BIM standardization in CEN and ISO

Øivind Rooth – Chair CEN/TC 442 Building Information Modelling and ISO/TC 59/SC 13 Organization and digitalization of information about building and civil engineering works, including building information modelling (BIM)

Who am I

Øivind ROOTH

Specialist Director digitalization

Norwegian Building Authority

Chairperson CEN/TC 442 – Building Information Modelling

Chair ISO/TC 59/SC13 – Organization and digitization of information about buildings and civil engineering works, including building information modelling

Chair Technical board for Construction in Standards Norway

Background:

▶ Civil Engineer from Norwegian university of science and technology

▶ Project manager for first generation system for digital building permit in Norway (2000-2012)

▶ Active in BIM standardization since 2003
Vice chair buildingSMART International 2009-2013
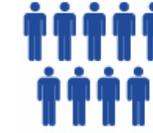Board member buildingSMART Norway from 2004-2022.

ISO at a glance

268
Technical Committees

169
National Standardisation Bodies

498
Subcommittees

7879
meetings

2 506
Working Groups

868
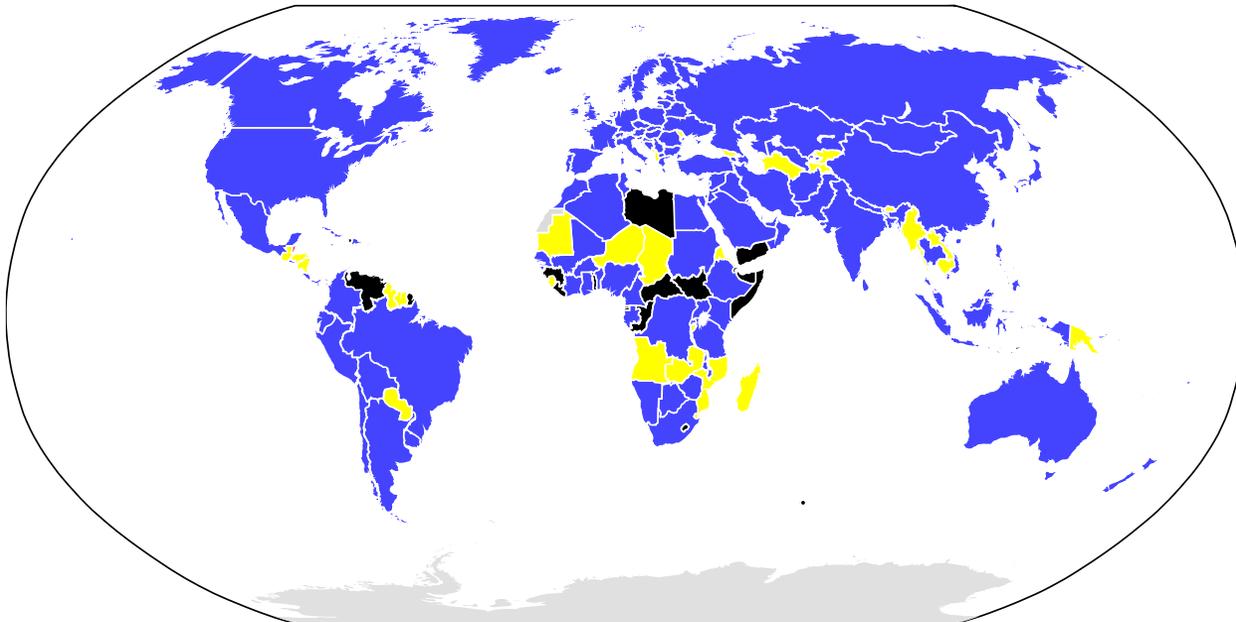International liaison organisations

~25.000
Standards

2023

1 465 ISO standards published

4104
work items

1879
NWI

Making standards for Europe

▶ International

▶ European

▶ National

CEN & CENELEC Stand Still Rule:

1 European Standard (EN)
↓
34 identical national standards
& all conflicting standards removed
↓
Access to a market of
600 million consumers

Regulations

CEN-CENELEC - Internal regulation

ISO-IEC - Directives

- Regulations for process and decisions
- Same rules for everybody, in all countries
- Transparency throughout the process
- Everybody speaks the same language

CEN/TC 442 – Building Information Modelling

Scope

Standardization in the field of structured semantic life-cycle information for the built environment.

The committee will develop a structured set of standards, specifications and reports which **specify methodologies** to define, describe, exchange, monitor, record and securely handle asset data, semantics and processes with links to geospatial and other external data.

Structure of CEN/TC442

Management and Coordination		
WG 1 GB Terminology Convener: Dan Rossiter (UK) Secretary: Danny Peacock (BSI)	TC secretariat NO Chair: Øivind Rooth (Norway) Secretary: Lisbet Landfald (SN)	Chairpersons Advisory Group (CAG)

Strategy and external relations	
WG7 - Horizontal Role FR Convener : Roland Dominici (France) Secretary: Ursula Viltart-Baquero (AFNOR)	WG10 - Strategy and Planning GB Convener: Hywel Davies (UK) Secretary: Danny Peacock (BSI)

Projects							
WG 2 DE Exchange Information Convener: Thomas Liebich (Germany) Secretary: Izabela Liero (DIN)	WG 3 AT Information Delivery Specifications Convener: Peter Kompolschek (Austria) Secretary: Stefan Wagmeister (ASI)	WG 4 FR Support Data Dictionaries Convener: Dimitri Daniaud ((France) Secretary: Ursula Viltart-Baquero (AFNOR)	WG 6 NO Infrastructure Convener: Dominique Chevillard (France) Secretary: Stefan Bæk Jensen (SN)	WG 8 IT Competence Convener: Angelo Ciribini (Italy) Secretary: (UNI)	WG 9 ES Digital twin in built environment Convener: Eduard Loscos (Spain) Secretary: AitorAragón Basabe (UNE)	WG 11NO BIM practices Convener: Steen Sunesen(Norway) Secretary: Stefan Bæk Jensen (SN)	WG 12 ES Digitalization of construction products performance characteristics Convener: Espen Schulze (Norway) Secretary: Aitor Aragón Basabe (UNE)

ISO/TC59/SC13 - Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM)
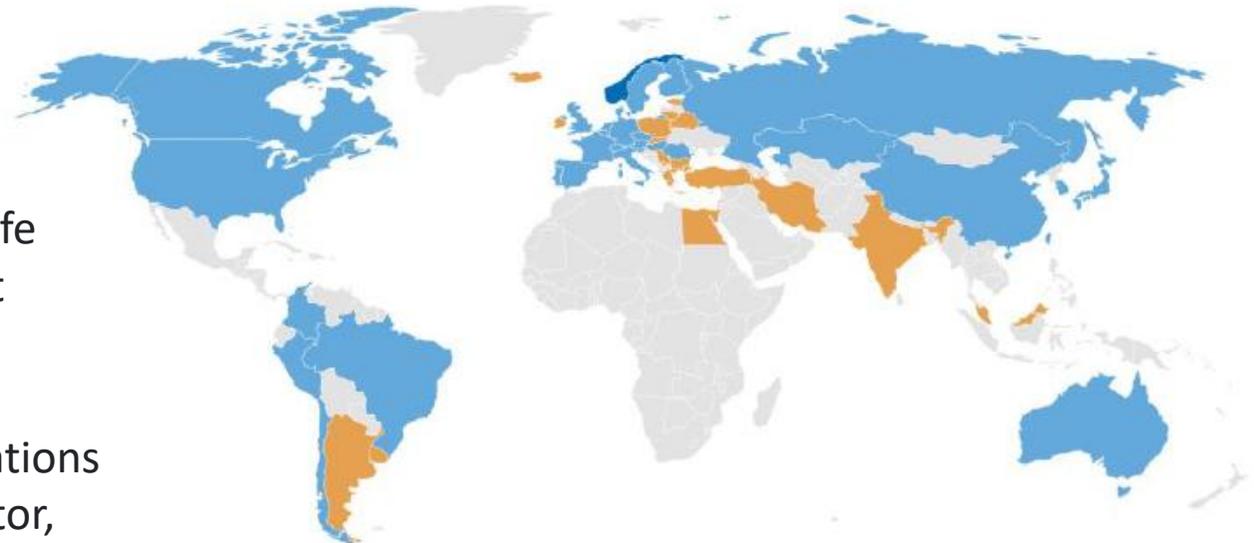
Chair: Mr. Øivind Rooth, SN
Secretary : Ms. Lisbet Landfald, SN

Scope

SC 13 is charged by TC 59 to focus on international standardization of information through the whole life cycle of buildings and infrastructure across the built environment

- to enable interoperability of information;
- to deliver a structured set of standards, specifications and reports to define, describe, exchange, monitor, record and securely handle information, semantics and processes, with links to geospatial and other related built environment information;
- to enable object-related digital information exchange.

Structure of ISO TC59/SC13

Management and Coordination		Strategy and external relations
TF01GB Terminology Convener: Dan Rossiter (UK) Secretary: Danny Peacock (BSI)	**TC secretariat** NO Chair: Øivind Rooth (Norway) Secretary: Lisbet Landfald (SN)	**TF02- Business Planning and Strategy** GB Convener: Dan Rossiter(UK) Secretary: Danny Peacock (BSI)

Projects						
WG 2 GB Classification of the information on the construction industry Convener: Anne Kemp (UK) Secretary: Danny Peacock (BSI)	**WG 6** NO Framework for object-oriented information exchange Convenor: Mr. Jackie Chi Ho Lau, NO Secretary: Mr. Bjørn Brunstad (SN)	**WG 8** Building information models - Information delivery manual Convenor: Mr. Jim Plume, Australia	**WG 11** DE Product data for building services systems model Convenor: Mr. Wolfgang Wilkes, D Secretary: Mr. Maximilian Müller (DIN)	**JWG 12** DE Development of ISO 16739 and other building data related standards Convenor: Mr. Thomas Liebich Secretary: Ms Izabela Liero (DIN) Joint working group between ISO/TC 59/SC 13 - ISO/TC 184/SC 4	**WG 13** GB Implementation of collaborative working over the asset lifecycle Convenor: Dr. Anne Kemp, UK Secretary: Mr. Danny Peacock (BSI)	**JWG 14** NO GIS-BIM interoperability Convenors: Mr Jackie Chi Ho Lau, NO and Mr Morten Borrebæk, NO Secretary: Mr. Stefan Jensen (SN) Joint working group between ISO/TC 59/SC 13 - ISO/TC 211

The Vienna Agreement

The Vienna Agreement regulates the relationship between ISO and CEN

[More information](#).

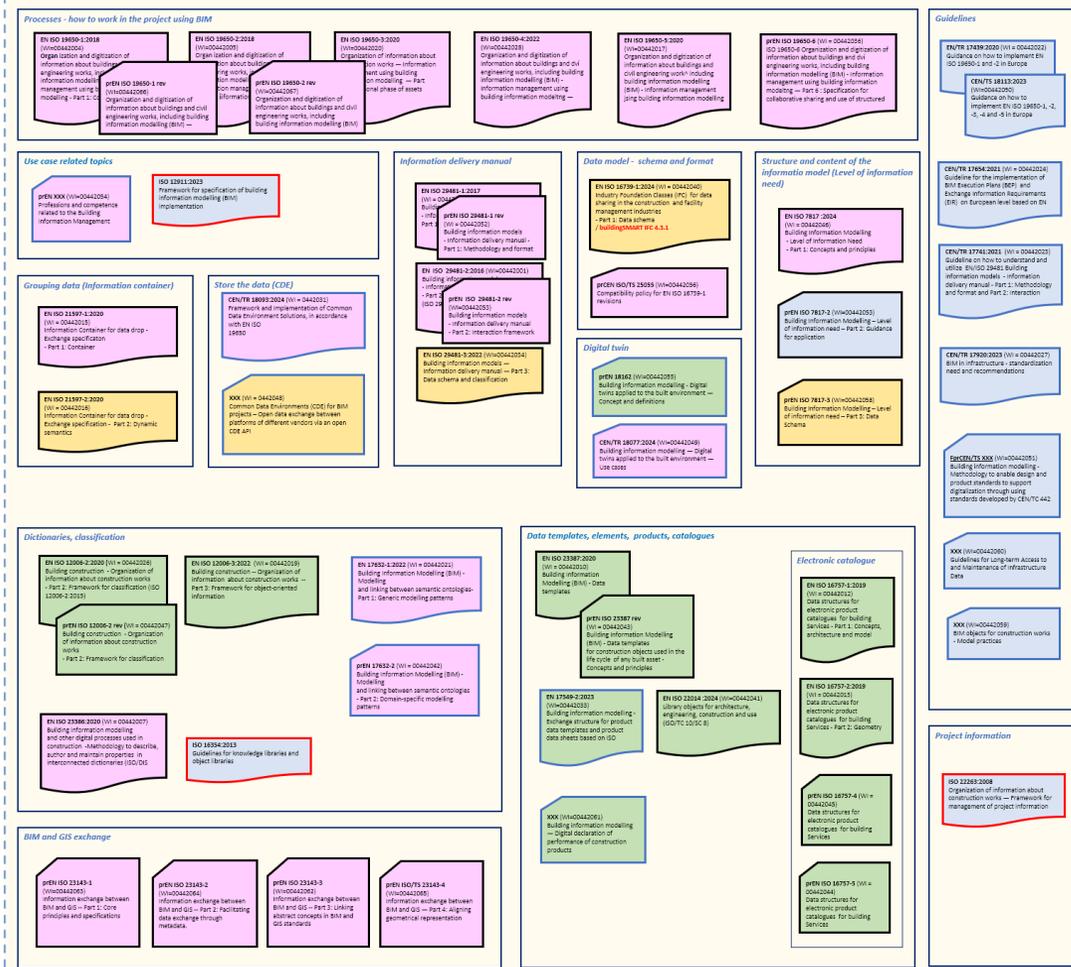# List of standards, technical specifications and technical reports by ISO/TC59/SC13 and CEN/TC442

Categories:

- Processes – Information management using BIM

- Documentation – process map

- Grouping of data (information container)

- Classification, terms

- Structure and content of the information model

- Data templates, elements, products, catalogues

- Data Model – schema and format

- Guidelines

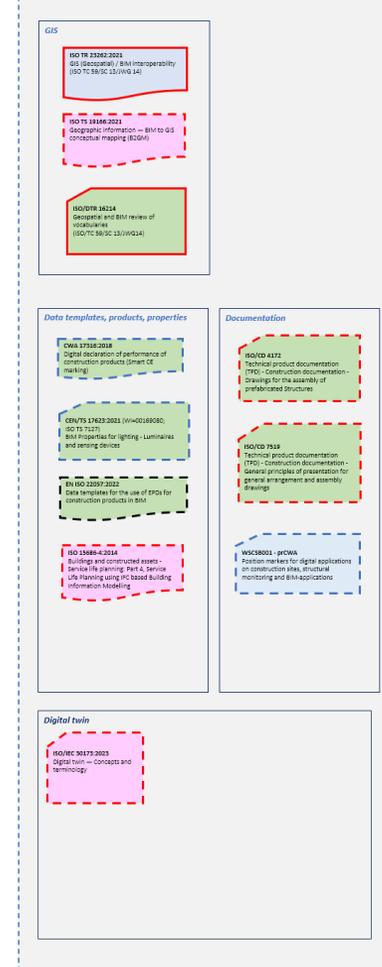- Other relevant standards and guidelines

CEN/TC 442 standards map

► Processes - how to work in the project using BIM

► Use case related topics

► Grouping data (Information container)

► Store the data (CDE)

► Information delivery manual

► Data model - schema and format

► Structure and content of the information model (Level of information need)

► **Data templates,** elements**, products,** catalogues

► **Dictionaries**, classification

► BIM and GIS exchange

► Project information

► Guidelines

https://www.cencenelec.eu/areas-of-work/cen-sectors/construction/

Work programme, published standards and liaisons

CEN/TC442:

Information on CEN homepage

CEN directives

ISO TC5 59/SC13:

Information on ISO homepage:

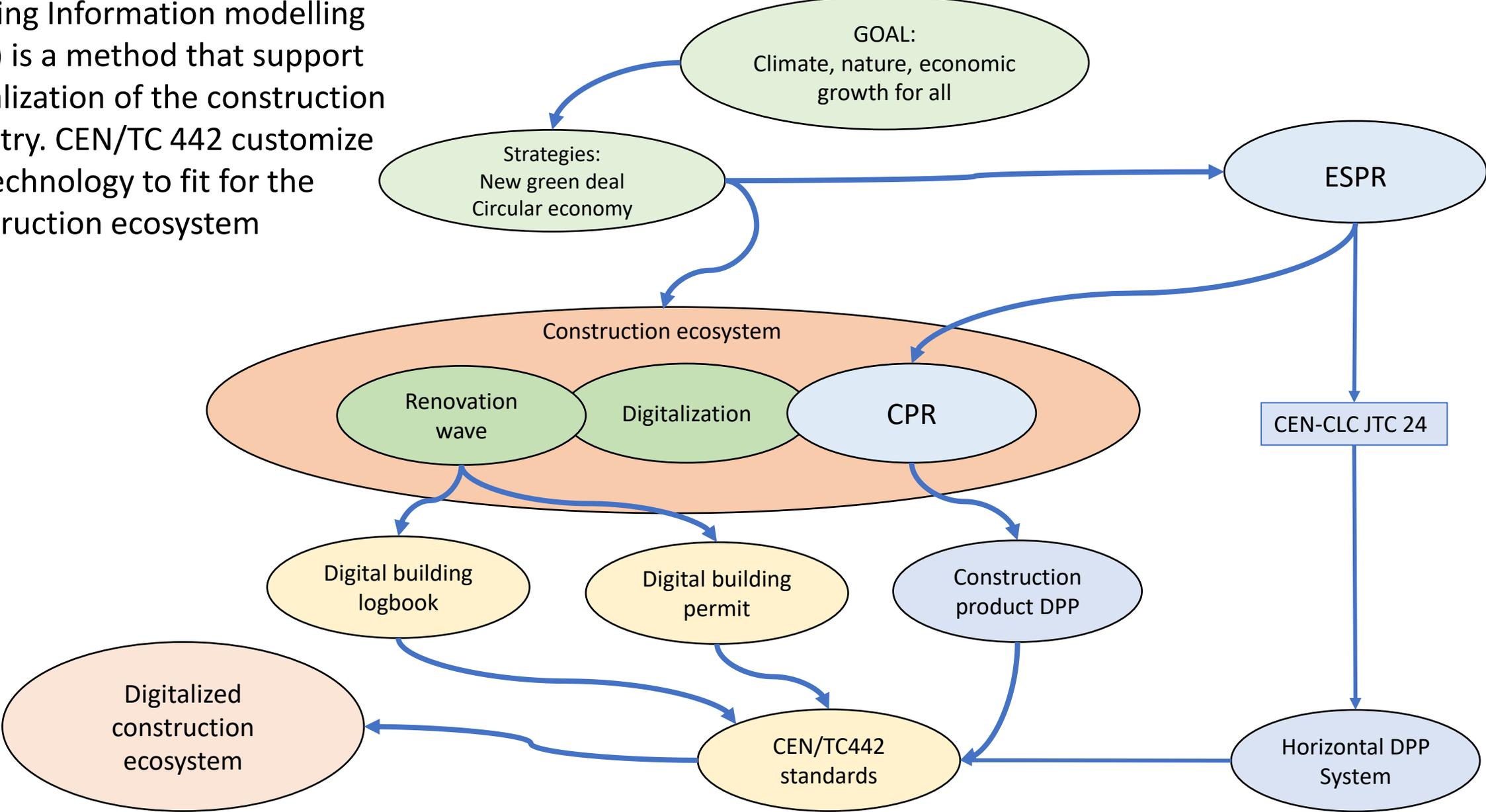ISO directives and policies

ISO resources

ISO liaison guidance

EU policy and BIM standardization
relevant for construction products digital product passport

Some useful definition and acronyms

- Construction ecosystem:
  The construction ecosystem covers contractors for building and infrastructure projects, some construction product manufacturers, engineering and architectural services as well as a range of other economic activities (e.g. rental and leasing of machinery and equipment, employment agencies).

- ESPR
  Ecodesign for Sustainable Products (2024)

- CPR
  Construction Products Regulation (2024)

- DPP
  Digital Product Passport

- DOPC
  Declaration of Performance and Conformity

Building Information modelling (BIM) is a method that support digitalization of the construction industry. CEN/TC 442 customize ICT technology to fit for the construction ecosystem

Construction Products Regulation (CPR) and BIM

The Construction Products Regulation (CPR) lays down harmonised rules for the marketing of construction products in the EU. The Regulation provides a common technical language to assess the performance of construction products. It ensures that reliable information is available to professionals, public authorities, and consumers, so they can compare the performance of products from different manufacturers in different countries.

From article 75 in CPR (2024):

The construction digital product passport system shall:

(a) be compatible with, interoperable with and based upon the digital product passport established by Regulation (EU)

2024/1781, ***without compromising interoperability with Building Information Modelling (BIM)…..***

Thank you!