



Rail Baltica BIM rakenduskava praktikas - esimesed kogemused

Urmas Alber

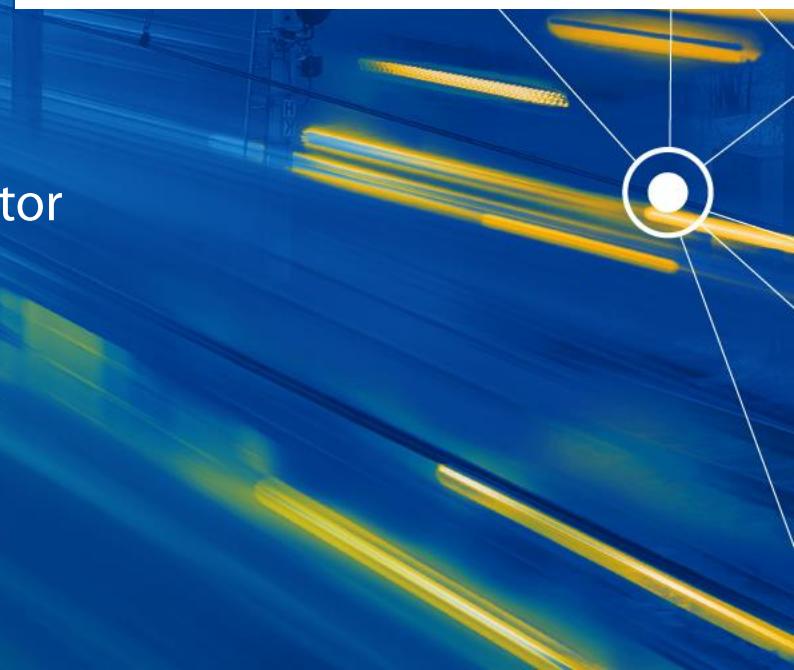
BIM and AIM Coordinator

Parema ehitiste ja füüsiliste varade elukaare infojuhtimise koordinaator

22. oktoober 2019



Co-financed by the Connecting Europe Facility of the European Union



Terminology

Building Information Modelling (BIM) is a process involving the creation and management of information in a construction project across the project lifecycle.



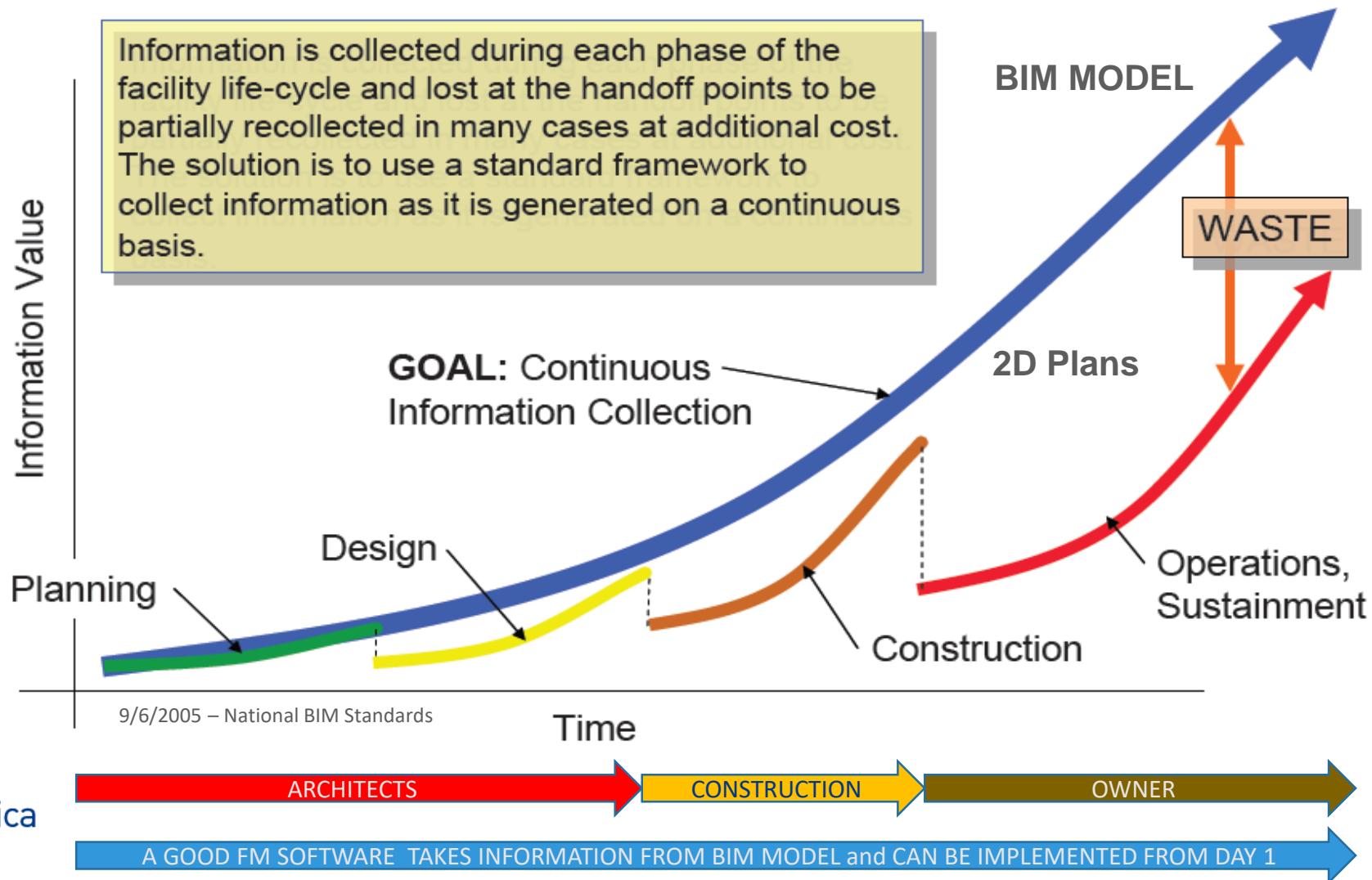
BIM = Project

**BIM = Better Information
Management**

Who, What, Where, When, Why

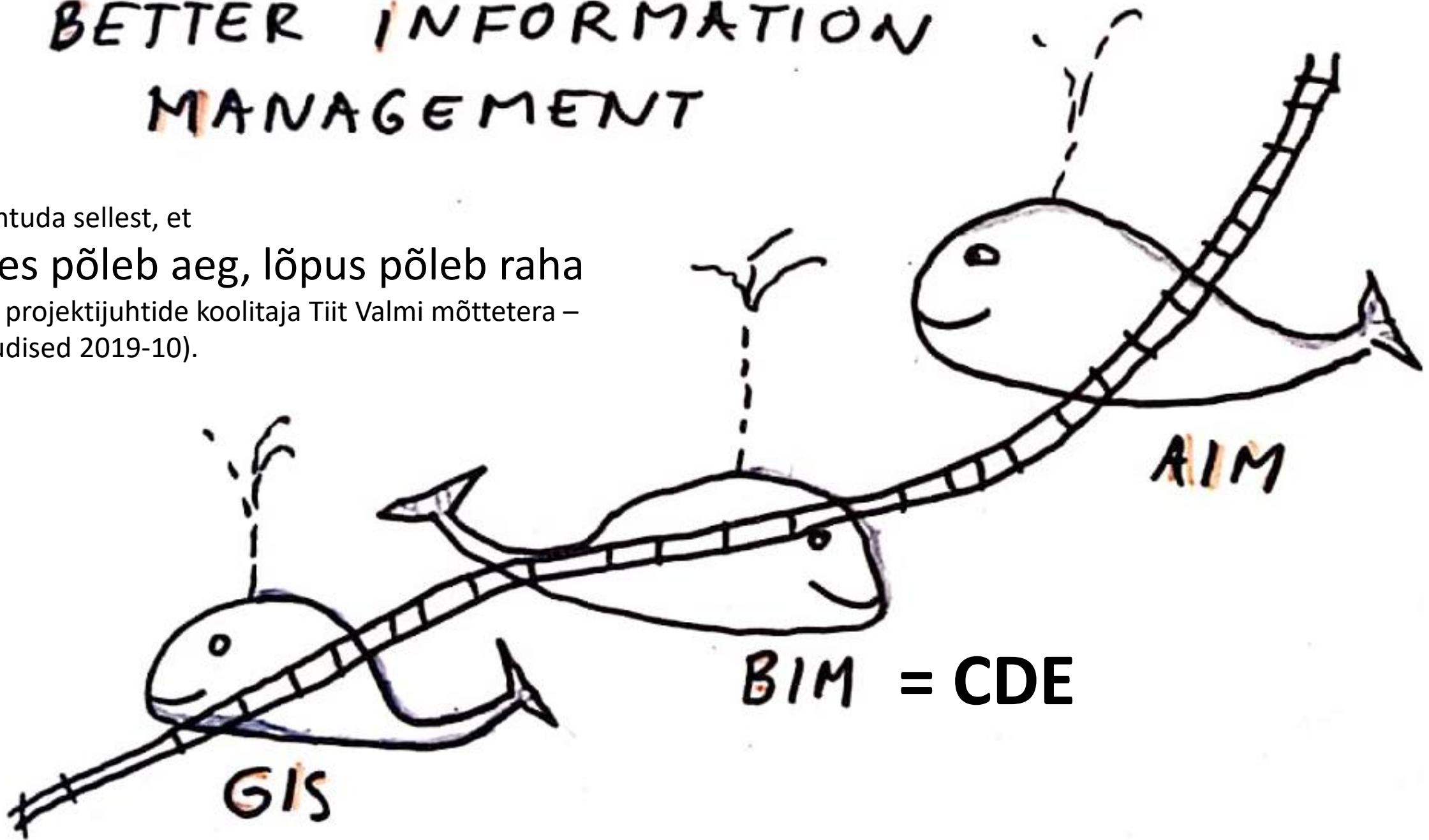
- WHY WHO needs WHAT information
WHERE and WHEN
- WHAT information we have (to create)
and WHERE

Minimize information loss – increase cooperation



BETTER INFORMATION MANAGEMENT

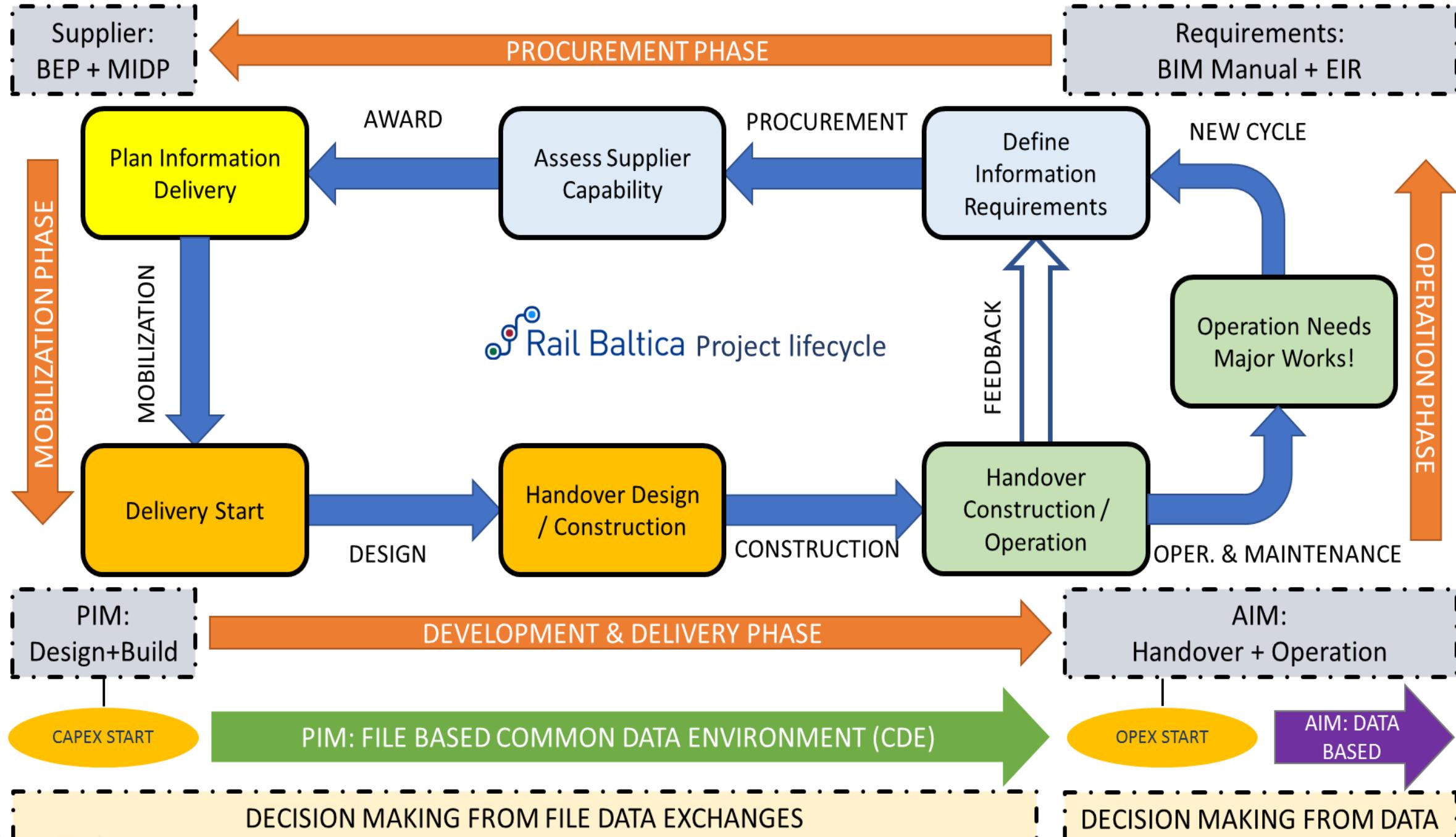
Tuleb lähtuda sellest, et
alguses põleb aeg, lõpus põleb raha
(ehituse projektijuhtide koolitaja Tiit Valmi mõttetera –
Ehitusuudised 2019-10).



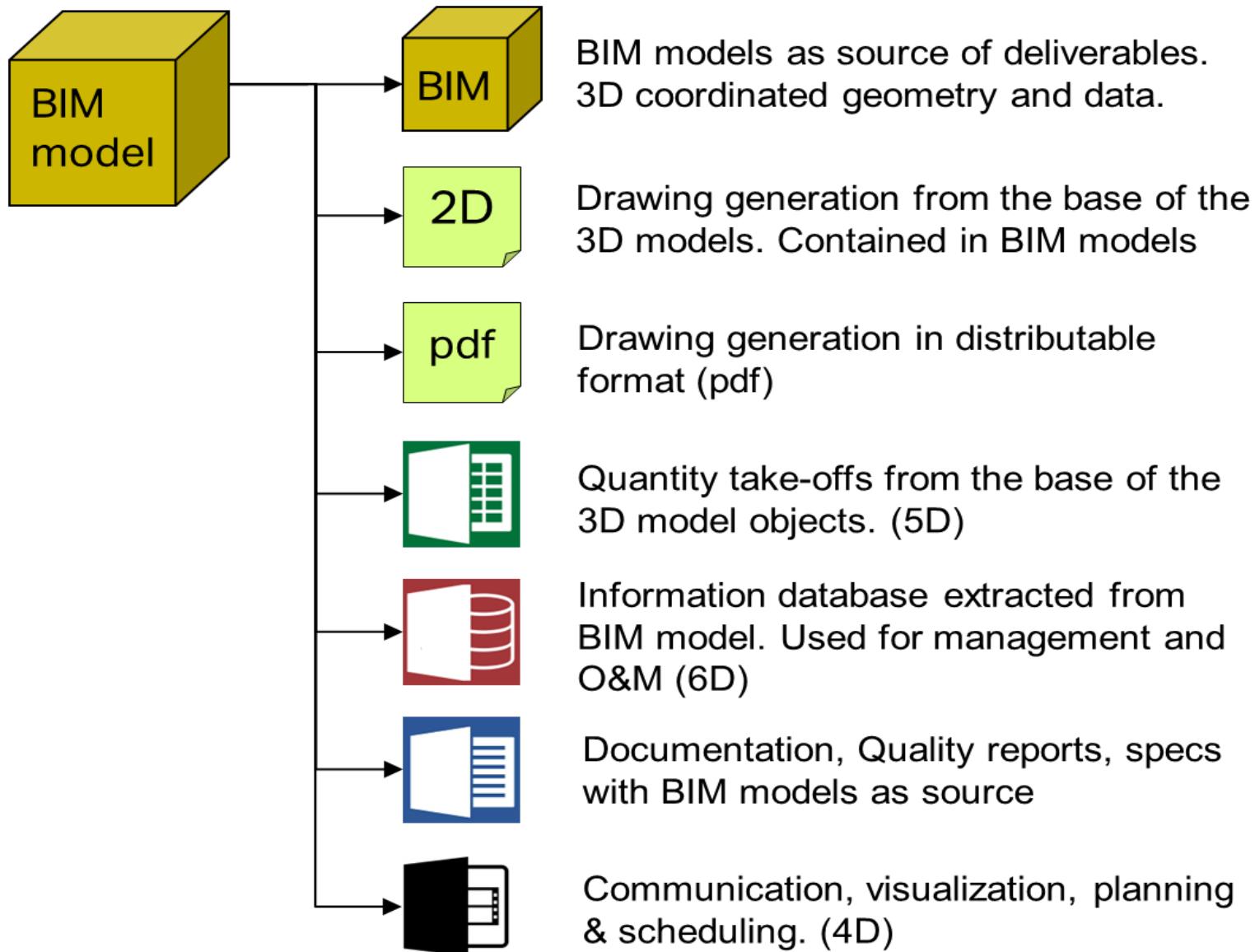
Olukord 2019-10

- DG ja sealhulgas BIM on valmis
- BIM koolitusmaterjalid ja koolitused 3 riigis
- Projekteerimishanked on töös
 - Sharepoint vs CDE
 - TIDP - VE dokumentide nimekiri
 - BEP sisu - alguses koopia RBR nõudmistest
 - Koodid lühemaks – kodeerimise sammud:
lõigud, ehitusobjektid, elemendid





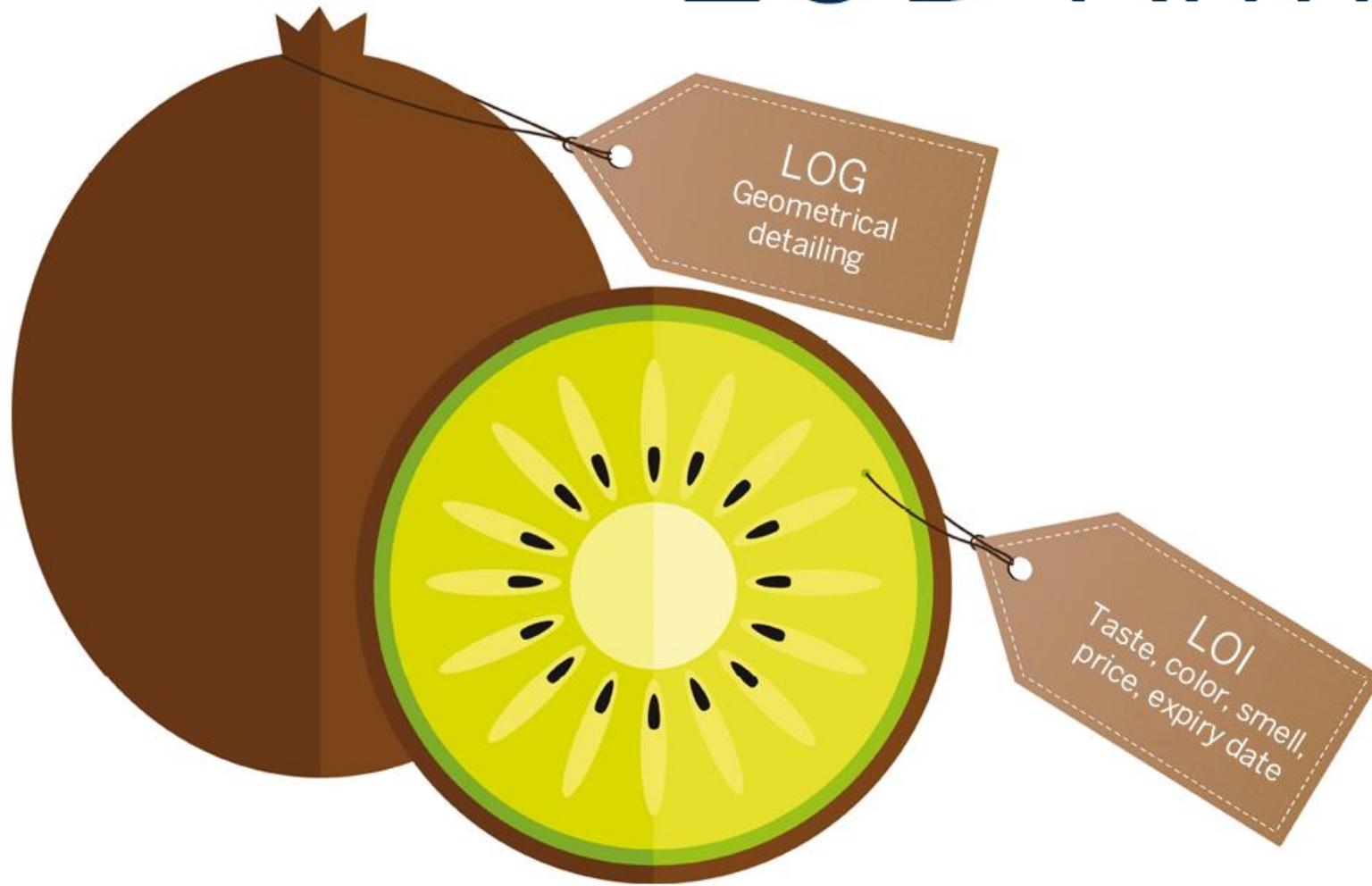
Project Deliverables:



Terminology – fill in the form to fulfill the requirements

- BIM: Building Information Modelling is a process involving the creation and management of information in a construction project across the project lifecycle.
- PIM: Project Information Model
- AIM: Asset Information model
- BEP: BIM Execution Plan
- CDE: Common Data Environment
- EIR: Employer Information Requirements (OIR, AIR)
- LOD = LoG (300) +LoI (200)
- **TIDP: Task Information Delivery Plan**
- **MIDP: Master Information Delivery Plan**
- IFC, COBie

LOD Kiwi



Project Deliverables: TIDP Architectural

Rail Baltica	Task Information Delivery Plan (TIDP)			Architectural Building																							
Project	Document	Template version	beta 1 (18/01/2019)	Discipline / Package																							
Project Name:	RBDTD-EE-DS3-DPS3																										
Project Title:	Maintenance Workshop building																										
Author:	H.W.F																										
Originator:	AEC																										
Discipline:	Architecture																										
Date Created:	26/01/2019																										
Date Last Updated:	26/01/2019																										
																											
TIDP Name: RBDTD-EE-DS3_AEC_T123-07_ZZZZ_TI_AR-AA_DTD_01005_001																											
Refer to file naming convention doc for info																											
FILE NAME																											
DELIVERABLE (TITLE)	DESCRIPTION	NATIVE FORMATS	EXCHANGE FORMATS	PROJECT NAME	ORIGINAL TOR CODE	VOLUME SYSTEM / ZONE	LOCATION	DOC TYPE	DISCIPLINE CODE	PROJECT STAGE	NUMBER	REV	CLASSIFICATION (UNICLASS 2015)	ASSET MNG CLASSIFICATION	OWNER	STAGE: Value Engineering											
													LoG	LOI	DATE REQUIRED TO ISSUE	STAGE: Master Design											
MODELS																											
BIM model building Architecture_native	Revit Bim Model native	RVT	-	RBDTD-EE-DS3-DPS3	AEC	T123-07	ZZZZZ	BM	AR-AA	DTD	10002	001	YES	NO	BIM Manager	200 N/A 01/01/2020 BIM Manager 200 200 01/02/2020											
BIM model building Architecture_IFC	Revit Bim Model Open BIM IFC	-	IFC	RBDTD-EE-DS3-DPS3	AEC	T123-07	ZZZZZ	IF	AR-AA	DTD	10002	001	YES	NO	BIM Manager	200 N/A 01/01/2020 BIM Manager 200 200 01/02/2020											
DRAWINGS (EXTRACTED FROM MODEL)																											
Floor plan*	Floor Plan Level (Not included in the training)	PDF		RBDTD-EE-DS3-DPS3	AEC	T123-07	ZZZZZ	DR	AR-AA	DTD	00001	001	NO	NO	Architect	N/A N/A N/A N/A Architect N/A N/A N/A N/A 01/02/2020											
Roof Plan*	Roof Plan Level	PDF		RBDTD-EE-DS3-DPS3	AEC	T123-07	ZZZZZ	DR	AR-AA	DTD	00002	001	NO	NO	Architect	N/A N/A N/A N/A Architect N/A N/A N/A N/A 01/02/2020											
Elevations*	Elevation drawings	PDF		RBDTD-EE-DS3-DPS3	AEC	T123-07	ZZZZZ	DR	AR-AA	DTD	00003	001	NO	NO	Architect	N/A N/A N/A N/A Architect N/A N/A N/A N/A 01/02/2020											
Details*	Detail drawings	PDF		RBDTD-EE-DS3-DPS3	AEC	T123-07	ZZZZZ	DR	AR-AA	DTD	00004	001	NO	NO	Architect	N/A N/A N/A N/A Architect N/A N/A N/A N/A 01/02/2020											
REPORTS																											
Architectural QExK	Quantity extraction AR	XLSX	-	RBDTD-EE-DS3-DPS3	AEC	T123-07	ZZZZZ	QE	AR-AA	DTD	70002	001	YES	NO	N/A N/A N/A N/A	Quantity specialist N/A N/A N/A N/A 01/02/2020											
Architectural Data Drop	Data Drop from Architectural model	XLSX	-	RBDTD-EE-DS3-DPS3	AEC	T123-07	ZZZZZ	DD	AR-AA	DTD	80002	001	YES	NO	N/A N/A N/A N/A	BIM Manager N/A N/A N/A N/A 01/02/2020											
QAQC BIM Architecture*	QAQC BIM checklist Arch model	docx	-	RBDTD-EE-DS3-DPS3	AEC	T123-07	ZZZZZ	QA	AR-AA	DTD	01002	001	NO	NO	N/A N/A N/A N/A	BIM Manager N/A N/A N/A 01/02/2020											
SPECIFICATIONS																											
OTHER																											

* Not included in the training material

RBR-DAT-BIM-BMA-0005_BIM_Objects_Attributes_Matrix.xlsx

Type	Group	Attribute	Recomm ended	Data Type	Units	Description	attribute Description			LOI		
							Commentary	200	300	400		
All attribute must be included in models												
All	Global attributes											
	Member Mark											
	RBR-Project ID	Text				See Member Mark section	See codification tables	X	X	X		
	RBR-Section ID	Text				See Member Mark section	See codification tables	X	X	X		
	RBR-SubSection ID	Text				See Member Mark section	See codification tables	X	X	X		
	RBR-Originator	Text				See Member Mark section	See codification tables	X	X	X		
	RBR-Discipline Code	Text				See Member Mark section	See codification tables	X	X	X		
	RBR-VoISysZone	Text				See Member Mark section	See codification tables	X	X	X		
	RBR-Location	Text				See Member Mark section	See codification tables	X	X	X		
	RBR-Functional classification	Text				See Member Mark section	Classification code according with the functional hierarchy	X	X	X		
	RBR-Object ID	Integer				See Member Mark section	See codification tables	X	X	X		
	Common Asset Data							-	-	-		
	RBR-Asset ID	Text				Unique Asset ID		-	-	-		
	RBR-AR_ID	Text				Asset register identifier		-	-	-		
	RBR-Asset Name 1	Text				Descriptive name (e.g. "Pump 01")	Operator defined, (Supplier defined if not by operator). Attributes used to relate components/sub-components hierarchically within assets.	-	-	-		
	RBR-Asset Name 2	Text				Descriptive name (e.g. "Pump 01")		-	-	-		
	RBR-Easting	Number					According to the WCS in use, refer to BIM models' Geo-reference in the BIM	-	X	X		
	RBR-Northing	Number					According to the WCS in use, refer to BIM models' Geo-reference in the BIM	-	X	X		

Guideline

GLOBAL & DISCIPLINE ATTRIBUTES

AD4_TEMPLATE

AD4_Bridging_Structures_Example

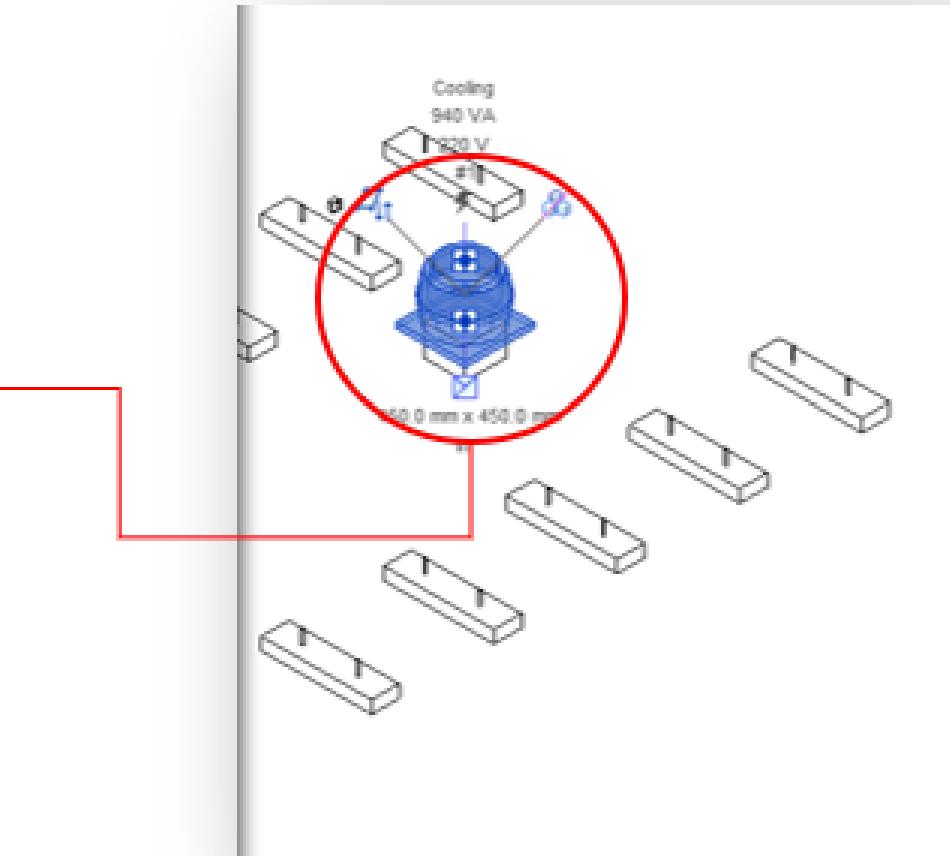
AD4_Door_Example

AD...

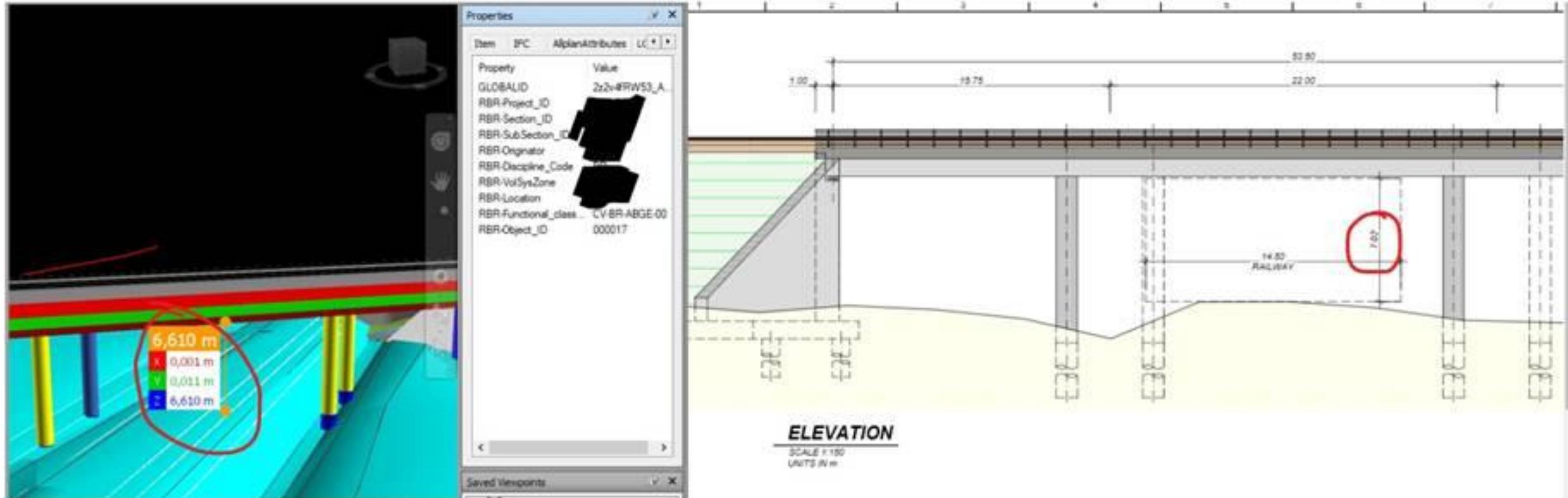
MemberMark

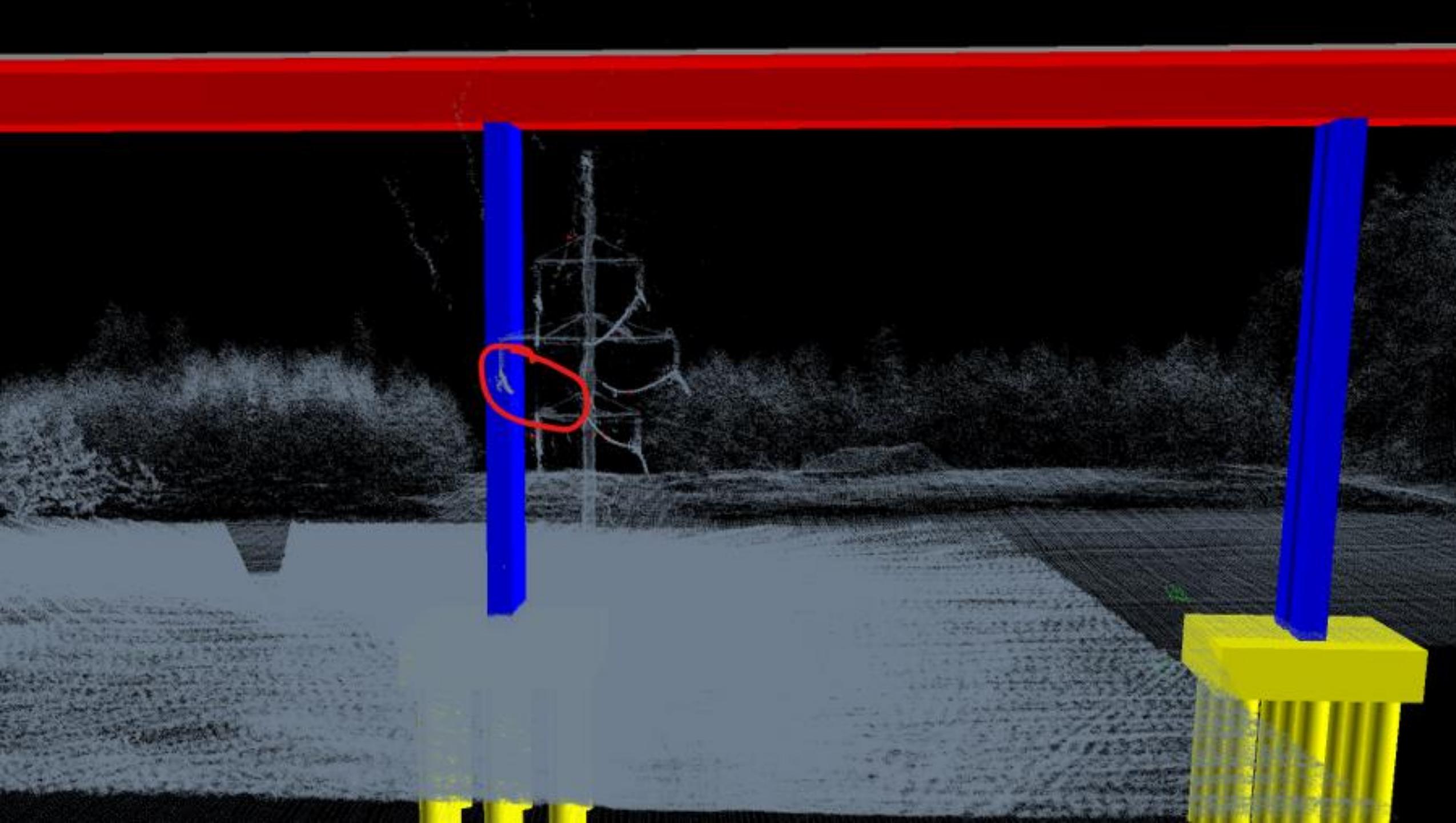
Data	
RBR-AR_ID	N/A
RBR-Asset ID	N/A
RBR-Asset Name 1	N/A
RBR-Asset Name 2	N/A
RBR-Design_Mfg	•
RBR-Discipline Code	ME
RBR-Eastling	2515170.434724
RBR-Elevation	33.258280
RBR-Functional classification	AR-ME-VENT-BD
RBR-GISattribute1	N/A
RBR-GISattribute2	N/A
RBR-Installation date	N/A
RBR-LEED Comment	N/A
RBR-Local Code	MM
RBR-Location	0001
RBR-LoG	300
RBR-LoI	300
RBR-Maintenance Frequency	1
RBR-Maintenance Sheet	N/A
RBR-Manufacturer Name	N/A
RBR-Manufacturer URL	N/A
RBR-Material Description	Stainless Steel
RBR-Material Designation	N/A
RBR-Material reference	N/A
RBR-ModelReference	N/A
RBR-Northing	4145519.760573
RBR-Object ID	100016
RBR-ONC	FAN
RBR-Originator	AEC
RBR-Phase Created	N/A
RBR-Phase Demolished	N/A
RBR-Pr_Code	Pr_65_67_29_72
RBR-Product Description	Centrifugal Fan, FF 1000 l/s, 85

MODEL



Koondmudel / Federated Model





Solibri Anywhere - T11-EE-ZZ-ZZ_YIT_0000-ZZ_0000_IF_BR-TS_MD_00002_001_Tammemae bridge

FILE MODEL CHECKING COMMUNICATION INFORMATION TAKEOFF

Spin Info 3D

MODEL TREE
T11-EE-ZZ-ZZ_YIT_0000-ZZ_0000_IF_BR-TS_MD_00002_001_Tammemae bridge

INFO
Object.0.69

Identification	Location	Quantities			
Material	Profile	Relations	Classification	Hyperlinks	RBR-Data
Property		Value			
RBR-Environment_class		XC4+XD1+XF2			
RBR-Functional_classification		CV-BR-UBSU-00			
RBR-Height		5383 mm			
RBR-Height_Max		53.713 m			
RBR-Height_Min		48.330 m			
RBR-Length		N/A			
RBR-Material		Reinforced_concrete			
RBR-Position		N/A			
RBR-Pr_Code		Pr_20_31_16_56			
RBR-Product_Description		D=1000 mm			
RBR-Product_Name		Column			
RBR-Spec_Name		N/A			
RBR-Strength_class		C35/45			
RBR-Technology		Cast-in-place			
RBR-Type_number		Circular_column3			
RBR-Units		m ³			
RBR-Volume		4.23 m ³			
RBR-Weight		10.57 t			
RBR-Width		N/A			

