buildingSMART Standards, Training & Certification

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Agenda

Part 1: openBIM Standards

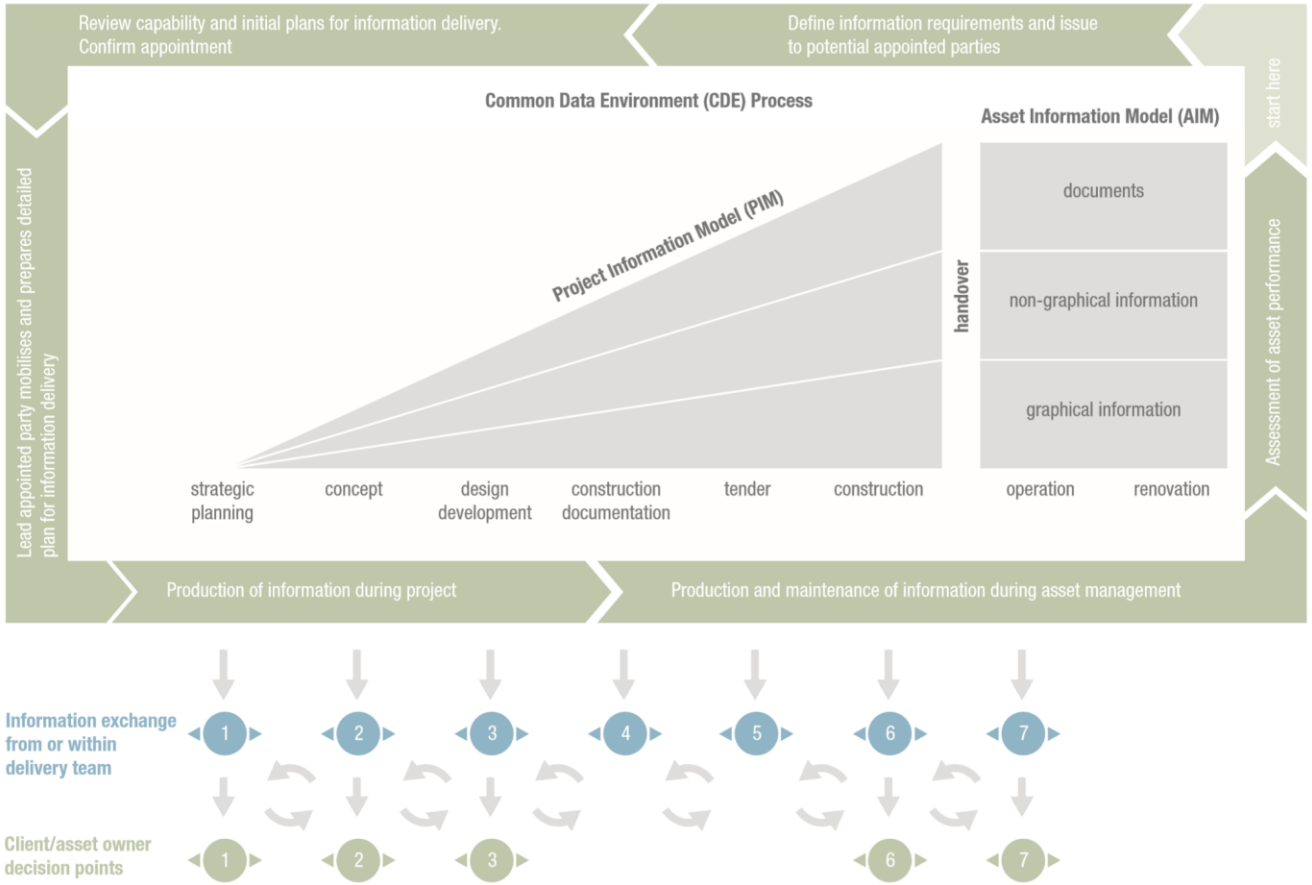
Part 2: Project Case Study

Part 3: Training and Certification

Part 1:
openBIM Standards

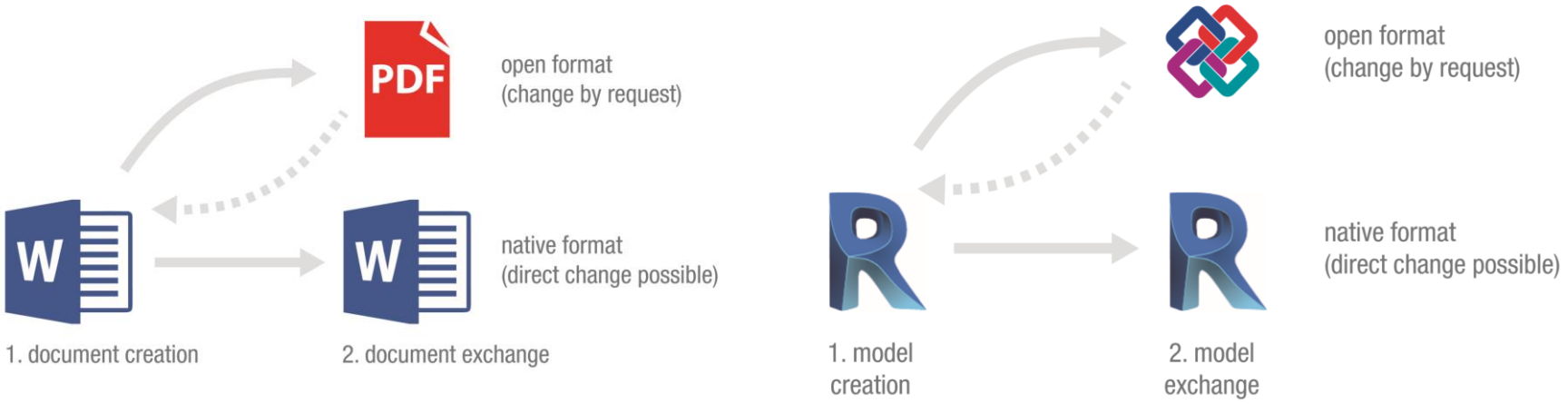
Project Information Cycle (according to ISO 19650-1)

Based on graphic from ISO 19650-1
Image source: M. Baldwin, The BIM Manager (2019)



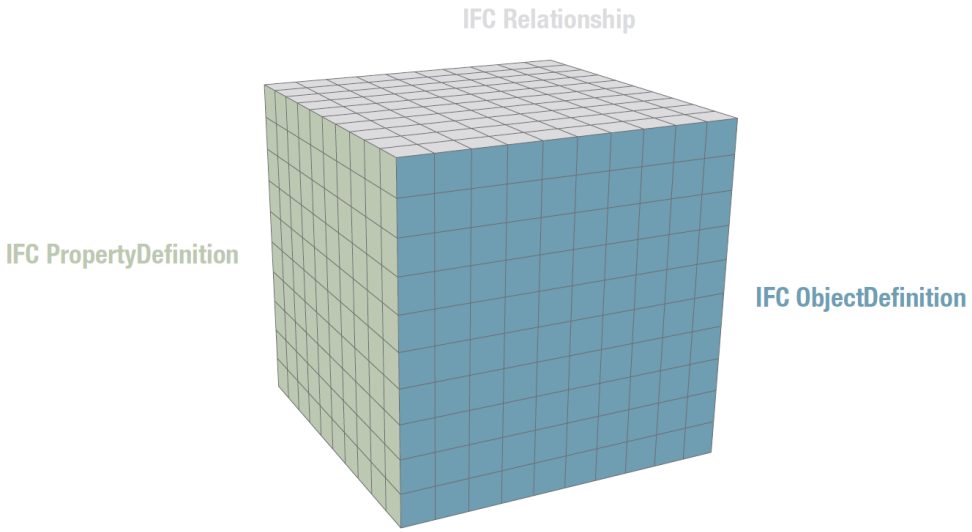
openBIM Information Delivery

Based on a graphic from Thomas Liebich
Image source: M. Baldwin, The BIM Manager (2019)



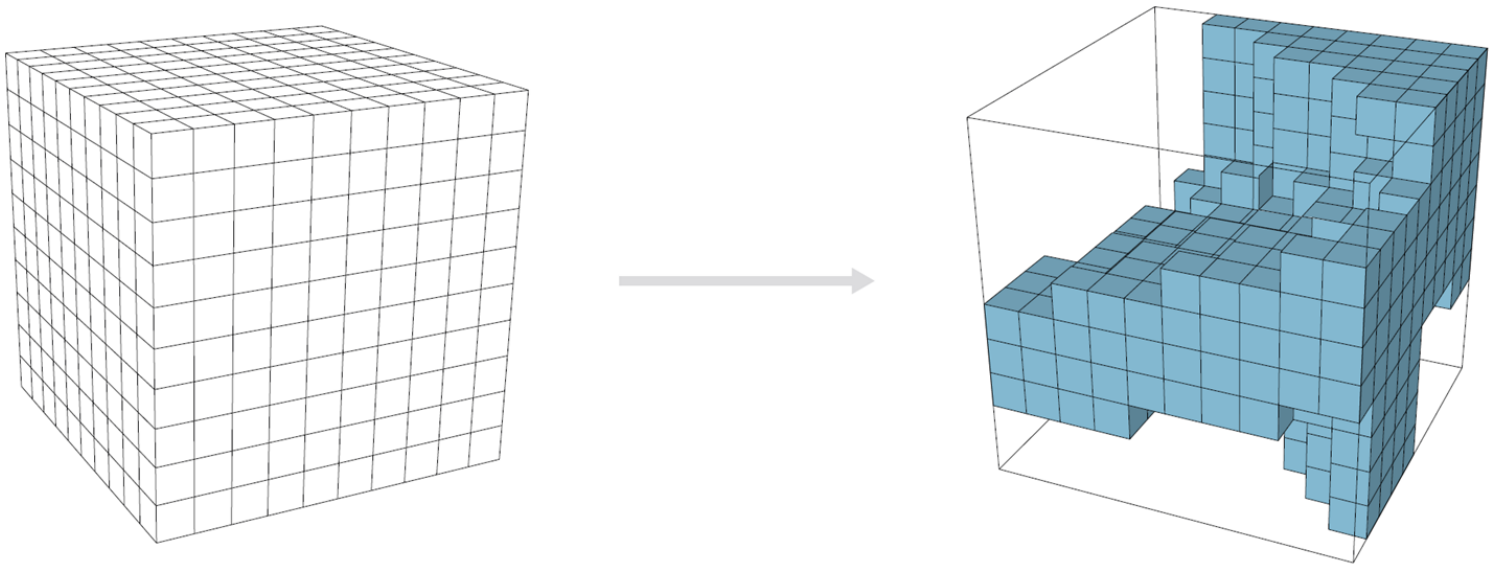
IFC – Industry Foundation Classes

Image source: M. Baldwin, The BIM Manager (2019)



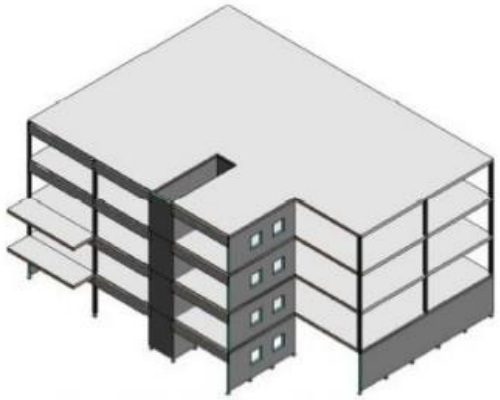
MVD - Model View Definitions

Source: M. Baldwin, The BIM Manager (2019)

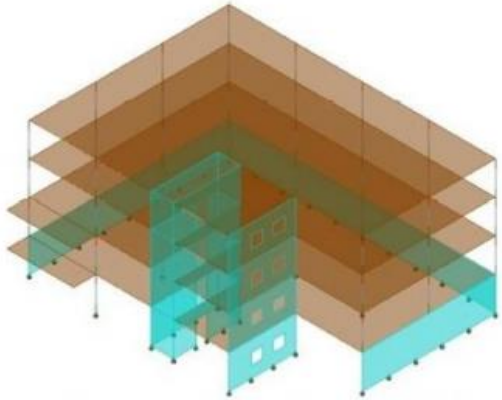


MVD - Model View Definitions

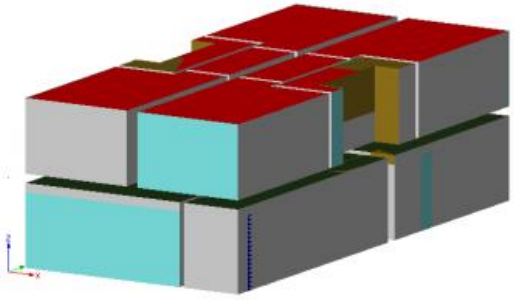
Image Source: AEC3



IFC Coordination View



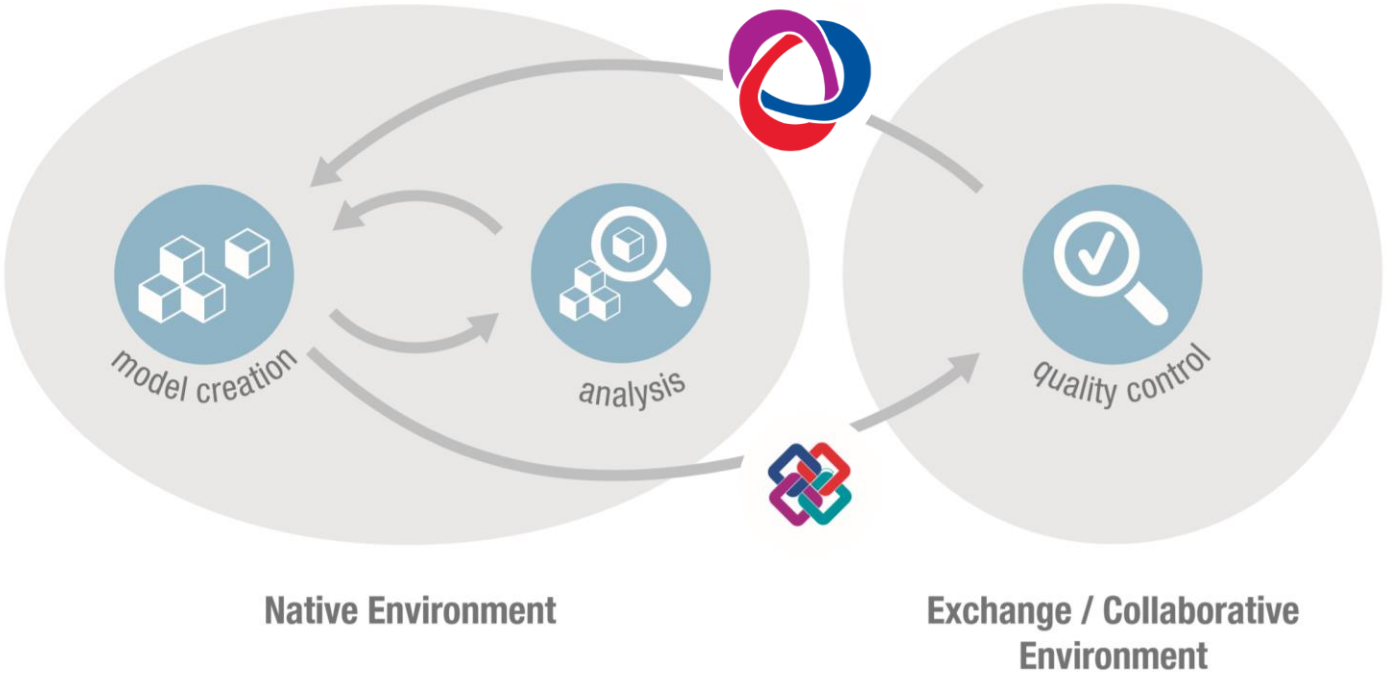
IFC Structural Analysis View



IFC Thermal Analysis View

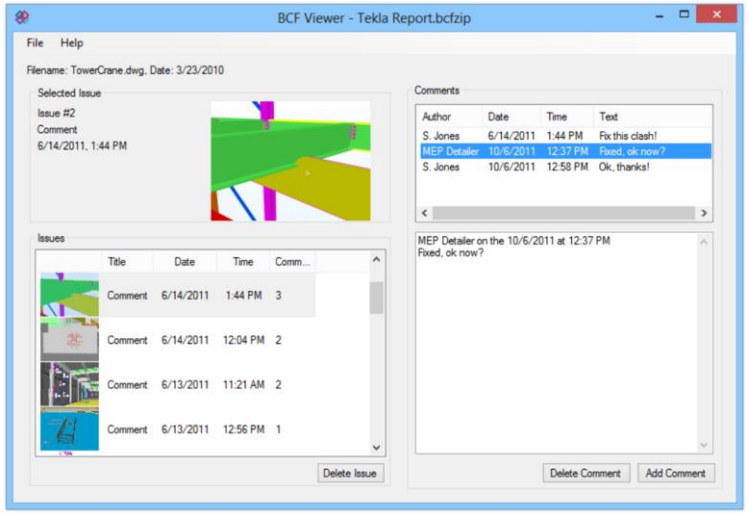
BCF – BIM Collaboration Format

Image source: M. Baldwin, The BIM Manager (2019)

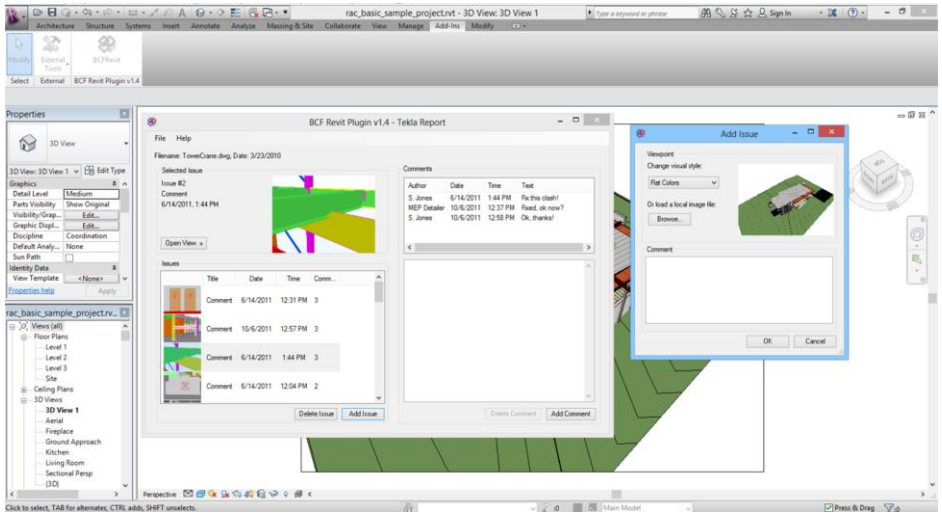


BCF – BIM Collaboration Format

Image Soiurce: Tekla / Autodesk



BCF Viewer



BCF Revit Plug-in

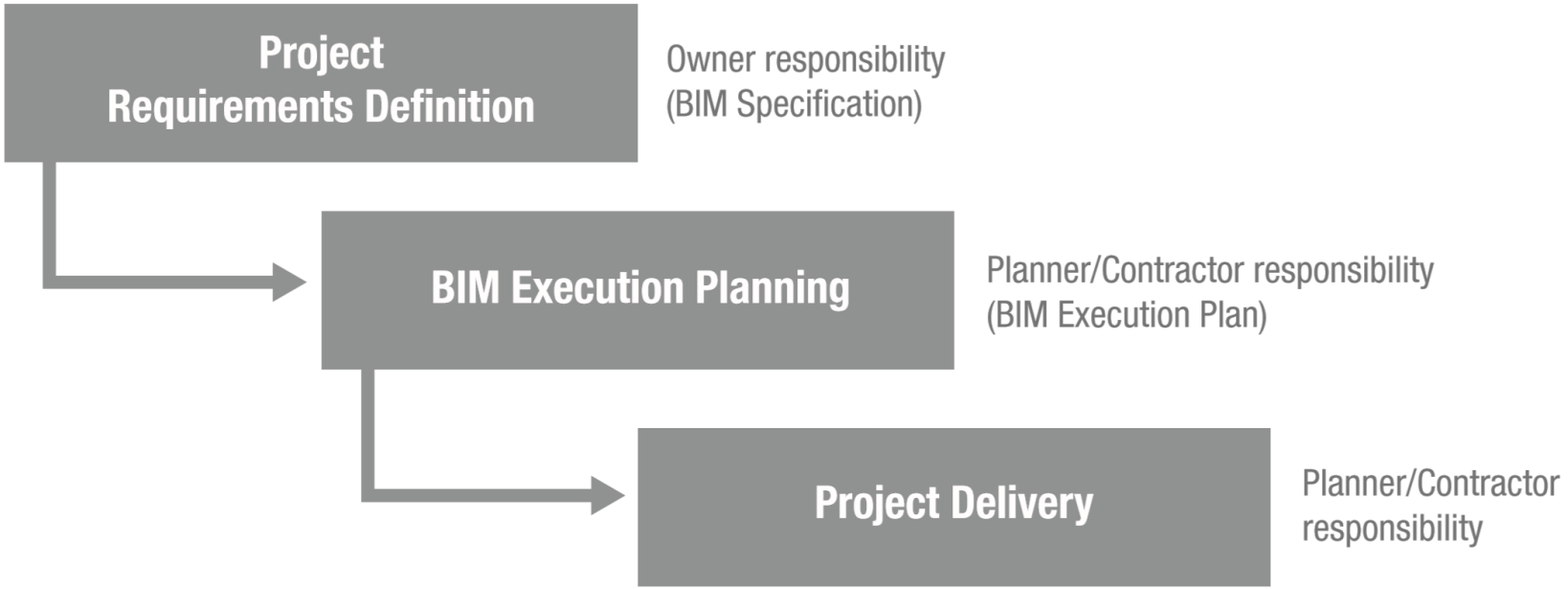
BCF – BIM Collaboration Format

Image Source: BIMcollab

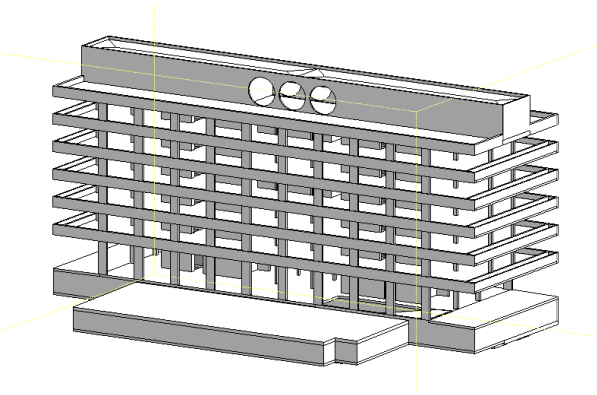
Part 2:
Project Case Study

BIM Requirements Definition & Delivery (according to ISO 19650-1)

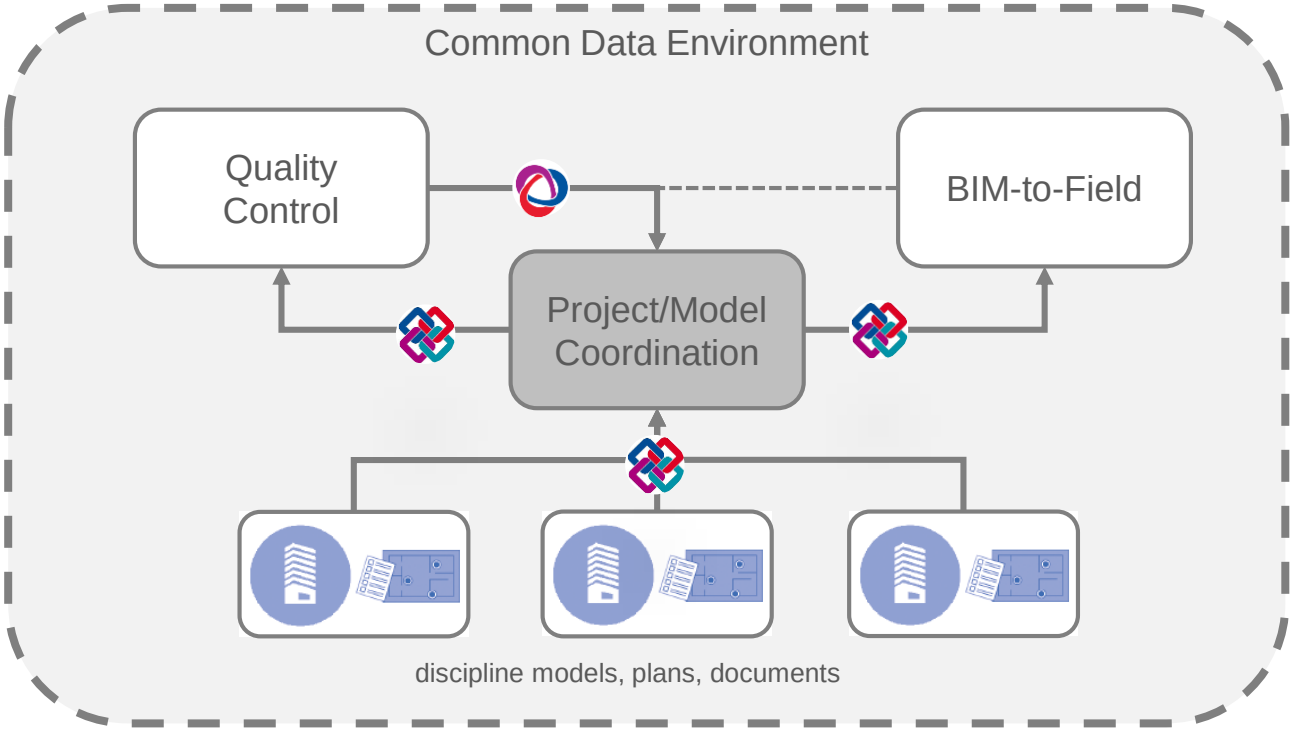
Image source: M. Baldwin, The BIM Manager (2019)



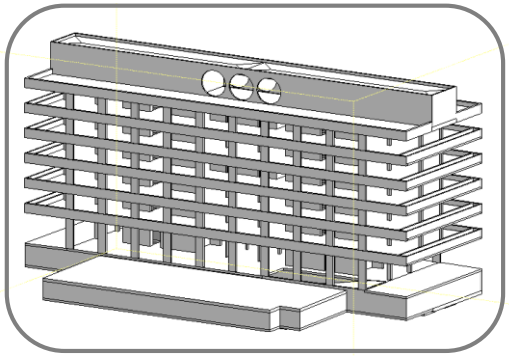
Project BIM Strategy & Requirements Definition



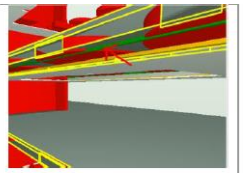
Project BIM Concept
(using buildingSMART openBIM Standards)



Model Quality Checking



Model delivery

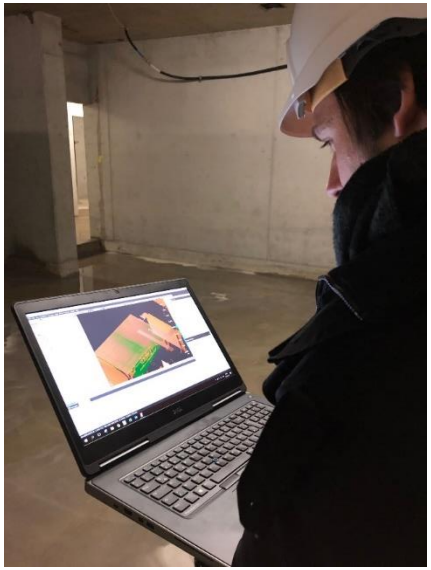
4. **Modellierungs- und Koordinationsfehler**	Kleine Modellierungs- und Koordinationsfehler. Z.B. Die Sperrzonen sind nicht auf der gleichen Höhe wie die Geschossdecken. Die Elektro-Kabeltrassen haben keinen Absatz zu UK Geschossdecke.	
5. **Fehlende Attribute**	Einige wichtige Objektattribute fehlen. Z.B.: der Typ und das System sind im Elektromodell nicht immer vorhanden oder falsch eingetragen.	

Model checking

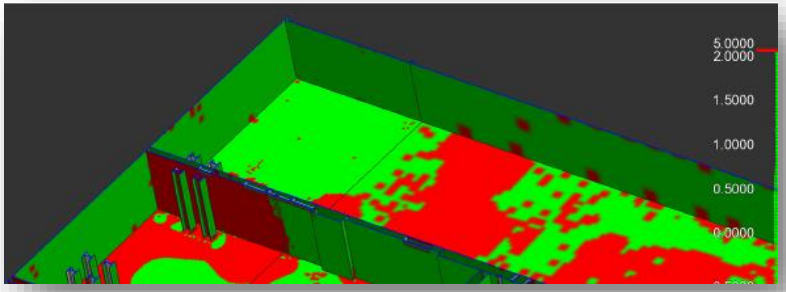
Reporting
(in PDF & BCF)

BIM-to-Field: comparison of modelled vs actual conditions

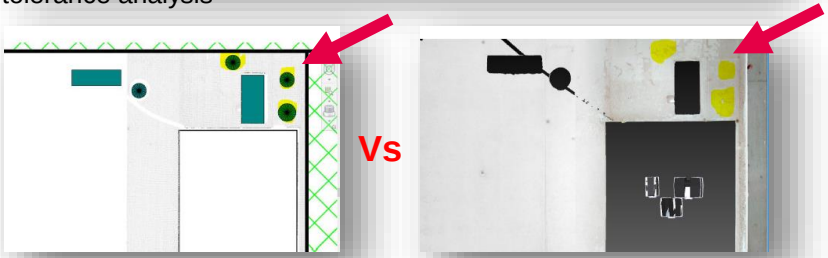
scanning



data analysis



tolerance analysis



model

scan

Part 3:
Training & Certification

buildingSMART Vision & Mission

to provide a global benchmark for OpenBIM training and competency assurance

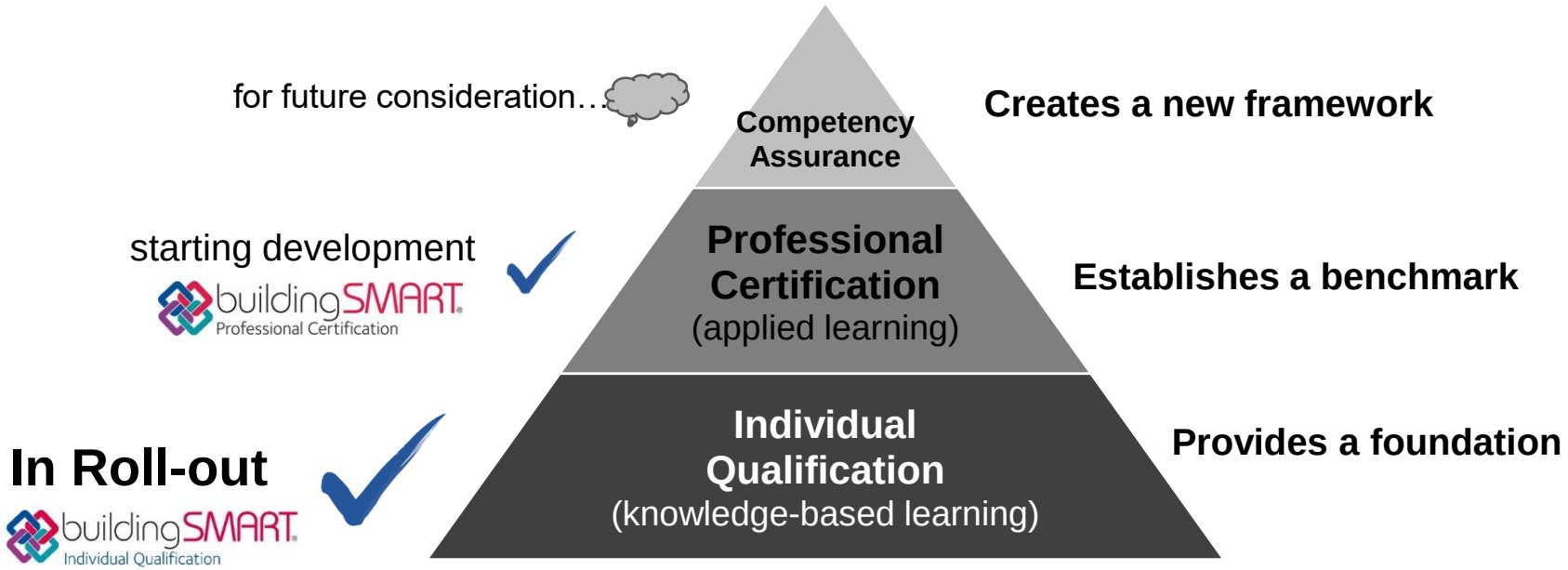
buildingSMART *<u>does not</u>* deliver trainings

but rather provides

a **global learning framework**, to:

1. Standardise openBIM training content
2. Support and approve training organisations
3. Test and certify individuals

Program Development



Individual Qualification

- **15 Chapters (21 countries) involved!**
  - Germany operating since October 2018:
    - 26 Training Providers
    - < 700 Qualified Individuals
  - Switzerland operating since September 2019:
    - 7 Training Providers
    - Ca. 60 Qualified Individuals
  - Russia, Italy, Austria, Spain and Lithuania to go live this year!

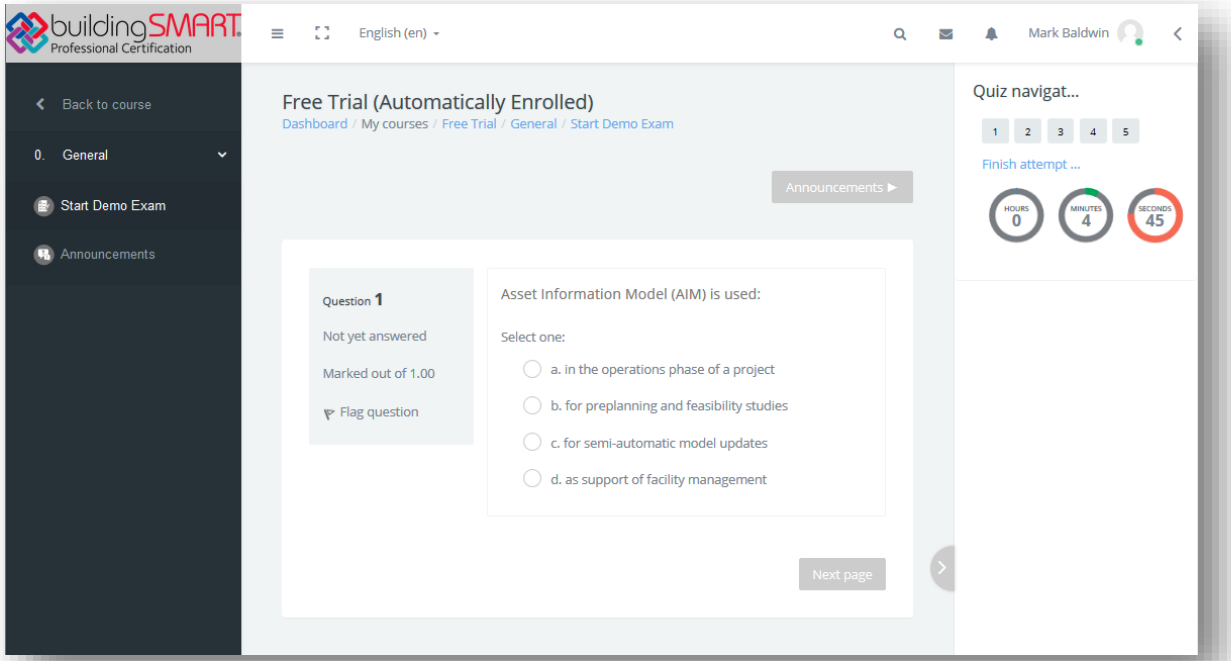
Individual Qualification Expansion

Building Owner / Development	Facility Management	Design	Construction	Product Supply / Manufacturing	BIM Project Management	Energy Performance	COBie

BASIC

1.Course content	Provider registration	Individual qualification
•**1.1. Learning Outcomes** •**1.2. Question Database** •**1.3. Body of Knowledge**	•the procedure to review and approve training providers	•the testing and qualification of individuals who have undertaken an approved training
	€1,500 – 2,500 (valid for 2 years)	**€ 75 – 125**

Individual Qualification Platform



Thank You!

buildingSMART Technical Website: https://technical.buildingsmart.org/
buildingSMART Education Website: https://education.buildingsmart.org/

Contact: mark.baldwin@buildingsmart.ch