A Common Approach to Organising BIM Collaboration

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BIM Island

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The team behind openBIM Harmony 1.0

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More have joined since:

- Austria
- Czech Republic
- UK & Ireland
- Germany
- Greece
- France
- Iceland
- Lithuania
- Romania
- Switzerland
- …

IMPORTANCE OF STANDARDIZATION

WHAT WE REQUIRED

(Example of one of the most important object informations)

Project	*Object type name*	*Attribute*
All	*SCZ.021*	*IfcRoot.Name*
Identification of the type based on a Norwegian implementation of IEN/ISO 81346	*Serial number*	*Attribute according to EN ISO 16739-1 IFC*

WHAT WE GOT

Project	*Type name*	*Property/attribute*
Project 1:	*ZTV DN20 kvs 4*	*Revit_ID*
Project 2:	*SCZ.021*	*MagicCAD_Name*
Project 3:	*SC.0034-ZTV_two-ways*	*IfcRoot.Name*
Project 4:	*32 MotorValve-ZTV_2470922*	*Revit_TypeName*
Project 5:	*[no information]*	*-*

Object type name

Central to multiple use cases:

- *Cost estimations*
- *Bill of quantities*
- *Linking models to technical documentation (FM).*

If we don't get this right:

- *No downstream use.*
- *No machine-interpretation No digital twin.*

INDUSTRY CHALLENGES

- From the clients
  - Either none or too many information requirements.
  - Different requirements/ways of specifying requirements
- Requirements are not part of the agreement
  - Projects didn’t know how to integration the information requirement
  - No leverage for following up deviations. Favors the less serious appointed parties
- Standards are not used
  - Difficult to transform to practice
- Many SMEs struggle to use BIM

WE NEED A SOLUTION THAT ...

- Propose a minimum information requirement.
- Express requirements in a more uniform way.
- Propose a method for making information requirements a part of the agreement.
- Make BIM feasible for SMEs
- Make it easier to use standards

SOLUTIONS – NORMATIVE STANDARDS

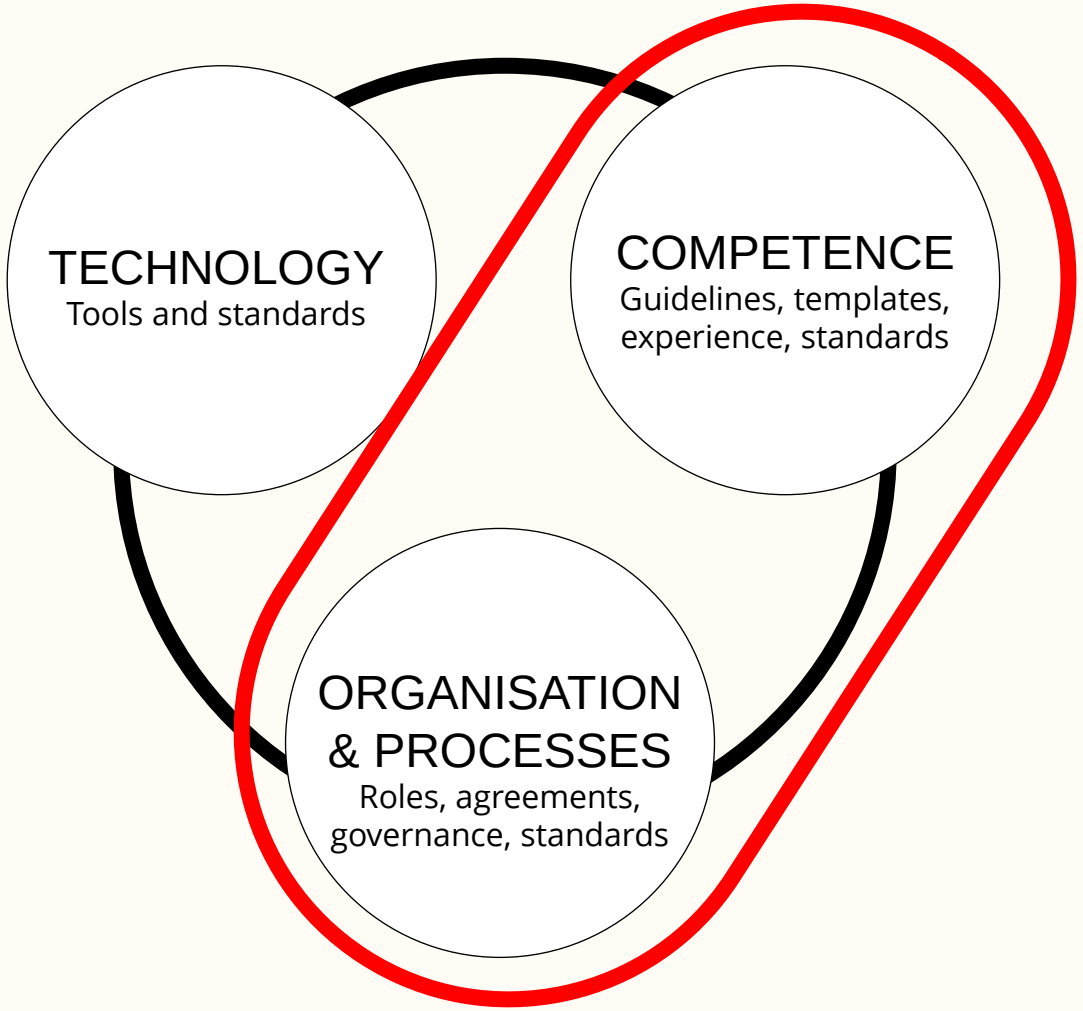
REFERENCE	SPECIFIES
EN ISO 19650 series EN ISO 7817 series (Level of Information Need)	• Overall principles and terminology • Common Data Environment (CDE) • Method for expressing information requirements
CEN/TR 17654 Guideline to ISO 19650-2	Practical approach to: • Exchange Information Requirements (EIR) • How to deliver on information requirements (BEP) • Information tendering process
NS 8360 series (CEN/TC442/WG11)	• Basic BIM practices
Existing information requirements we had good experiences with	• Minimum information requirements for buildings

ONE SOLUTION

Existing Requirements

- Plain language
- Low-threshold
- To be used by SMEs
- … and small projects

INFORMATION MANAGEMENT PREREQUISITES



ADOPTION – DOCUMENT STRUCTURE

Part 1
Harmony_1_ReadMeFirst_V1

Introduction
Read me first

Guideline

Part 2
Harmony_2_AppointingPartysBasisForBIM_V1

Appointing Party's Basis for BIM Project

Guideline

Part 3
Harmony_3_AgreementProcess_V1

The Agreement Process

Guideline

Part 2.1
Harmony_2-1_EIR_V1

Exchange Information Requirements

Requirements specification

Part 2.2
Harmony_2-2_EIR-BEP_V1

Exchange Information Requirements (EIR) and BIM Execution Plan (BEP)
Spreadsheet version

Requirements specification
Templates

Part 2.3
Harmony_2-3_CommonDataEnvironment_V1

Common Data Environment

Guideline

Part 3.1
Harmony_3-1_BEP_V1

BIM Execution Plan

Guideline
Templates

Introduction
How to read and use the documents

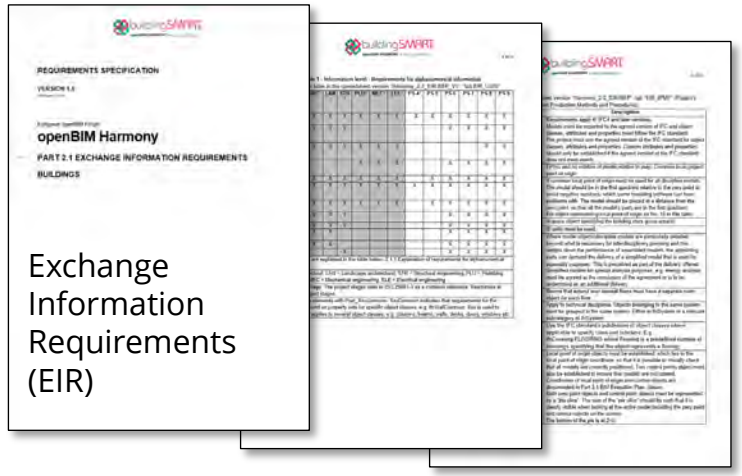
High-level
Explanation of the processes and responsibilities.

Detailed
Information requirements with guidance and templates.

ADOPTION - BASIC PRINCIPLES

The appointing party shall:

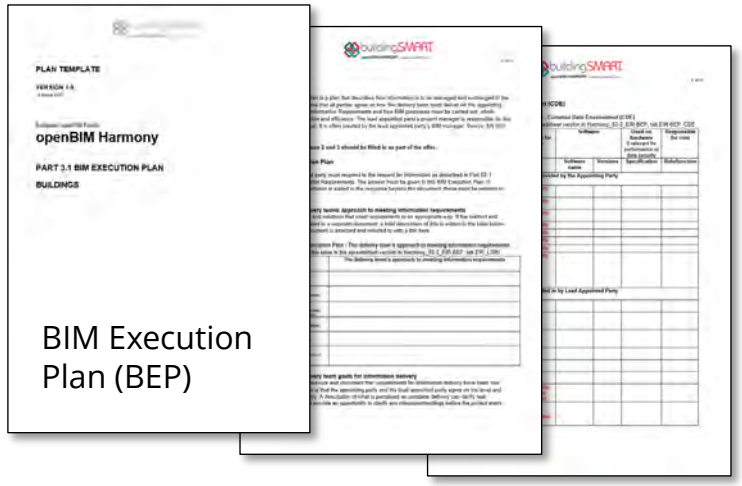
- Establish Common Data Environment
- Specify Information Requirements as part of the agreement.



Exchange Information Requirements (EIR)

Lead appointed party shall:

- Specify approach on how to deliver on the information requirements.
- As part of the tendering process and agreement.



BIM Execution Plan (BEP)

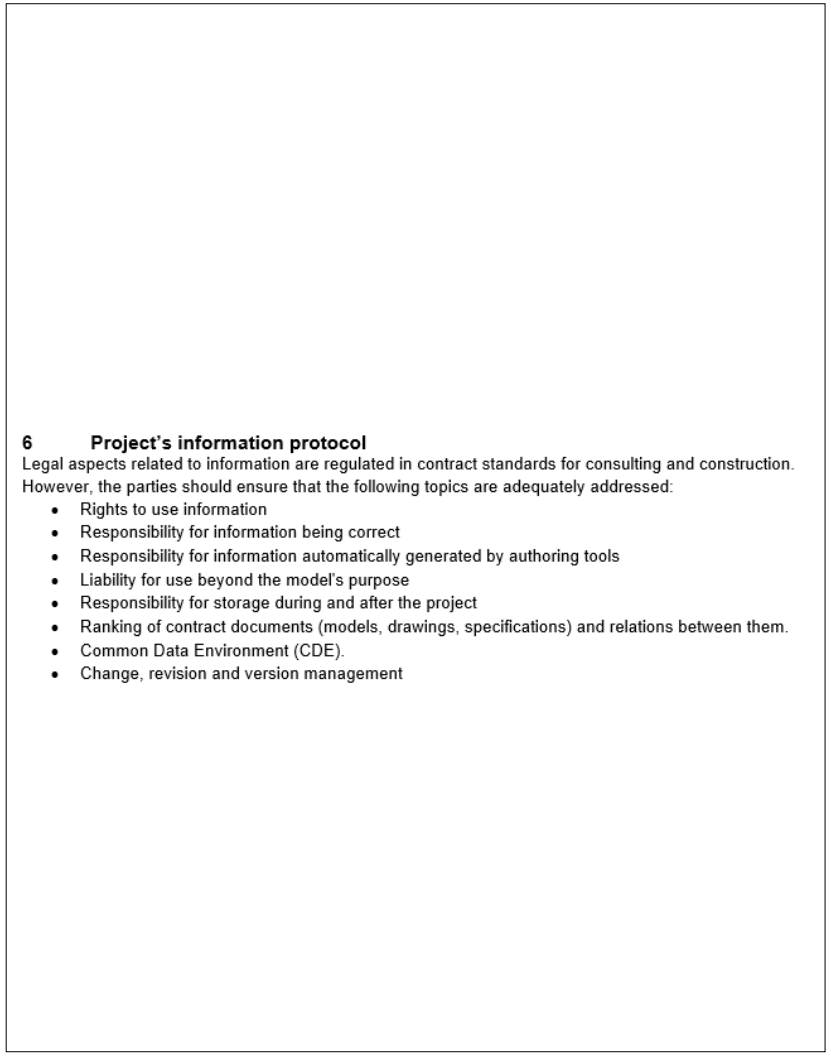
buildingSMART openBIM Harmony

ADOPTION/ADAPTION – INFORMATION REQUIREMENTS

REQUIREMENTS	DISCIPLINES (openBIM Harmony names)						PROJECT STAGES (EN ISO 29481-1)					
	ARC	LAN	STR	PLU	MEC	ELE	PS 4	PS 5	PS 6	PS 7	PS 8	PS 9
Object type name (Classification + IFC)	X	X	X	X	X	X	X	X	X	X	X	X
Object type descriptive name (Manufacturers name + IFC)	X	X	X						X	X	X	X
Object occurrence name (Classification + CEN/WG11)	X	X	X	X	X	X					X	X
Location system (Client's/Owner's naming system + CEN/WG11)				X	X	X			X	X	X	X
System code (Classification + CEN/WG11)	X	X	X	X	X	X		X	X	X	X	X
Process Status Code (CEN/WG11 - work in progress)	X	X	X	X	X	X	X	X	X	X	X	X
Duplicate object (CEN/WG11 - work in progress)	X	X	X	X	X	X		X	X	X	X	X
External (EN ISO 16739-1 IFC)	X	X	X						X	X	X	X
Fire rating (EN ISO 16739-1 IFC)	X	X	X						X	X	X	X
Acoustical property (EN ISO 16739-1 IFC)	X	X							X	X	X	X
U-value (EN ISO 16739-1 IFC)	X	X							X	X	X	X
Load-bearing (EN ISO 16739-1 IFC)			X						X	X	X	X

ADAPTATION

- Language
- National classification for identification
  - Object type name, Object occurrence name, System code
- Other classification/naming systems
  - Discipline names
  - Project stage names
- National regulations and practices
  - Project's Information Standard
  - Project's Information Production Methods and Procedures
- Project's Information Protocol
  - Legal stuff, rights and responsibilities



6 Project's information protocol

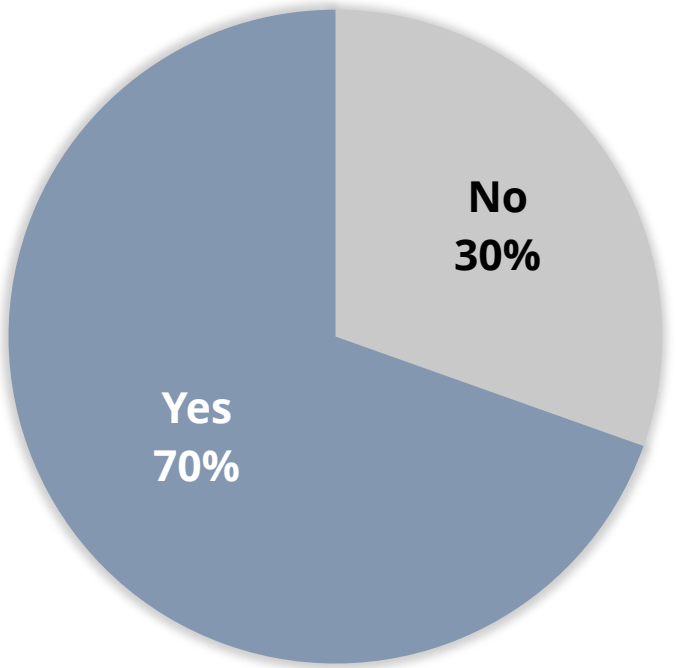
Legal aspects related to information are regulated in contract standards for consulting and construction. However, the parties should ensure that the following topics are adequately addressed:

- Rights to use information
- Responsibility for information being correct
- Responsibility for information automatically generated by authoring tools
- Liability for use beyond the model's purpose
- Responsibility for storage during and after the project
- Ranking of contract documents (models, drawings, specifications) and relations between them.
- Common Data Environment (CDE).
- Change, revision and version management

CHAPTERS ENGAGEMENT WITH openBIM Harmony

- European openBIM Forum
- 22 European Chapters
- Representing 25 European countries.
- 21 Chapters are actively working on or are considering implementation.

March 2026: Any plan or activity regarding national adaptation (e.g. translation, legal review, alignment with national processes)?



IMPLEMENTATION – ALIGNMENT STRATEGY

Countries with established frameworks

- Aligning existing national systems with openBIM Harmony
- These countries are not adopting, they are integrating

Countries

Denmark, Sweden, Switzerland, Germany (and others)

Approach

- Evaluate and validate openBIM Harmony
- Align terminology, structure, and processes
- Use it as a harmonization layer, not a replacement

IMPLEMENTATION - ENABLEMENT STRATEGY

Countries building frameworks

- Using openBIM Harmony to establish structured practices
- These countries are not aligning; they are building something new.

Countries

France, Greece, Norway and Portugal (and others)

Approach

- Use openBIM Harmony as a ready-to-use foundation
- Focus on EIR, BEP, and client capability
- Integrate into guidelines and contracts

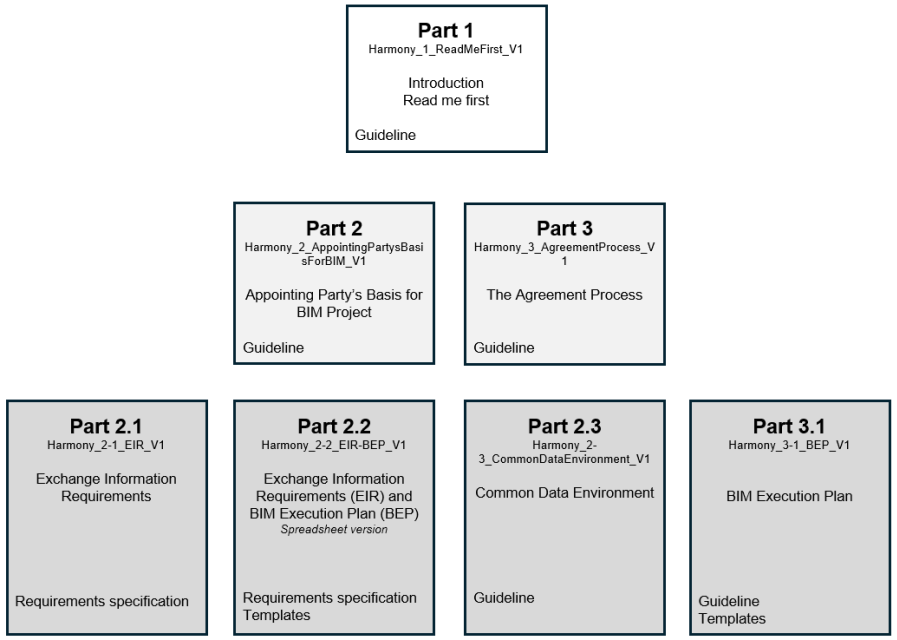
Collaboration with EU BIM Task Group

EU BIM TASKGROUP

- Group of Public European Clients and owners.
- Established an “openBIM Project”
- Collaboration with buildingSMART
  - openBIM Harmony
  - Professional Certification - PCERT
- Lead by Leoš Svoboda, Czech Republic

openBIM Harmony IN NORWAY

openBIM Harmony



POFIN buildingSMART Norway's implementation of openBIM Harmony

Introduction
How to read and use the documents

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Explanation of the processes and responsibilities.

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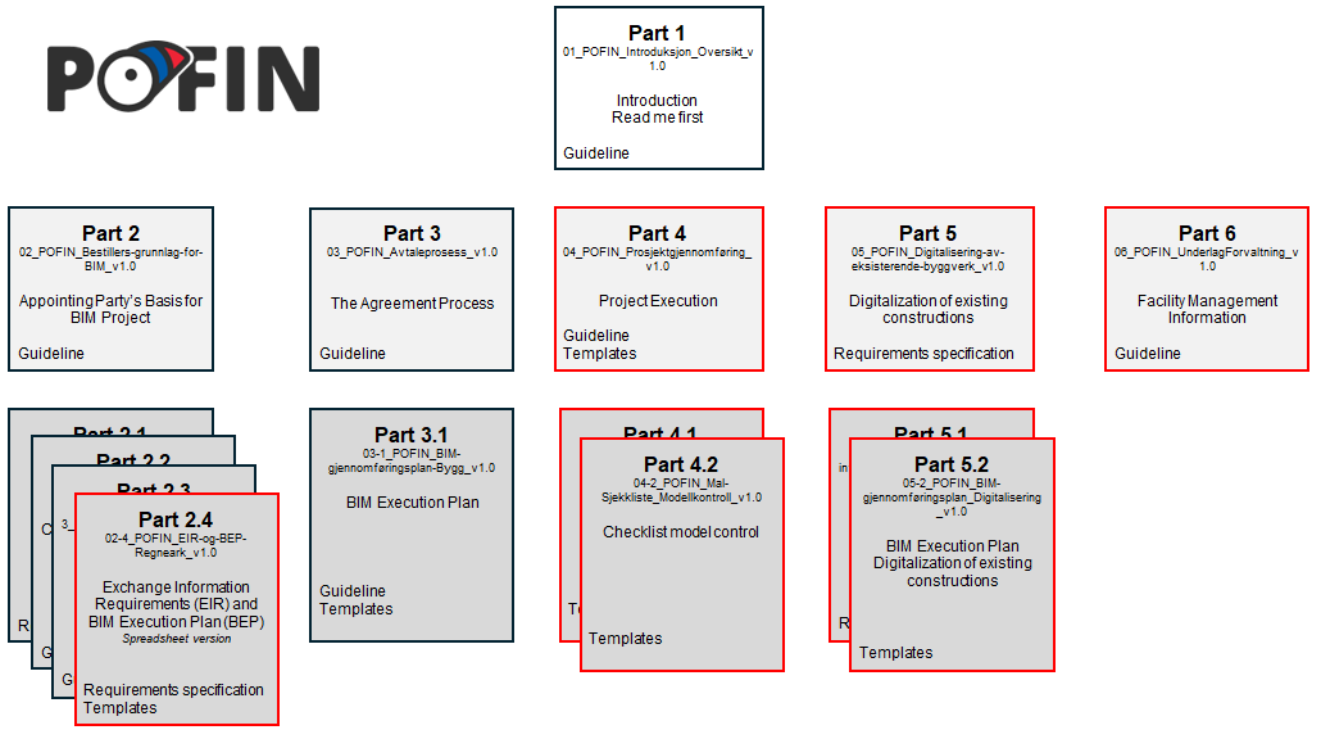
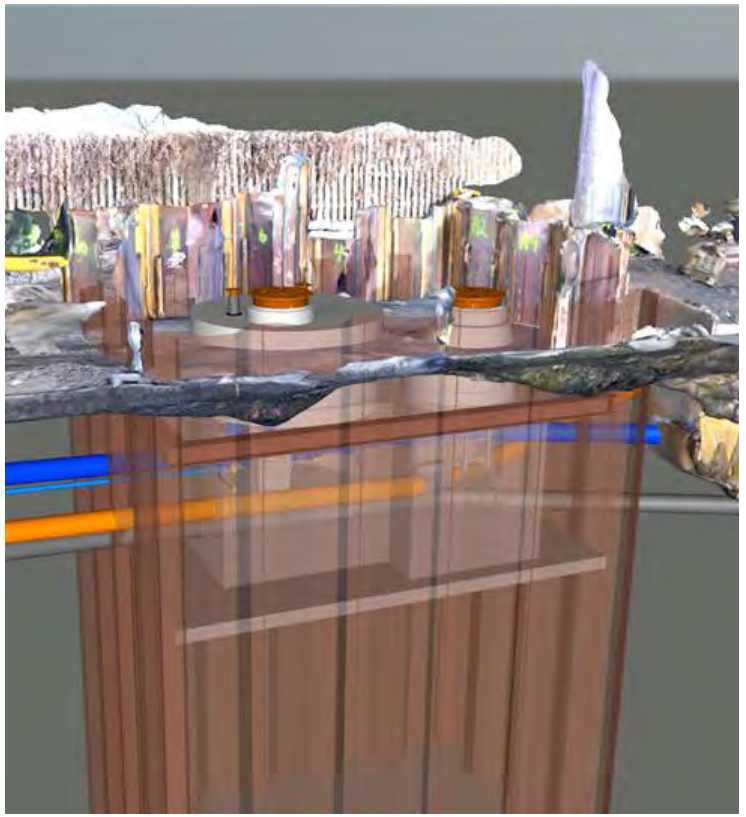


buildingSMART
openBIM Harmony

openBIM Harmony IN NORWAY – PROJECT EXAMPLE

- Voksenlia water reservoir project.
- The project is relatively small, with limited resources and a tight schedule.
- The client Oslo VAV has used POFIN.
- They received no training from buildingSMART.
- They followed the guidance
- The project did everything right and saved time and achieved control over processes, agreements and deliverables.



Hans-Henry Hammeren Holstad,
Oslo Municipality Water Utilities Authorities

POFIN = The Norwegian implementation of openBIM Harmony

openBIM Harmony IN NORWAY – PROJECT EXAMPLE

Statement from the Client's project owner:

*"Oslo VAV highlights that POFIN has provided **better control over the process and reduced the risk of misunderstandings between the parties.** POFIN has given us a **clear structure for what needs to be agreed and delivered in BIM**. This makes it more predictable for us as a client and for the suppliers. So far, POFIN has created a shared understanding of how openBIM is used in the project."*

Sajeela Qandeel Azhar, Project Owner, Oslo VAV

Hans-Henry Hammeren Holstad,
Oslo Municipality Water Utilities Authorities

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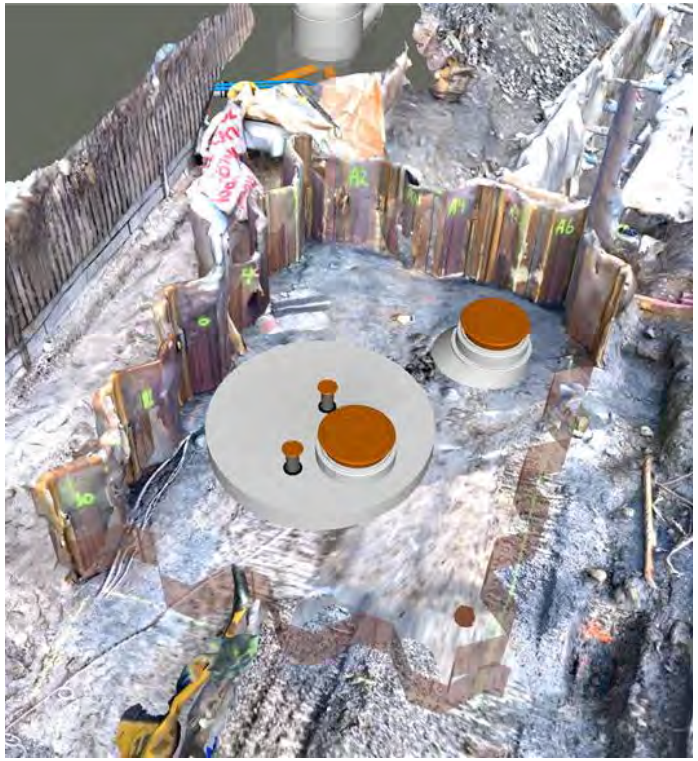
openBIM Harmony IN NORWAY – PROJECT EXAMPLE

Statement from the consultant's BIM Coordinator:

"Clear frameworks for information deliveries from the start are essential in all projects. When expectations for content, timing and format are clarified early, ***uncertainty and rework are reduced****. POFIN provides a common and binding basis for these clarifications and* ***contributes to more efficient and predictable deliverables****."*

Sindre Øystese, BIM Coordinator, Norconsult



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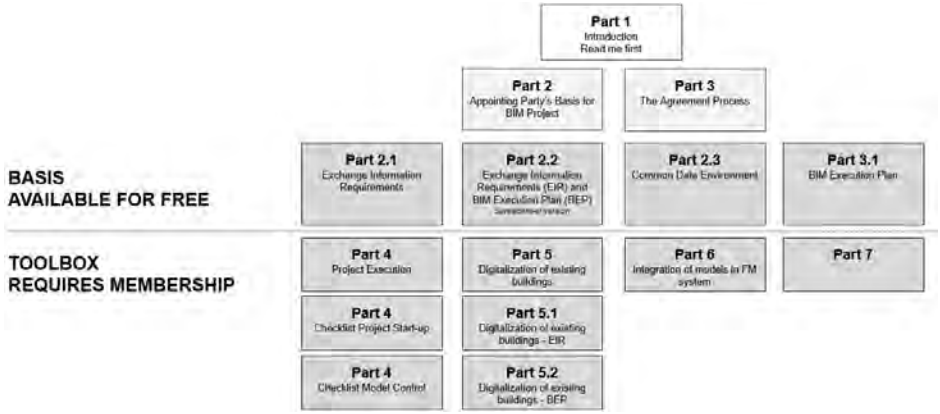
NEXT VERSION

- Get more experience with implementation on Chapters level and in construction projects.
- Await next version of EN ISO 19650.
  - Expected published in 2027.
- Develop business model.
  - Some part requiring membership.

Table B.1 — Terms used in ISO 19650-1 and ISO 19650-2 and the replaced first edition term

ISO 19650-2:2026 terms	ISO 19650-2:2018 terms
production	delivery / exchange
information production standard	project information standard / asset information standard
information production milestones	information delivery milestones
information production requirements	exchange information requirements
information production team	delivery team / task team
information production plan	BIM execution plan
information production assignment matrix	high-level responsibility matrix / detailed responsibility matrix
information production mobilization plan	mobilization plan
information production risk assessment	risk assessment
information production schedule	master information delivery plan / task information delivery plan
enabling technologies	CDE solution / (distributed) CDE
request to provide service	invitation to tender
request response	tender response

EN ISO 19650 – New terminology



Proposed business model of next version

HOW TO GET STARTED?

openBIM Harmony is available on

European openBIM Forum (EOF) Webpage

Want to know more/participate:

Contact your local buildingSMART Chapter or

me at steen@buildingsmart.no

Link to openBIM Harmony on EOF Webpage

QUESTIONS

MANY THANKS

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openBIM Harmony