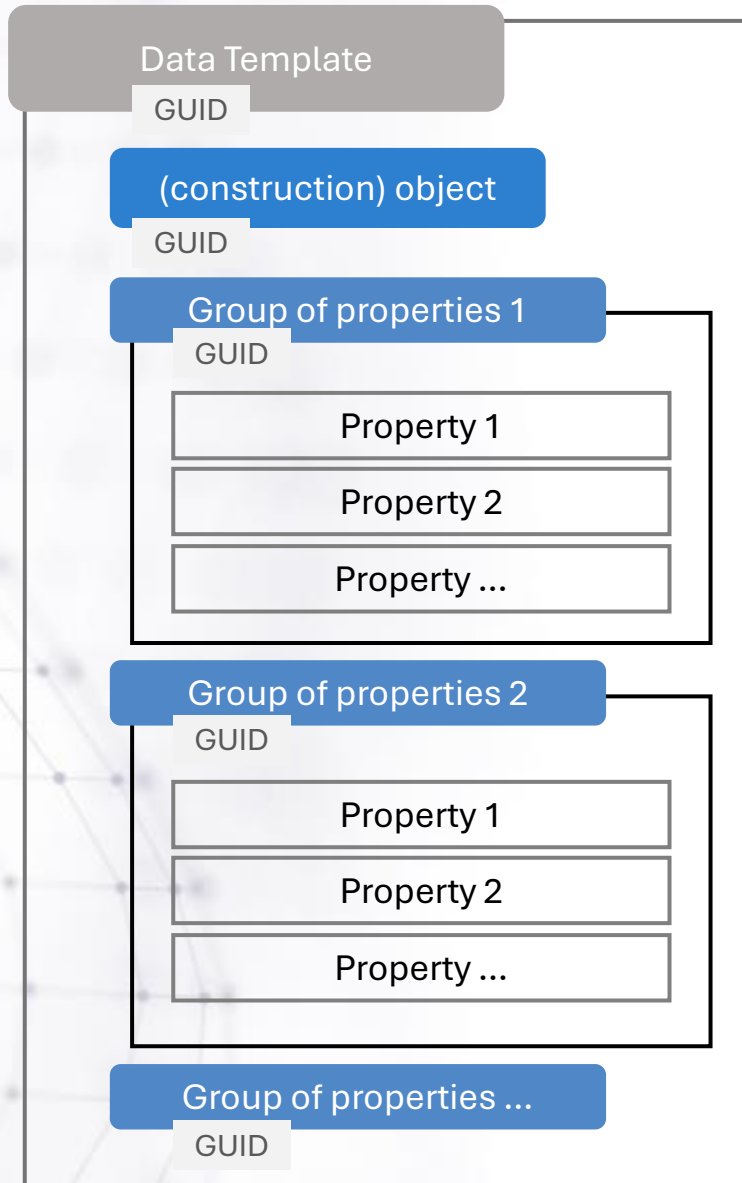
EN ISO 12006-3 – data model for data dictionary implementations



EN ISO 23386 is a standard about 'properties' **made by domain experts**



EN ISO 23387 is a standard about 'data templates'





Methodology for CEN technical committees



TC 442/WG 7

Horizontal role

TC XXX

Technical framework

EN ISO
23386

EN ISO
23387

Expert
process



Data
model

Methodology (guideline)

WI 00442051



Property table

Name	Definition	Short name	Symbol	Reference document	Quantity kind	Unit	Data type	Possible values	Boundary values	Proxy dependency
maximum hardware operating torque [finger operated] acc. to EN 12046-2				EN 12046-2	torque	Nm	real	user input		
water tightness				EN 14351-1:2006+A2:2016	Inherited	Inherited	Inherited	Inherited	Inherited	classification of water tightness [method A] acc. to EN 12208:1999 of water tightness [method B] acc. to EN 12208:1999
classification of water tightness [method A] acc. to EN 12208:1999				EN 12208:1999	nominal	unitless	string	1A; 2A; 3A; 4A; 5A; 6A; 7A; 8A; 9A; E750; E900; E1050; E1200; E1350; E1500; E1650; E1800		
classification of water tightness [method B] acc. to EN 12208:1999				EN 12208:1999	nominal	unitless	string	1B; 2B; 3B; 4B; 5B; 6B; 7B		
water tightness test result acc. to EN 1027:2016				EN 1027:2016	logical	unitless	boolean	pass; fail		
test pressure acc. to EN 1027:2016				EN 1027:2016	pressure	Pa	real	0; 50; 100; 150; 200; 250; 300; 450; 600; 750; 900; 1050; 1200; 1350; 1500; 1650; 1800		
air permeability				EN 14351-1:2006+A2:2016	Inherited	Inherited	Inherited	Inherited	Inherited	classification of air permeability acc. to EN 12210:2016
classification of air permeability acc. to EN 12207:2016				EN 12207:2016	nominal	unitless	string	1; 2; 3; 4		
classification of air permeability related to overall area acc. to EN 12207:2016				EN 12207:2016	nominal	unitless	string	1; 2; 3; 4		
air permeability related to overall area acc. to EN 12207:2016				EN 12207:2016	volume flow					
overall area acc. to EN 12207:2016				EN 12207:2016	surface density	m ³ /(m ² h)	real	formula		
classification of air permeability related to the length of opening joints acc. to EN 12207:2016				EN 12207:2016	area	m ²	real	user input		
air permeability related to the length of opening joints acc. to EN 12207:2016				EN 12207:2016	nominal	unitless	string	1; 2; 3; 4		
length of opening joints acc. to EN 12207:2016				EN 12207:2016	volume flow line density	m ³ /(m h)	real	formula		
air permeability acc. to EN 1026:2016				EN 1026:2016	length	m	real	user input		
total solar energy transmittance		solar factor	g	EN 14351-1:2006+A2:2016	volume flow	m ³ /h	real	user input		total solar energy transmittance acc. to EN 410:2011; tot
glazing side ID			g'	EN 14351-1:2006+A2:2016	Inherited	Inherited	Inherited	Inherited	Inherited	transmittance acc. to EN ISO 52022-3:2017
				EN 14351-1:2006+A2:2016	nominal	unitless	string	NULL, left, right		



TC 442/WG 12

Digital structure for Declaration of Performance and Conformity (DoPC)



TC XXX

Technical framework

EN ISO 23386

EN ISO 23387

Expert process



Data model

Digital DoPC

WI 00442061



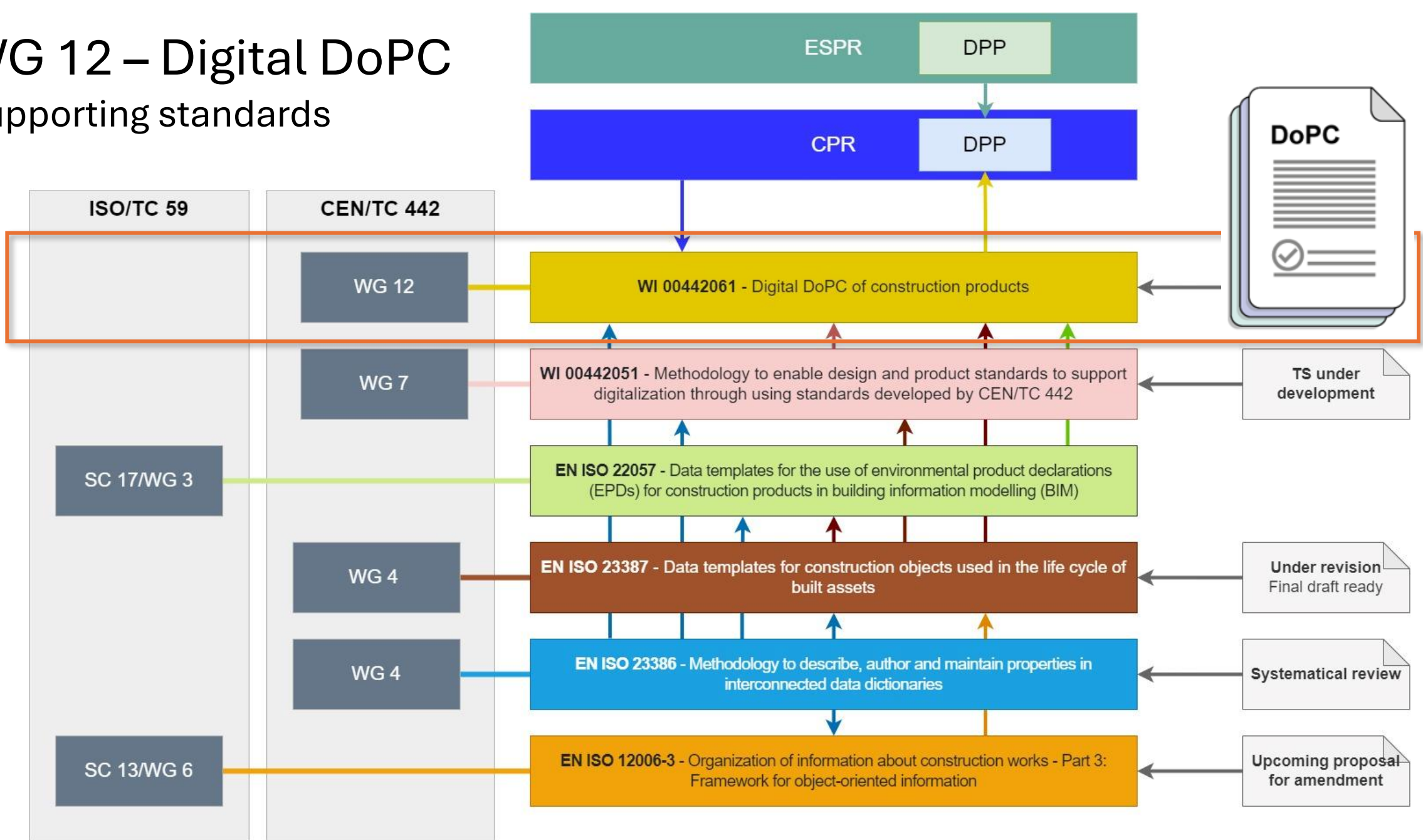
DoPC table (to be developed)

Essential characteristic <Name>	Property level 1 <Name>	Property level 2 <Name>	<Reference Document>	Declaration <Name>	<Value>	<Unit>	<Relation>
Compressive strength	Perpendicular to bed faces	type of specimen	EN 771-2	type	whole unit	unitless	category
		category	EN 771-2	category	I	unitless	category
		mean	EN 772-1	value	18.75	N/mm ²	greater than or equal to
		normalised	EN 772-1	value	15.33	N/mm ²	greater than or equal to
		AVCP		system	2+	unitless	category
	Perpendicular to header	type of specimen	EN 771-2	type		unitless	category
		category	EN 771-2	category		unitless	category
		mean	EN 772-1	value		N/mm ²	greater than or equal to
		normalised	EN 772-1	value		N/mm ²	greater than or equal to
		AVCP		system	2+	unitless	category
Perpendicular to bed	type of specimen	EN 771-2	type		unitless	category	
	category	EN 771-2	category		unitless	category	
	mean	EN 772-1	value		N/mm ²	greater than or equal to	
	normalised	EN 772-1	value		N/mm ²	greater than or equal to	
	AVCP		system	2+	unitless	category	

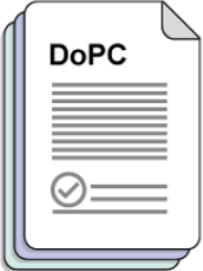
Table from CWA 17316:2018

WG 12 – Digital DoPC


Supporting standards



DPP content



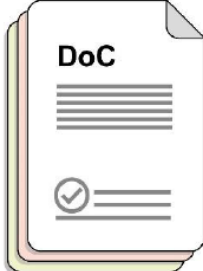
Declaration of performance and conformity



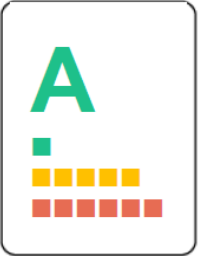
General product information, instructions for use and safety information



Technical documentation



Documentation required under other Union law



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
Key parts**



TC 442



JTC 24



Digital DoPC



Alignment

DPP

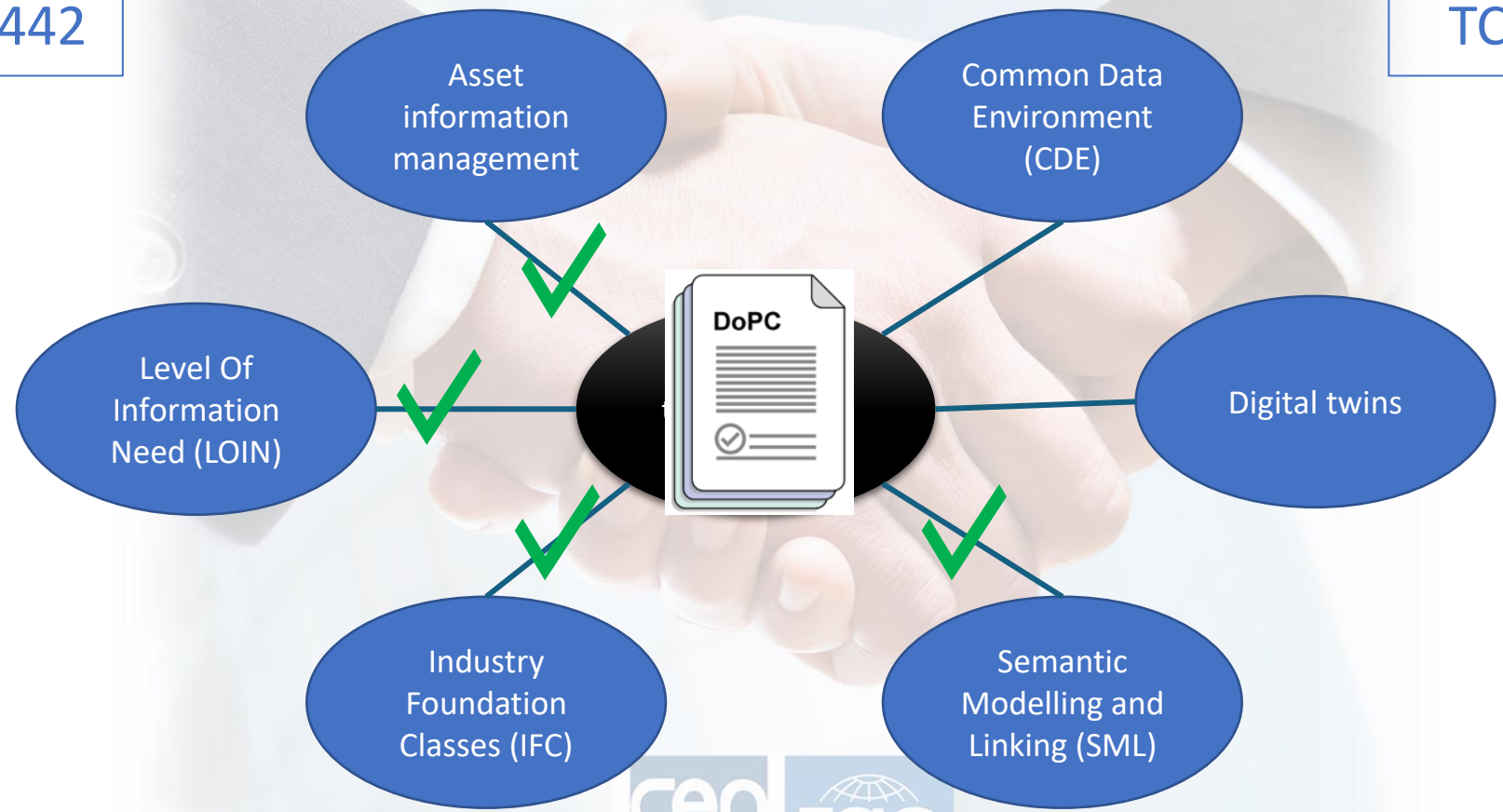


TC 442

DPP shall be interoperable with BIM



TC 59



Thank you!

Contact me for further
information and discussions



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[/espen-schulze](https://www.linkedin.com/company/espen-schulze)