

BIMLux2017

BIM, un plaidoyer pour un changement de paradigme

Comment l'application du BIM améliore les relations de l'Entreprise Générale avec les Concepteurs, avec les Sous-traitants et permet d'atteindre la performance optimale de l'investissement.

14 11 2017





Théorie

UN JOUR,
J'IRAI VIVRE EN THÉORIE,
PARCE QU'EN THÉORIE
TOUT SE PASSE BIEN !

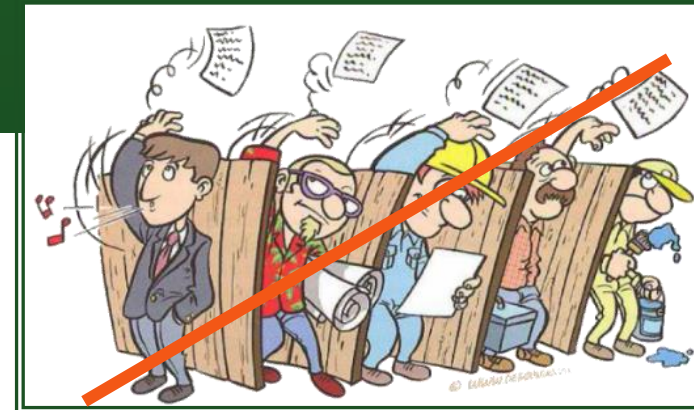
**Le processus BIM consiste en
la création, la récolte et l'échange
de données structurées intelligentes,
partagées entre
le client, l'équipe de conception, l'entreprise,
la chaîne d'approvisionnement et l'utilisateur final
afin de stimuler l'innovation et d'atteindre une
performance optimale de l'investissement.**

... le client, l'équipe de conception, l'entreprise,
la chaîne d'approvisionnement et l'utilisateur final
afin de stimuler l'innovation et d'atteindre une
performance optimale de l'investissement.



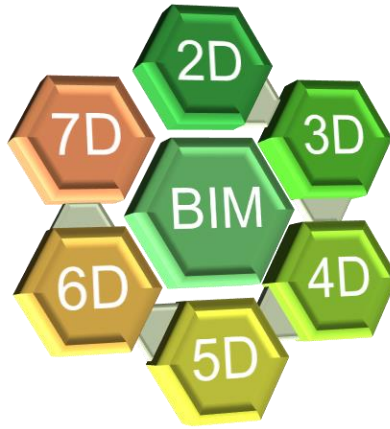
Maximiser la valeur client
Minimiser le gaspillage

La véritable collaboration autour du BIM consiste
à prendre en compte les besoins
de toutes les parties impliquées
afin de leur délivrer **les données dont elles ont besoin,**
au bon moment, complètes, précises
et sous la forme adéquate.



If you fail to plan, you are planning to fail!

Benjamin Franklin



2D, 3D Points, Lines, Layers ...

3D Objects, Material ... > **Virtual Build, Coordination (clashes)**

4D Planning, Tasks, Status ... > **Simulation, Physical Progress**

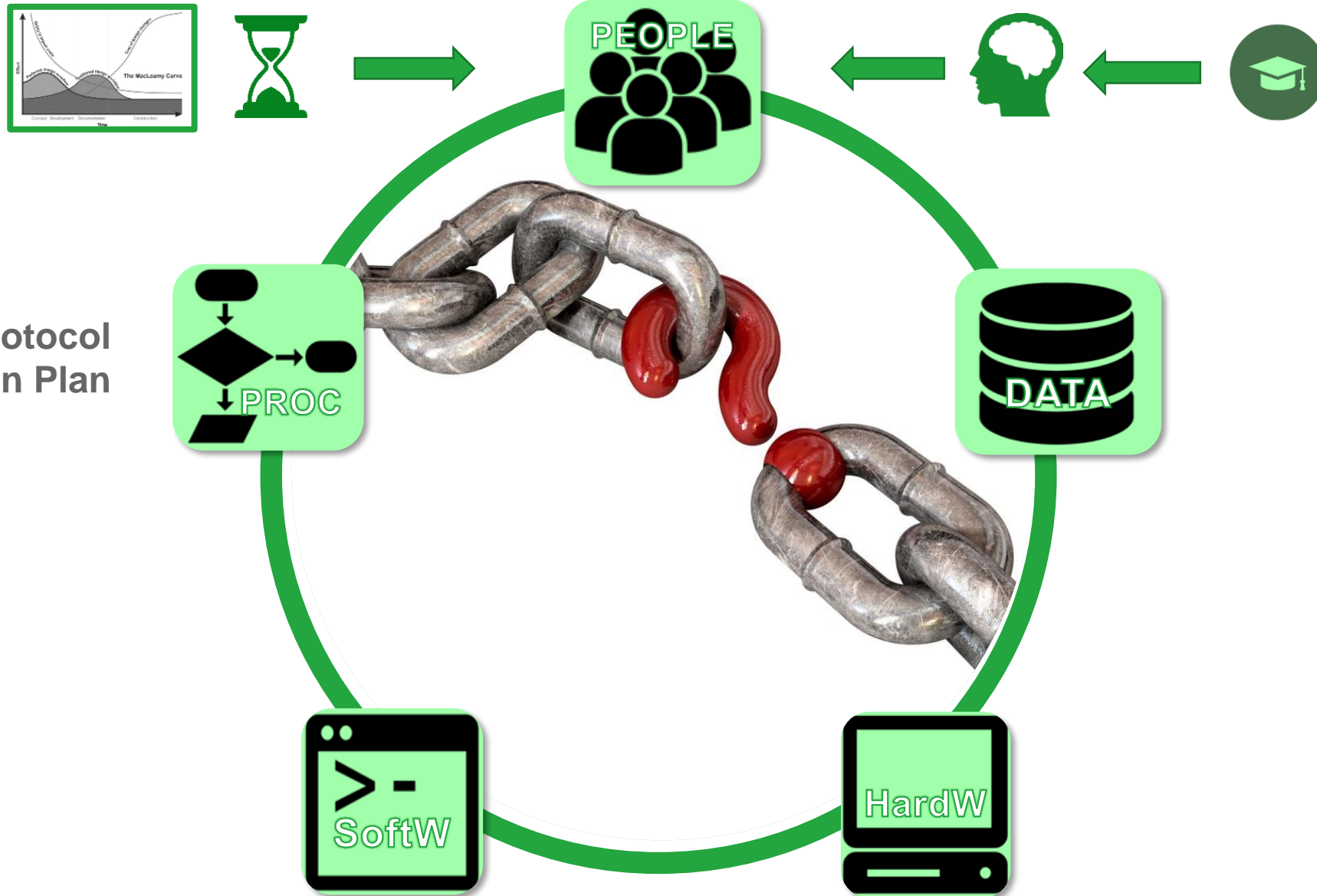
5D Costs, Prices, Measurement Code ... > **Budget, Financial Progress**

6D Life Cycle Informatie ... > **Maintenance**

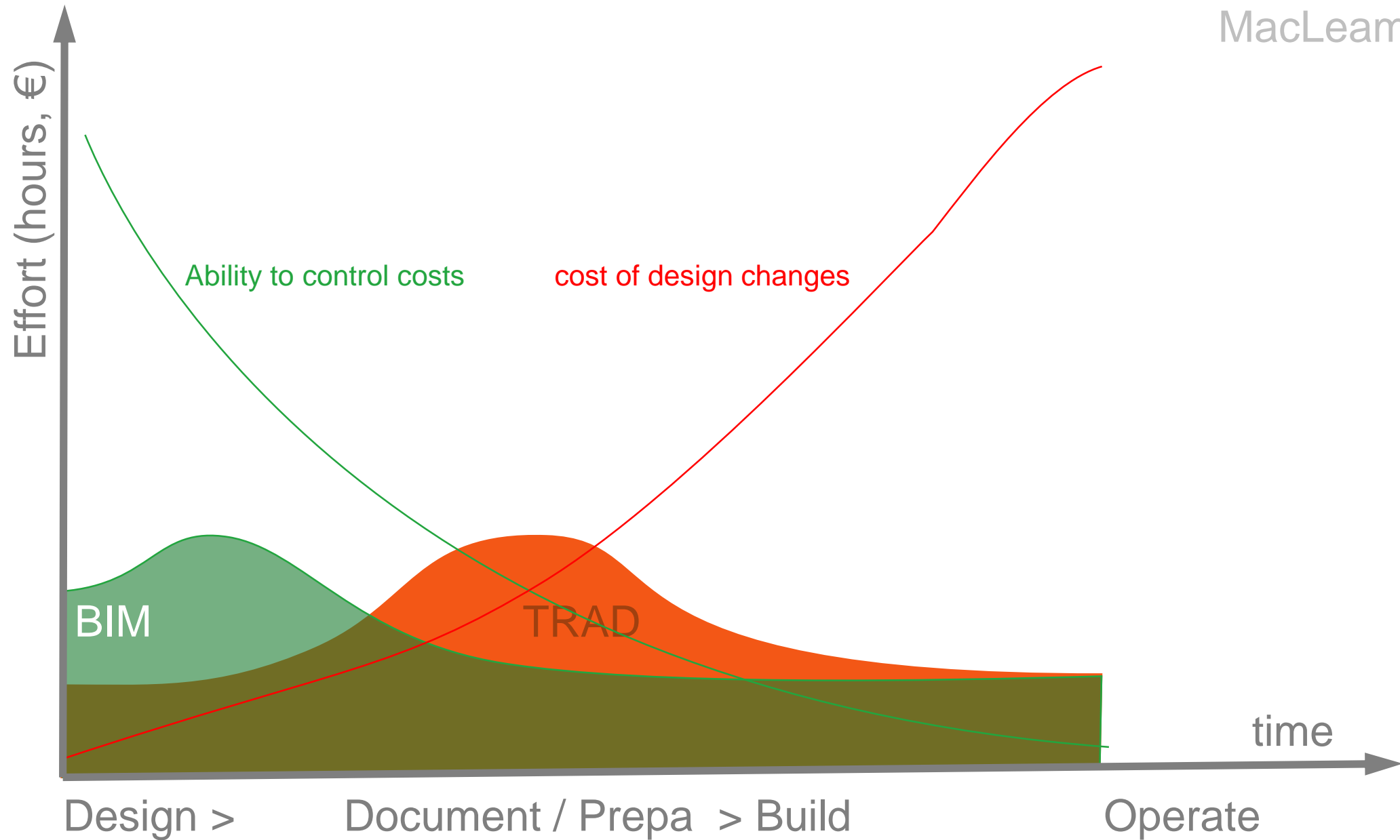
7D FM informatie ... > **FM**



BIM Protocol BIM Execution Plan



MacLeamy curve



BIM Deployment (project)

Time

BIM
Protocol

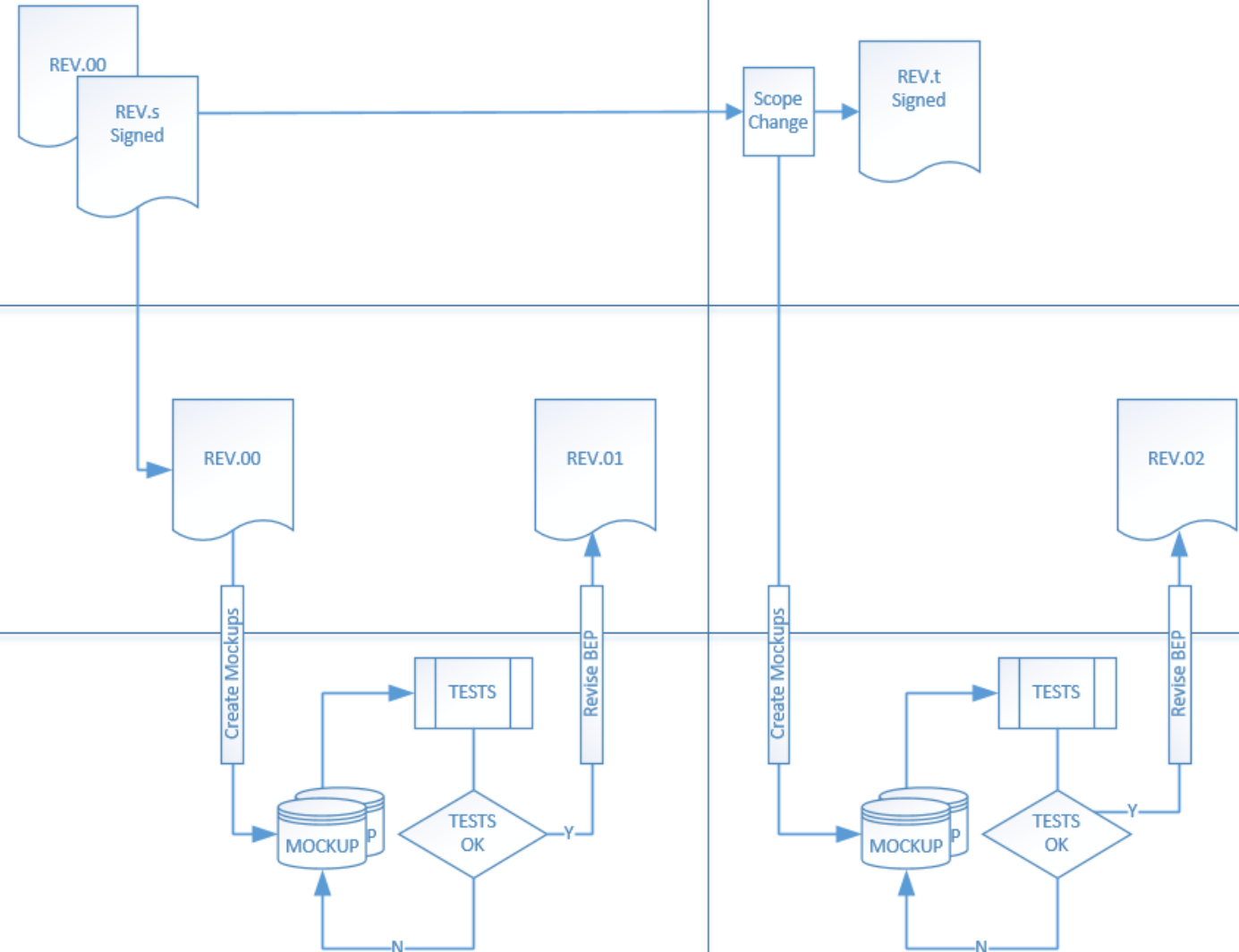
- Un **protocole** BIM est une **déclaration d'intention** (y.c. engagement moral)
- préliminaire ($\pi\rho\omega\tau\omicron\varsigma$ protos = premier)
 - grands principes de la collaboration (**Qui ? Pourquoi** (buts des parties) ? **Avec quels moyens** (programmes) ? etc.)
 - contenu plutôt contractuel (**rôles et responsabilités, dates clés des échanges, etc.**).
 - Signé
 - Qui ne doit donc préférablement pas être modifié

BIM
Execution Plan

- Un **BIM execution plan** est un document
- Type contrôle de qualité (j'écris ce que je vais faire / je fais ce que j'ai écrit / si je m'en écarte, je rectifie ...)
 - Contenu plutôt technique (**Comment ?**)
 - Qui évolue constamment

Virtual Mockup
Premier de série

- Un **Virtual Mockup** est un modèle 3D **partiel** convenablement codé en vue de tester
- La modélisation
 - La coordination
 - L'extraction de données
 - L'échange de données

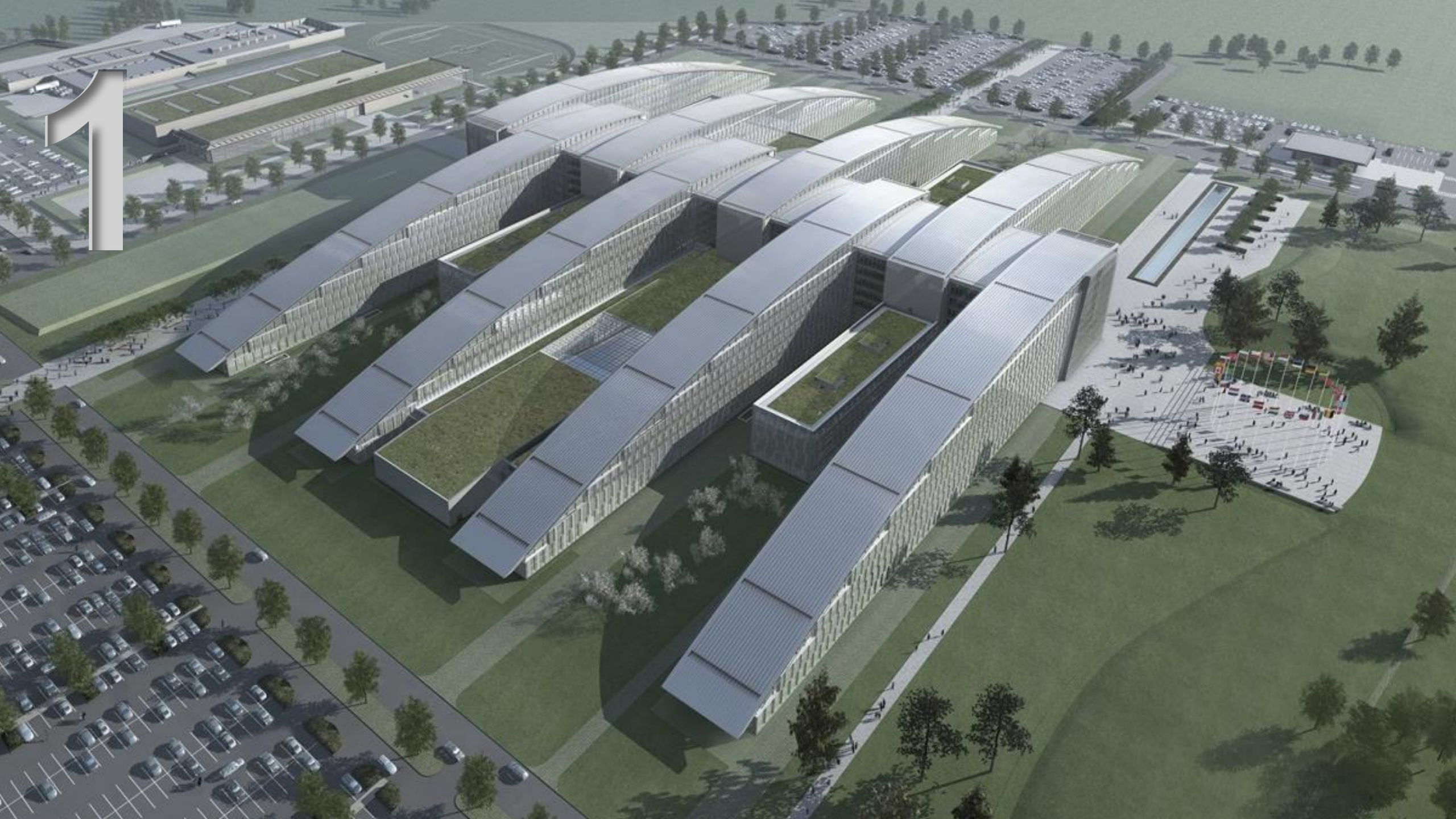


Cas

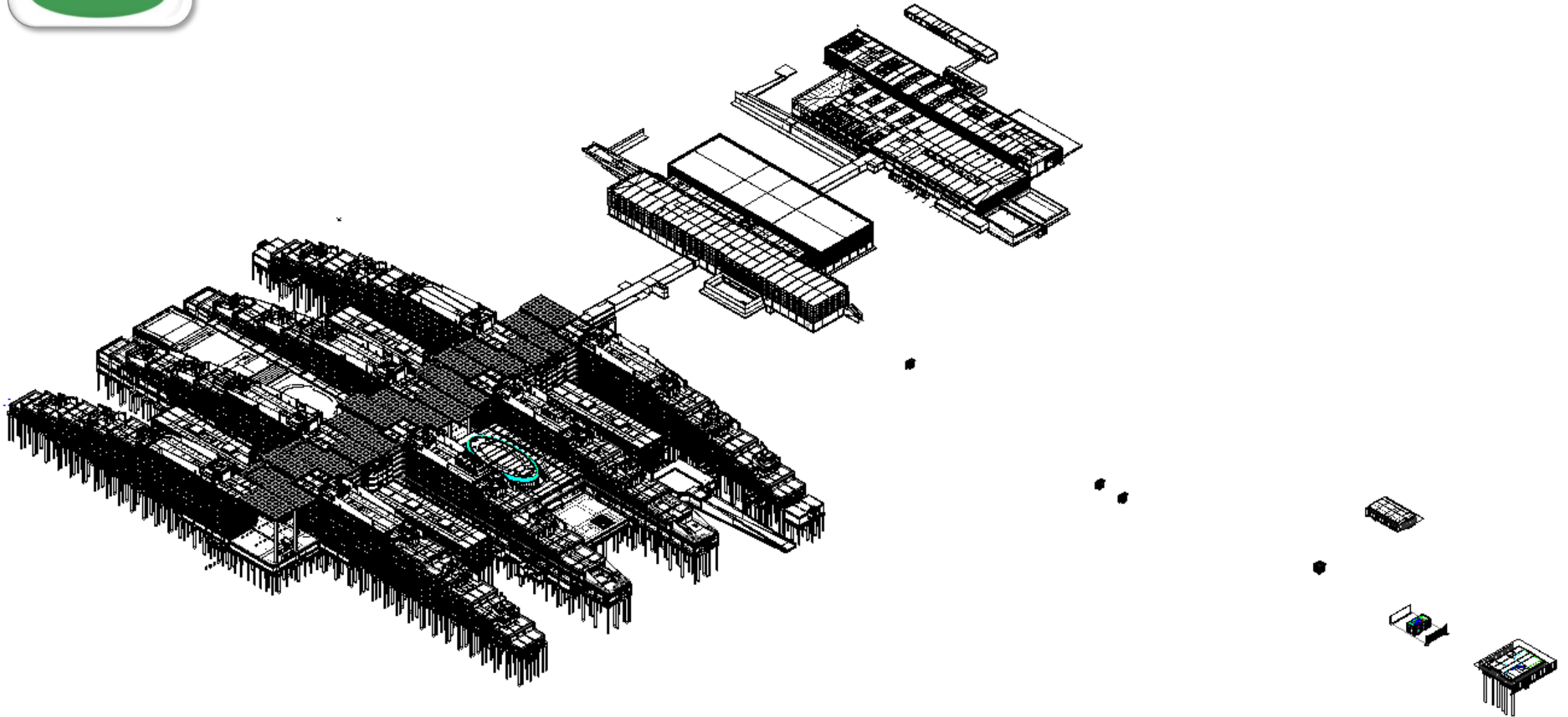
1 New NATO HQ, Evere

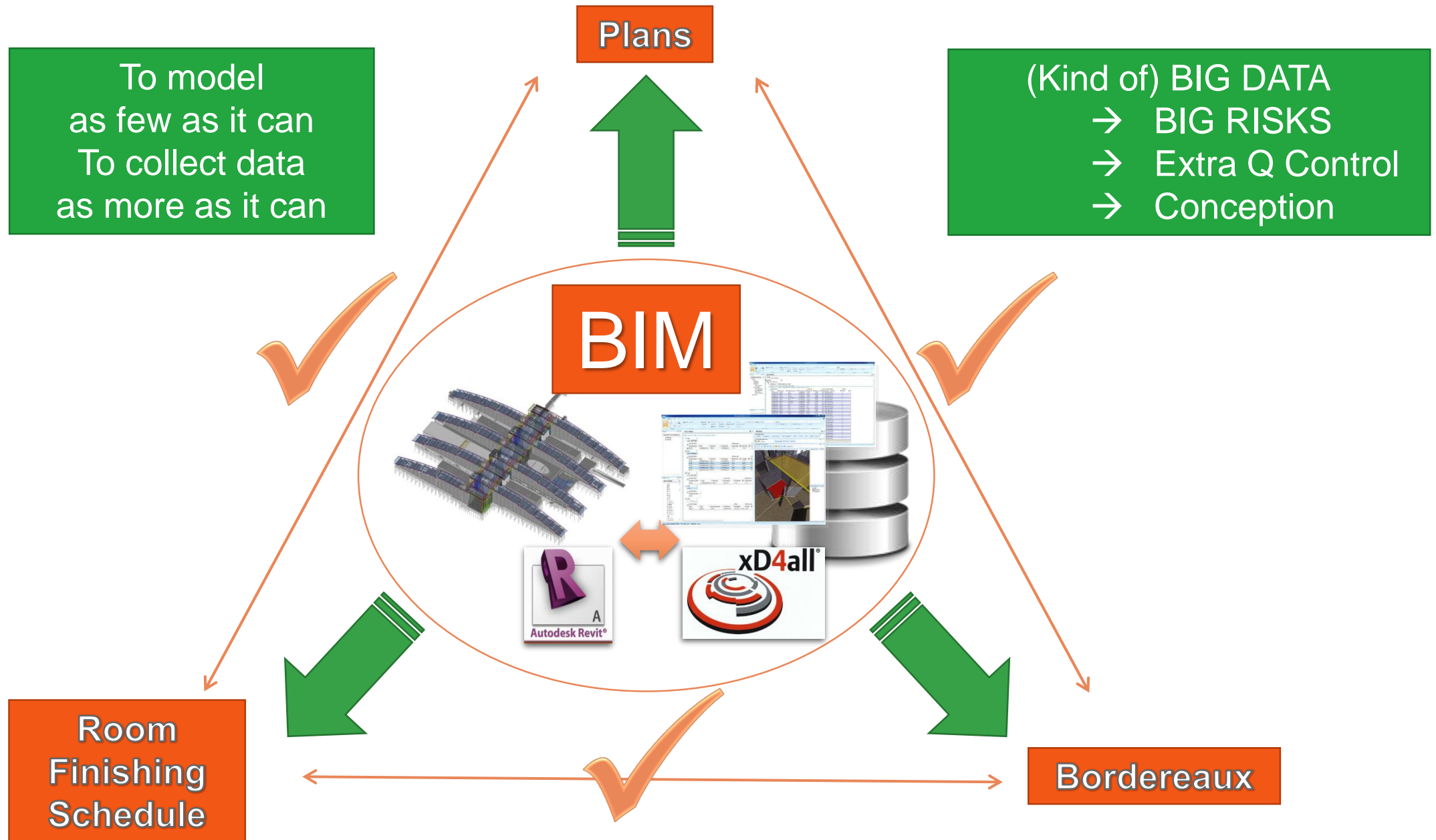
2 Vandermaelen, Molenbeek

2 Centre de Protonthérapie, Leuven



1





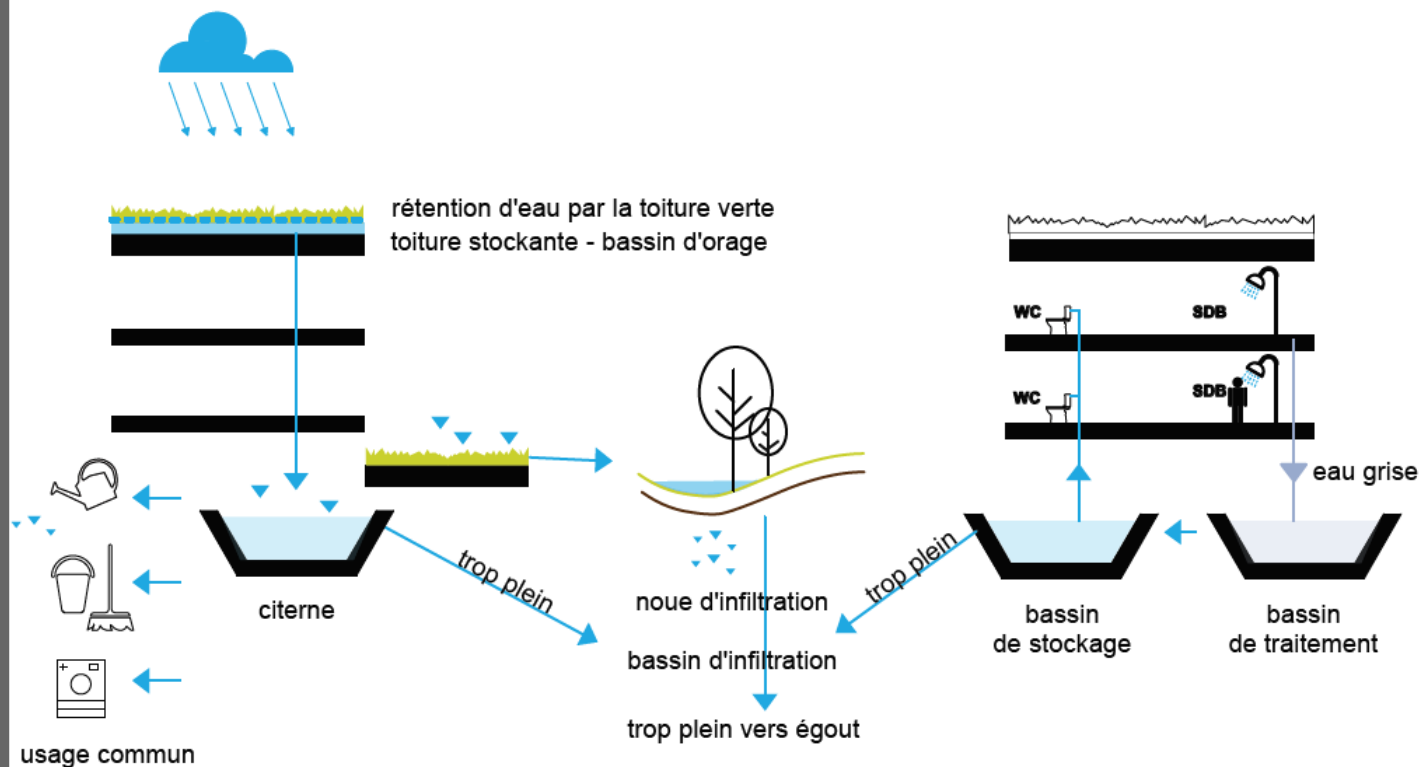
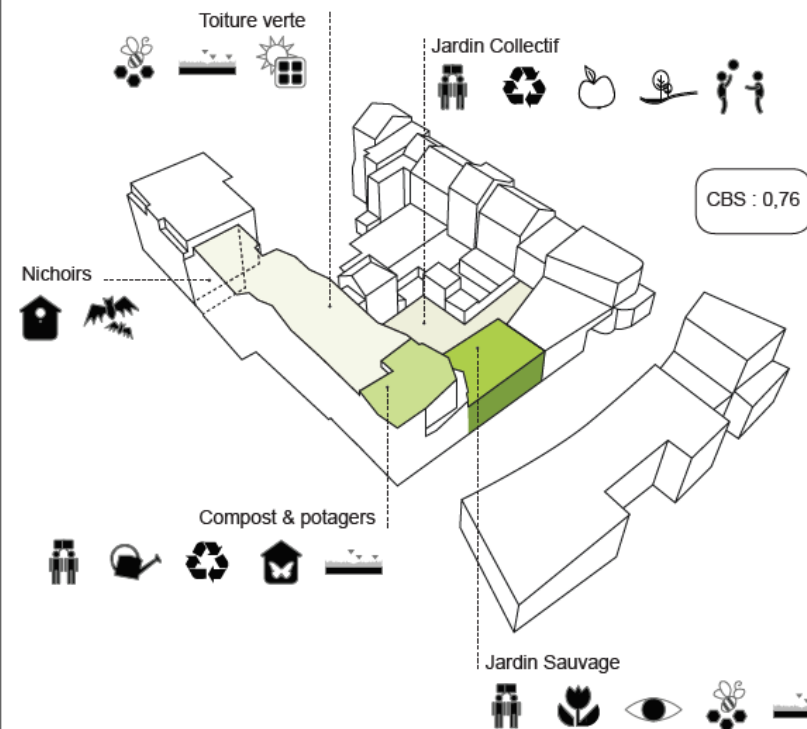
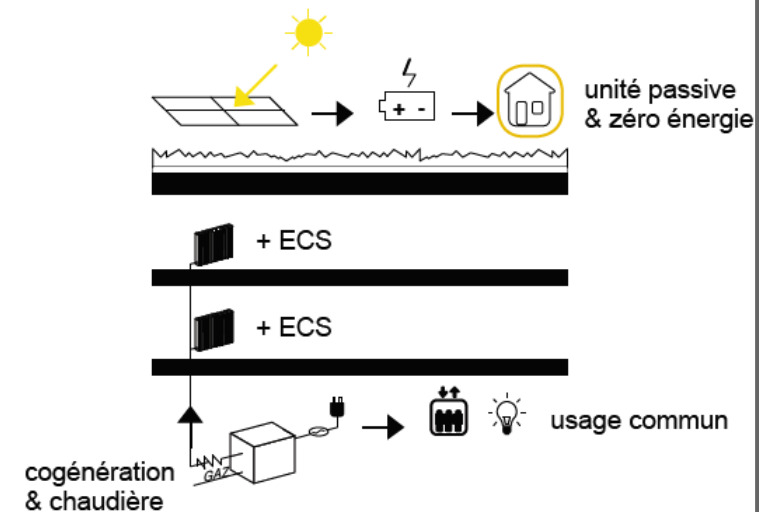
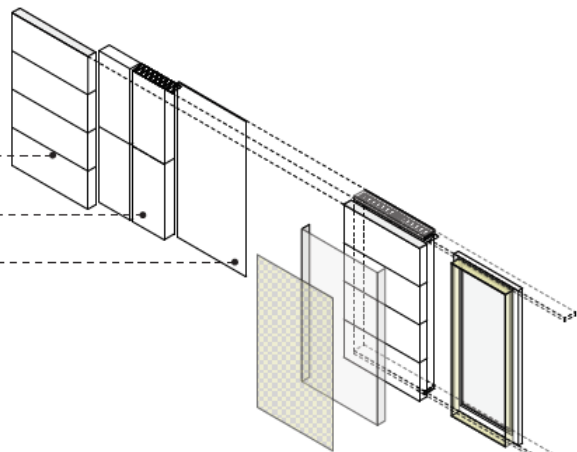
2



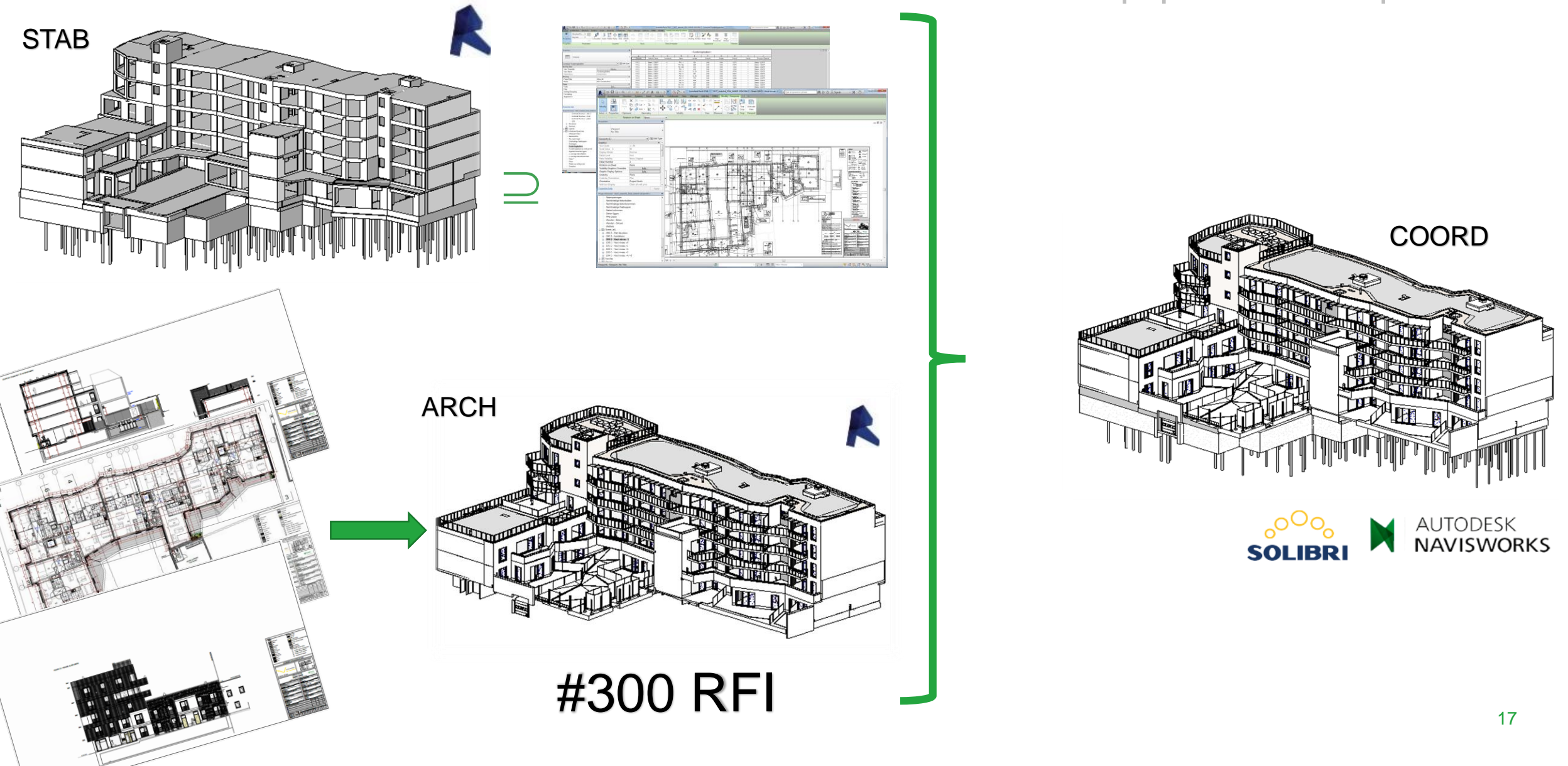
Panneau isolant support
d'enduit ou pare-pluie
et pare-vent en fibre de
bois

Isolant laine de roche

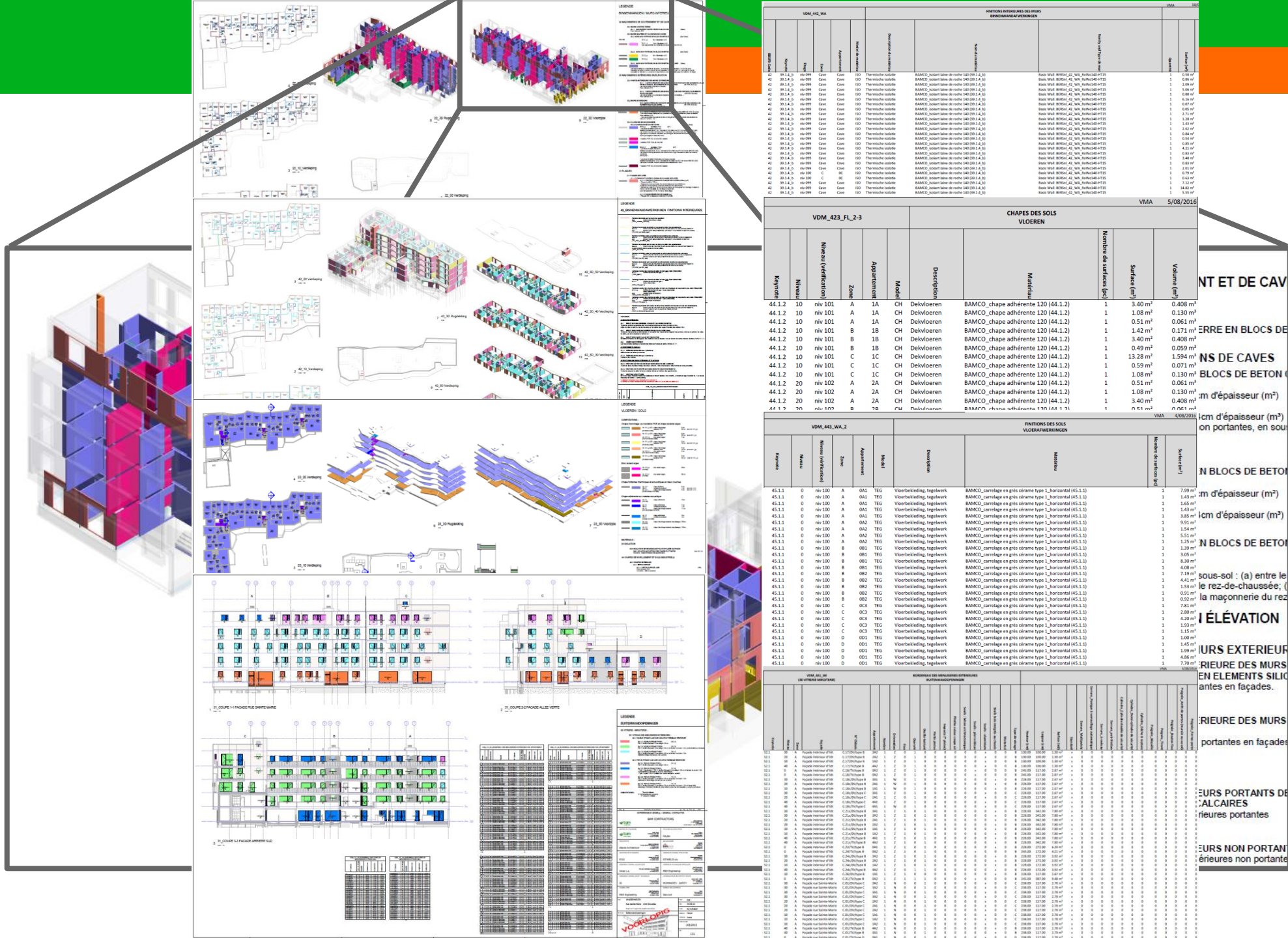
Plaque OSB

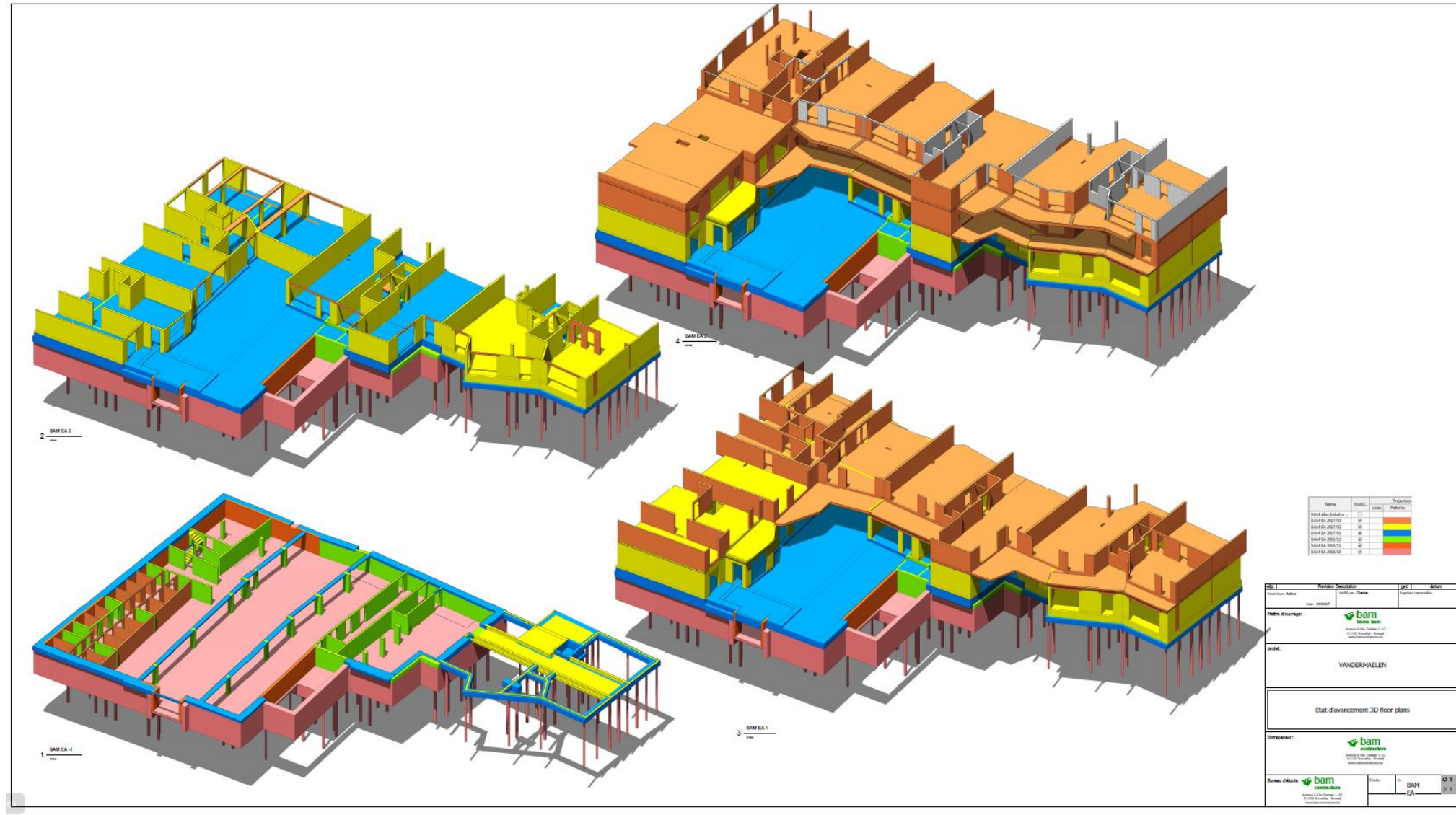


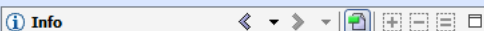
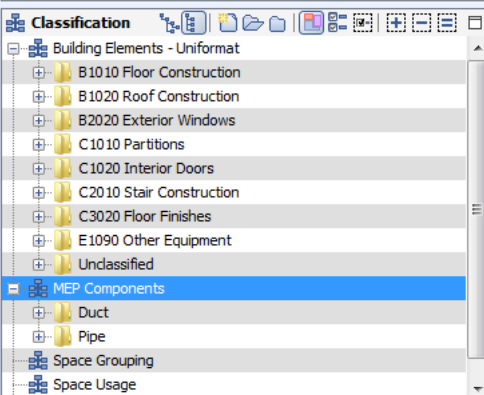
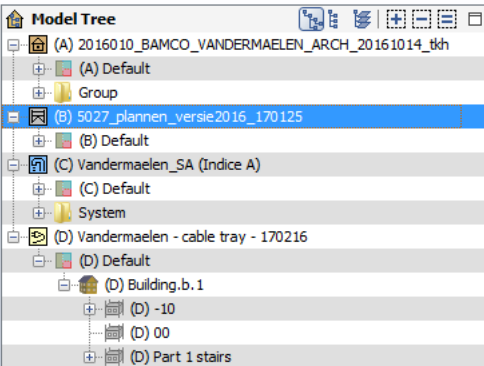
Equipe de conception > EG



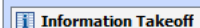
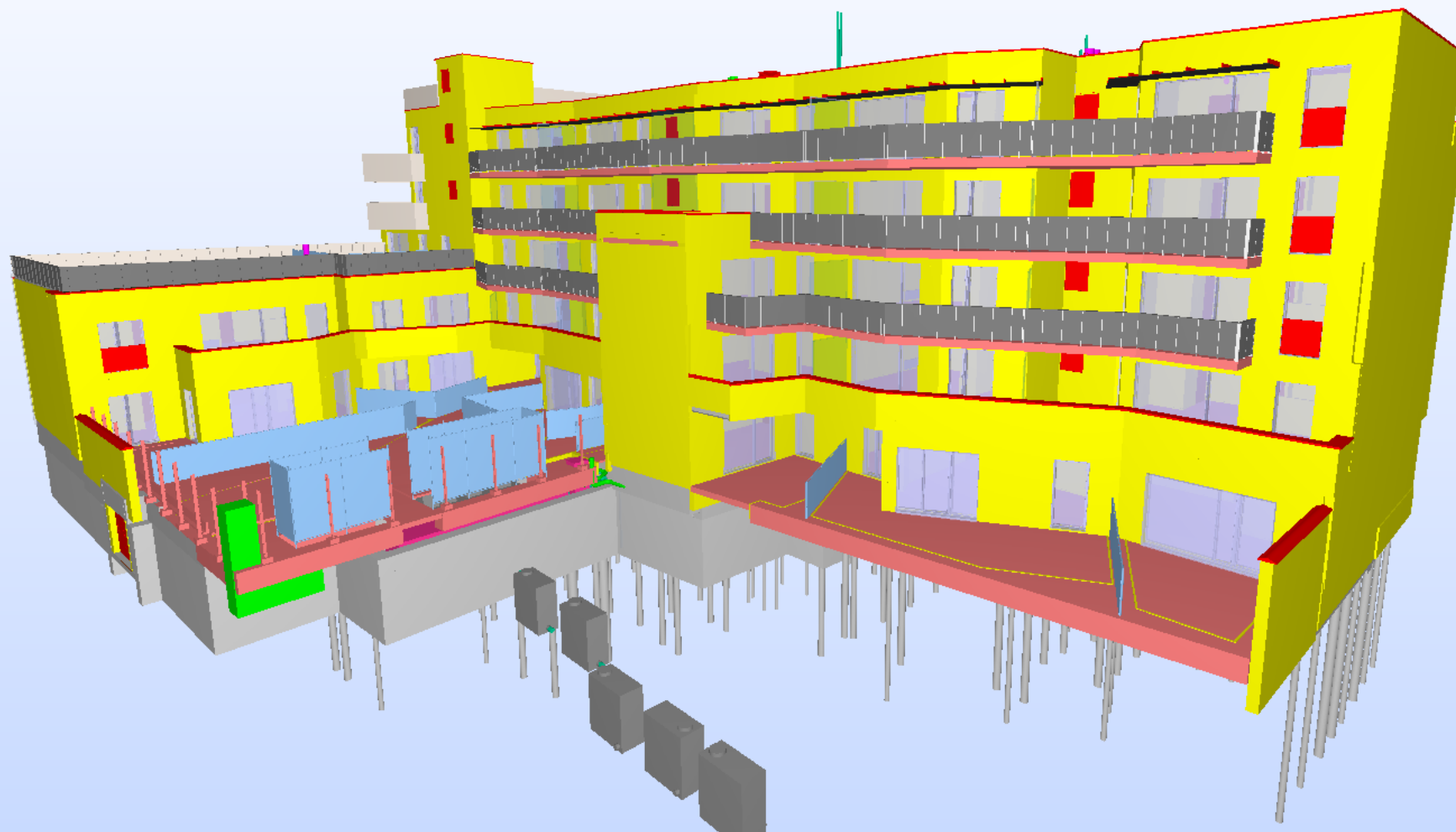
EG : Préparation







IFC File Name	IFC File Schema	Hyperlinks
Identification	IFC File Description	
Property	Value	
Name	5027_plannen_versie2016_170125	
Short Name	B	
Application	Autodesk Revit 2016 (ENU)	
Discipline	Structural	
Color Map	Architecture.material	



Floor	Space Usage	Total Area	Average Area	Count	Color
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Model Tree

- (A) 2016010_BAMCO_VANDERMAELEN_ARCH_20161014_tkh
 - (A) Default
 - Group
 - (B) 5027_plannen_versie2016_170125
 - (B) Default
 - (C) Vandermaelen_SA (Index A)
 - (C) Default
 - System
 - (D) Vandermaelen - cable tray - 170216
 - (D) Default
 - (D) Building.b.1
 - (D) -10
 - (D) 00
 - (D) Part 1 stairs

Classification

- Building Elements - Unifomat
 - B1010 Floor Construction
 - B1020 Roof Construction
 - B2020 Exterior Windows
 - C1010 Partitions
 - C1020 Interior Doors
 - C2010 Stair Construction
 - C3020 Floor Finishes
 - E1090 Other Equipment
 - Unclassified
- MEP Components
 - Duct
 - Pipe
- Space Grouping
- Space Usage

Info

(B) 5027_plannen_versie2016_170125

IFC File Name	IFC File Schema	Hyperlinks
Identification	IFC File Description	
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Name	5027_plannen_versie2016_170125	
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Application	Autodesk Revit 2016 (ENU)	
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Information Takeoff

Floor	Space Usage	Total Area	Average Area	Count	Color
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Model Tree

- (A) 2016010_BAMCO_VANDERMAELEN_ARCH_20161014_tkh
 - (A) Default
 - Group
- (B) 5027_plannen_versie2016_170125
 - (B) Default
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 - (D) -10
 - (D) 00
 - (D) Part 1 stairs

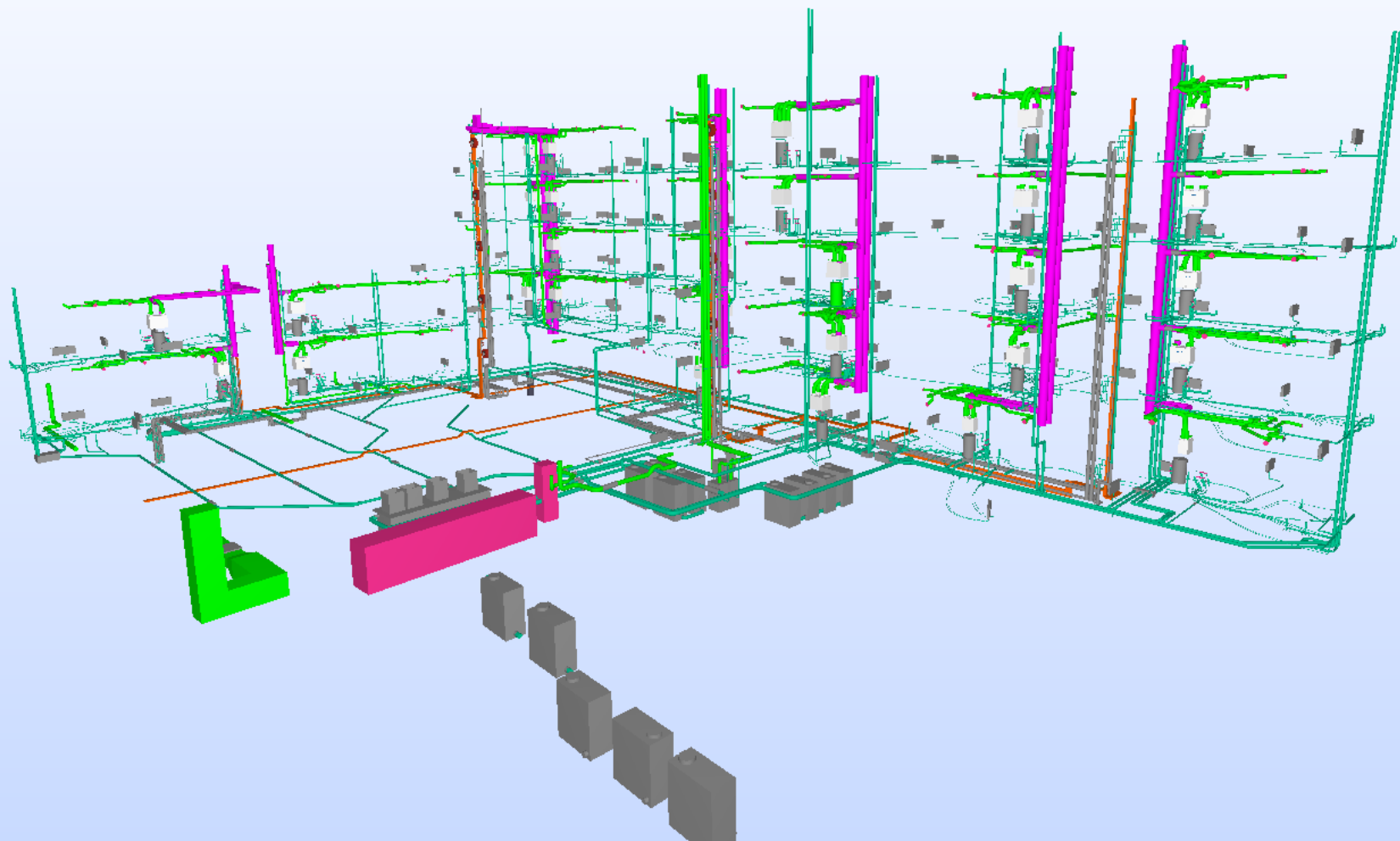
Classification

- Building Elements - Unifomat
 - B1010 Floor Construction
 - B1020 Roof Construction
 - B2020 Exterior Windows
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 - C1020 Interior Doors
 - C2010 Stair Construction
 - C3020 Floor Finishes
 - E1090 Other Equipment
 - Unclassified
- MEP Components
 - Duct
 - Pipe
- Space Grouping
- Space Usage

Info

(C) Object.4.876

Hyperlinks	
Pset_BuildingElementProxyCommon	
Identification	Location
Property	Value
Model	(C) Vandermaelen_SA (Index A)
Discipline	Plumbing
Name	ACV Comfort 130:ACV Comfort 13...
Type	ACV Comfort 130
Description	
Functional Type	NOTDEFINED
Layer	Q-SPCQ-____-OTLN
System	S4R_W5320_M-P-S-Hot Water Su...
Geometry	Boundary Representation
Application	Autodesk Revit 2017 (FRA)
GUID	3AeVzRwS8Wh3dnzJcf3c\$
BATID	1531047

**Information Takeoff**

Floor	Space Usage	Total Area	Average Area	Count	Color
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3D Spin Info

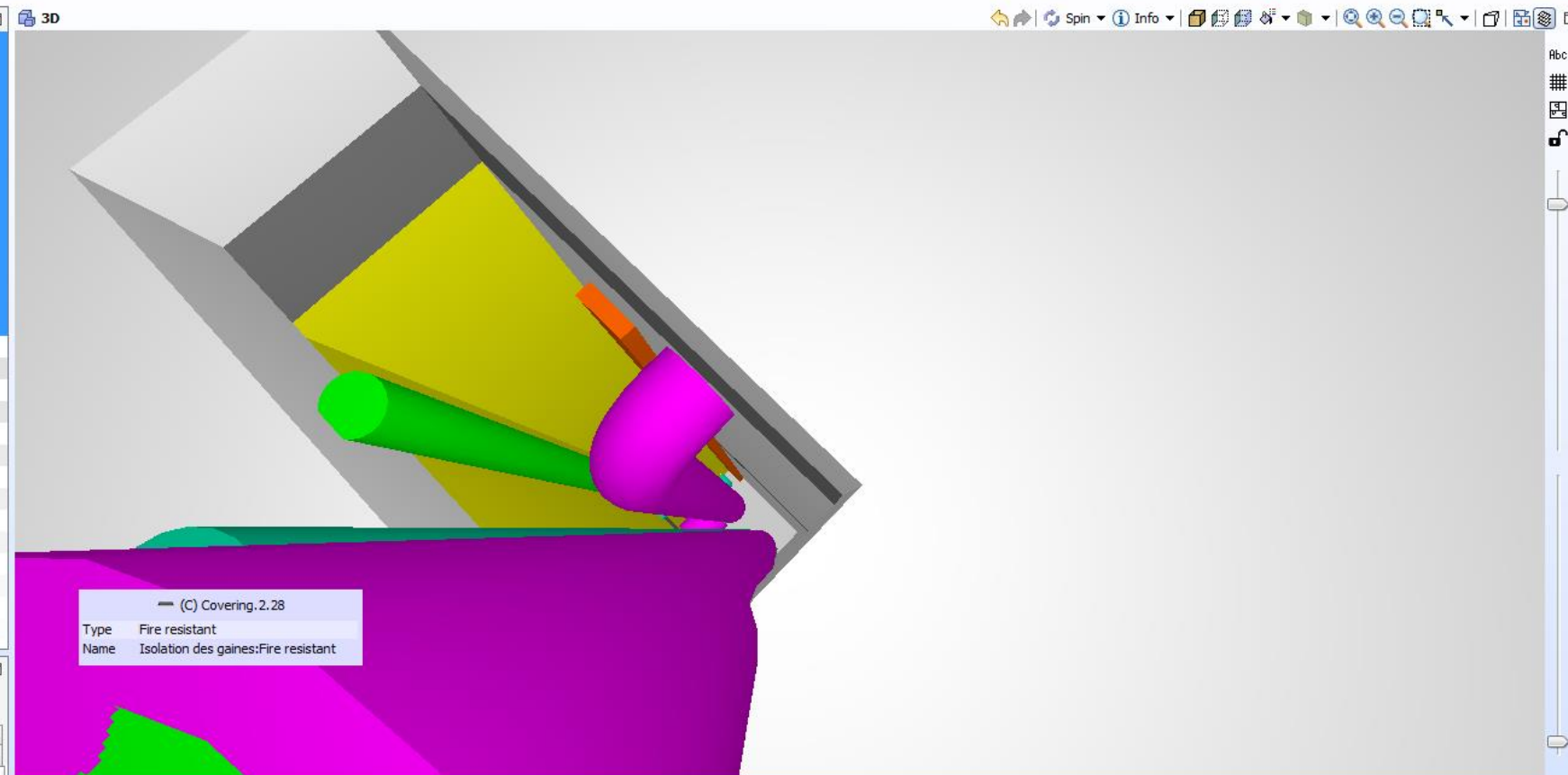
Abc

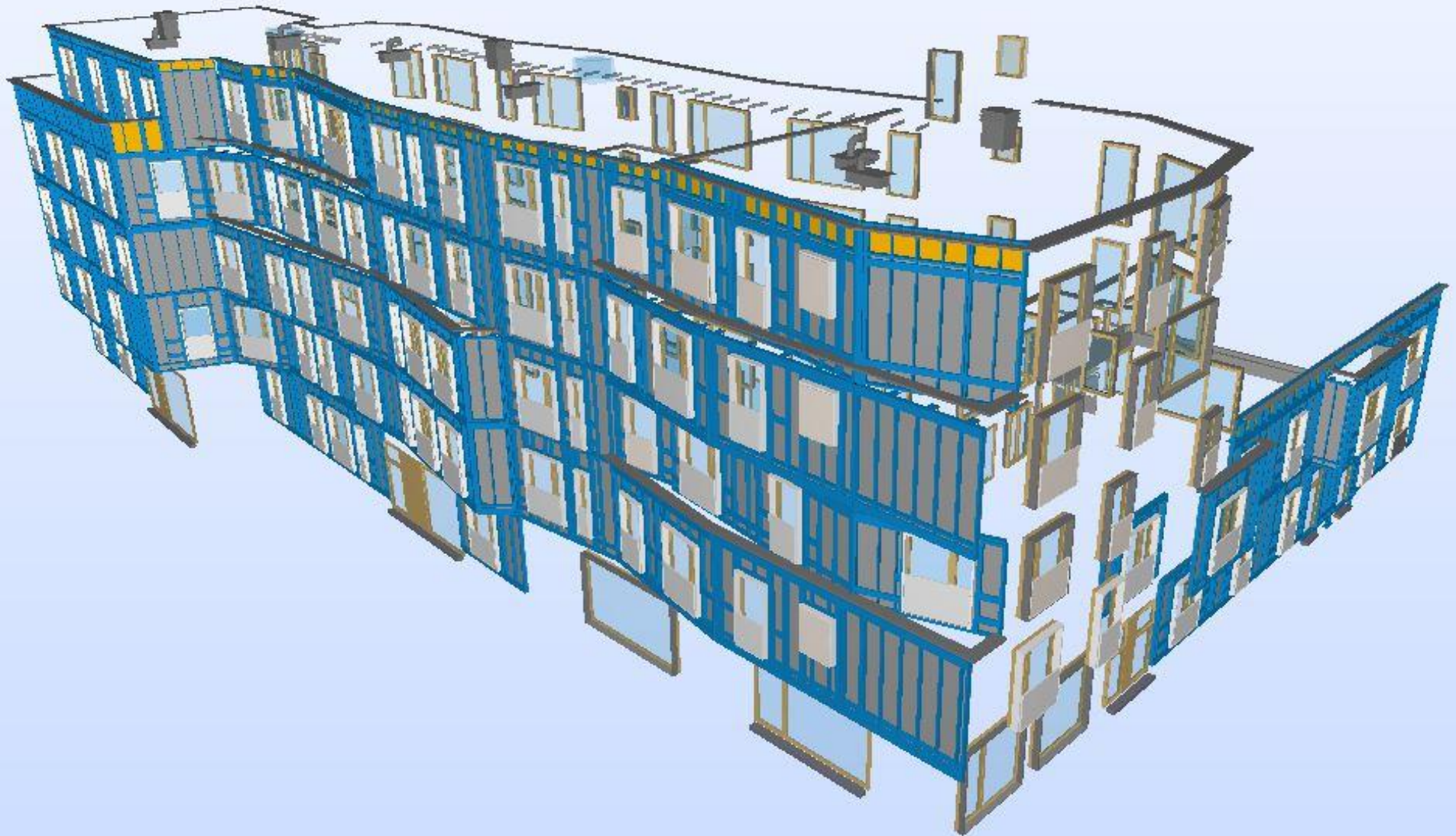
Vent-Axia

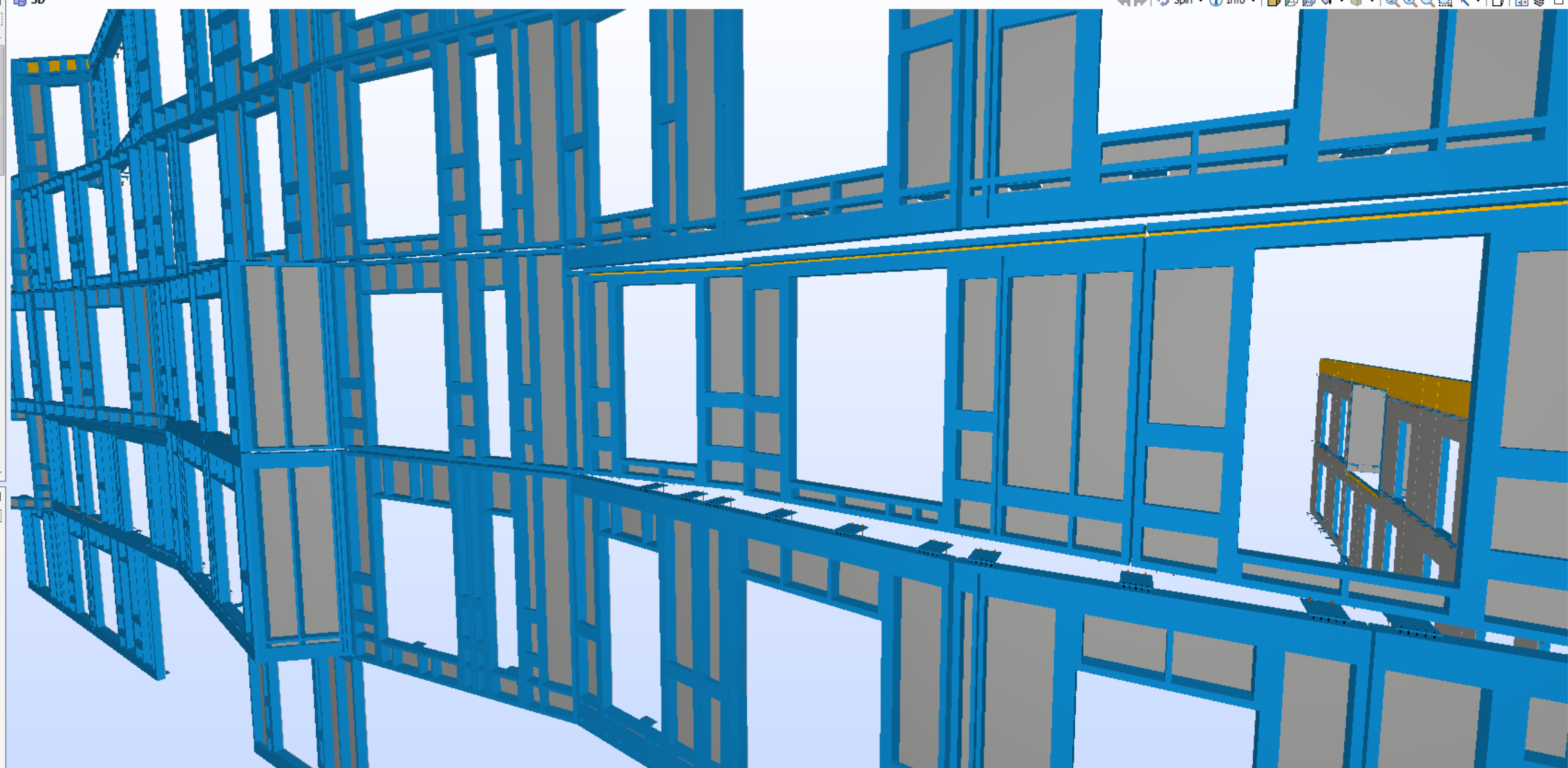
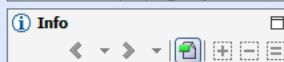
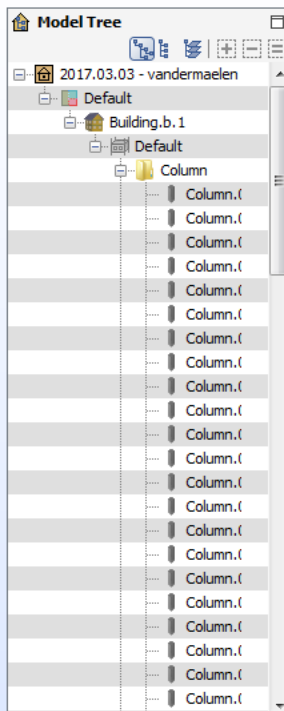
(C) Pipe.2.955

Type	Canalisat�on souple arrondie:Souple - Circulaire
Name	Canalisat�on souple arrondie:Souple - Circulaire:1753373

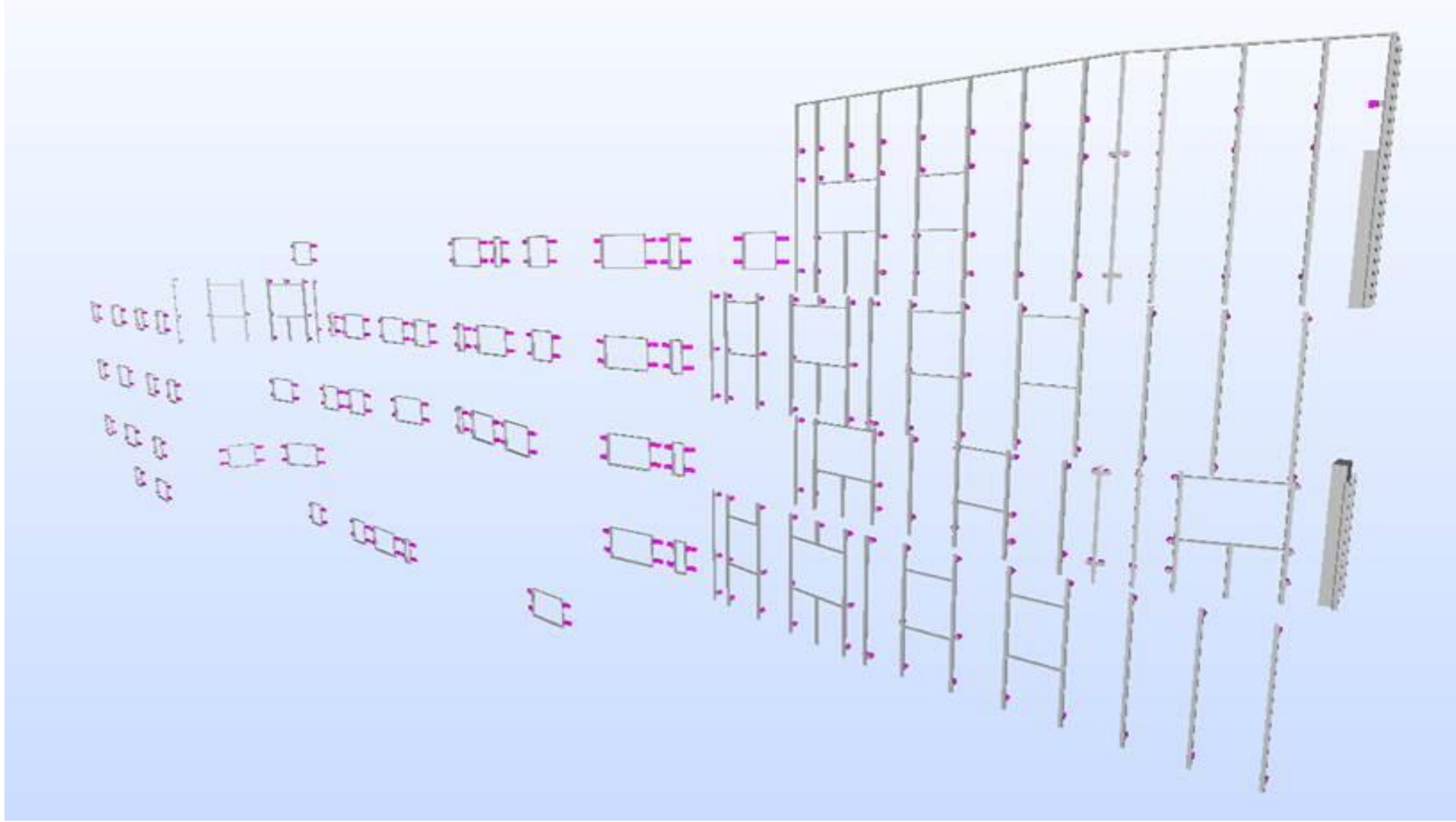
Information Takeoff						Takeoff All ▾	Spaces ▾					Report			
Floor	Space Usage	Total Area	Average Area	Count	Color										

[illegible]



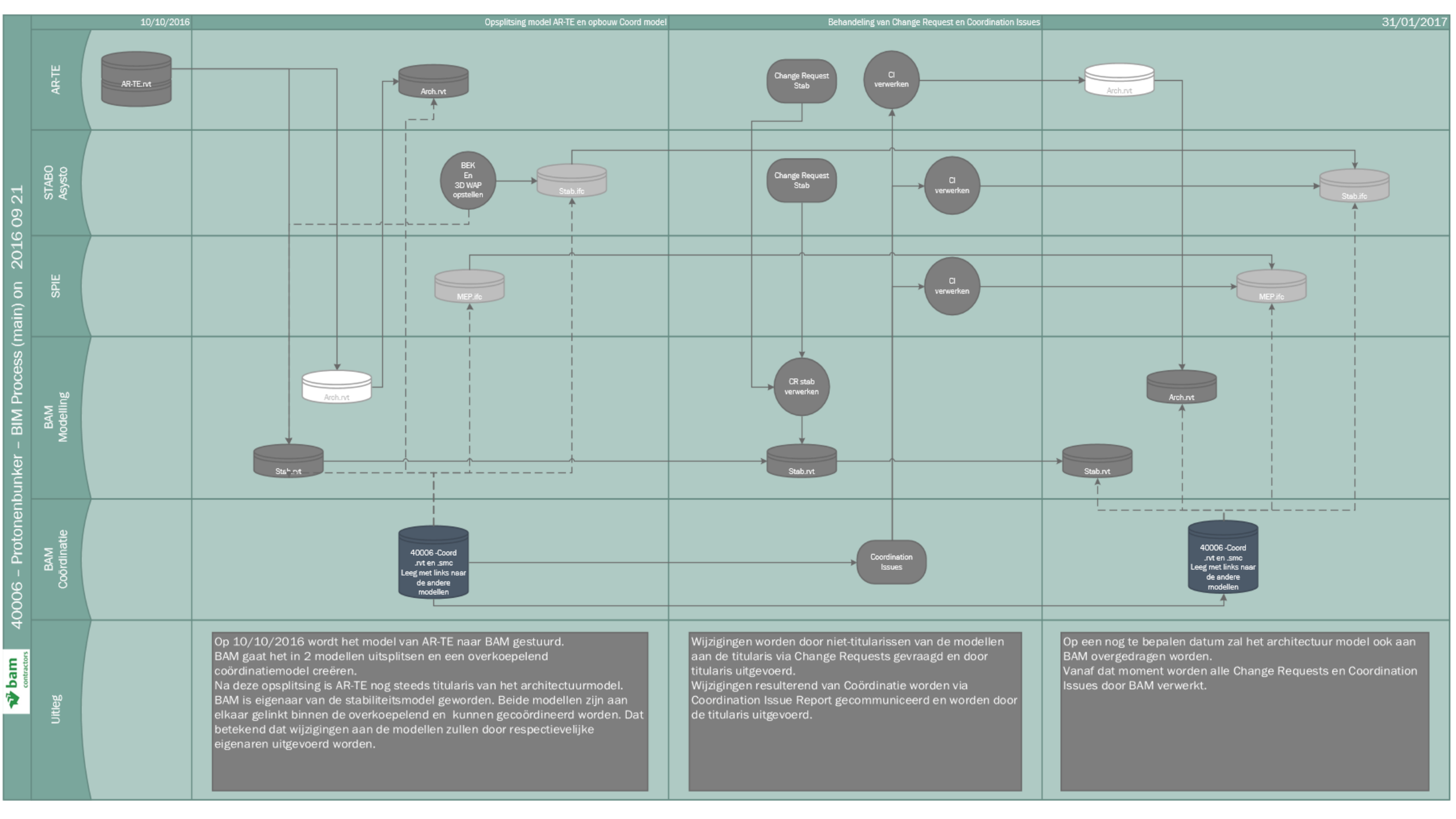


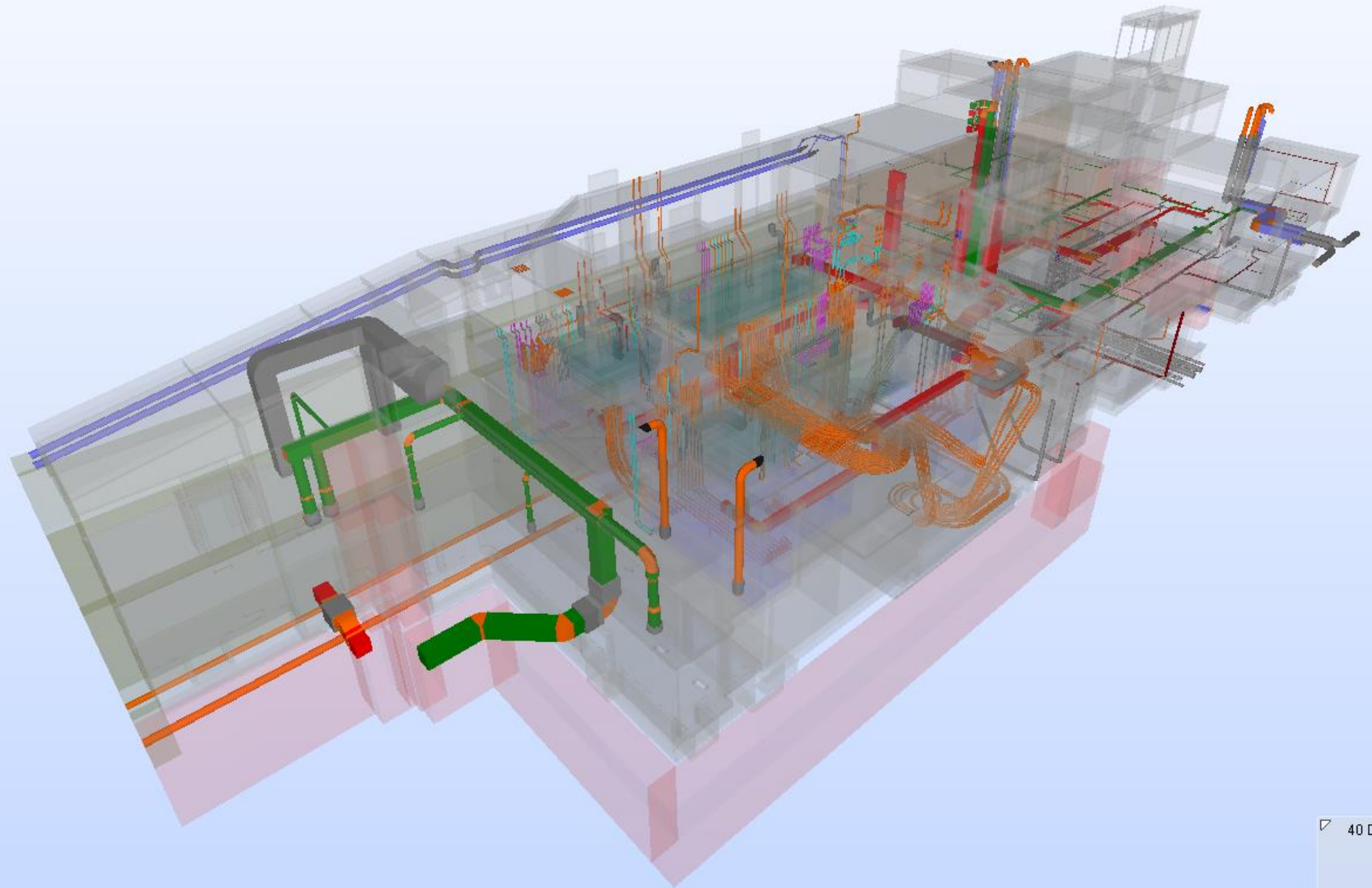
Information Takeoff						Takeoff All	Spaces						Report			
Floor	Space Usage	Total Area	Average Area	Count	Color											

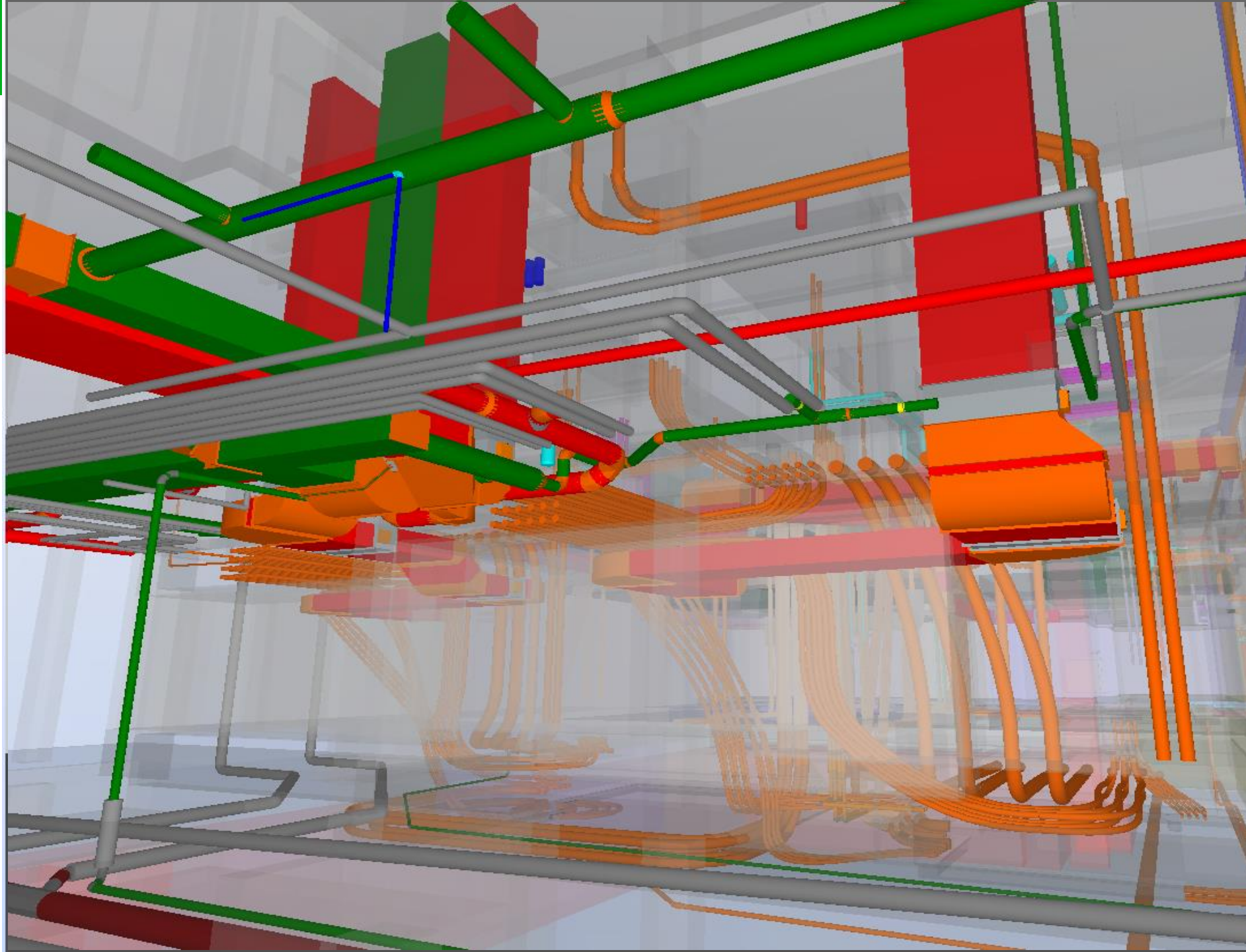


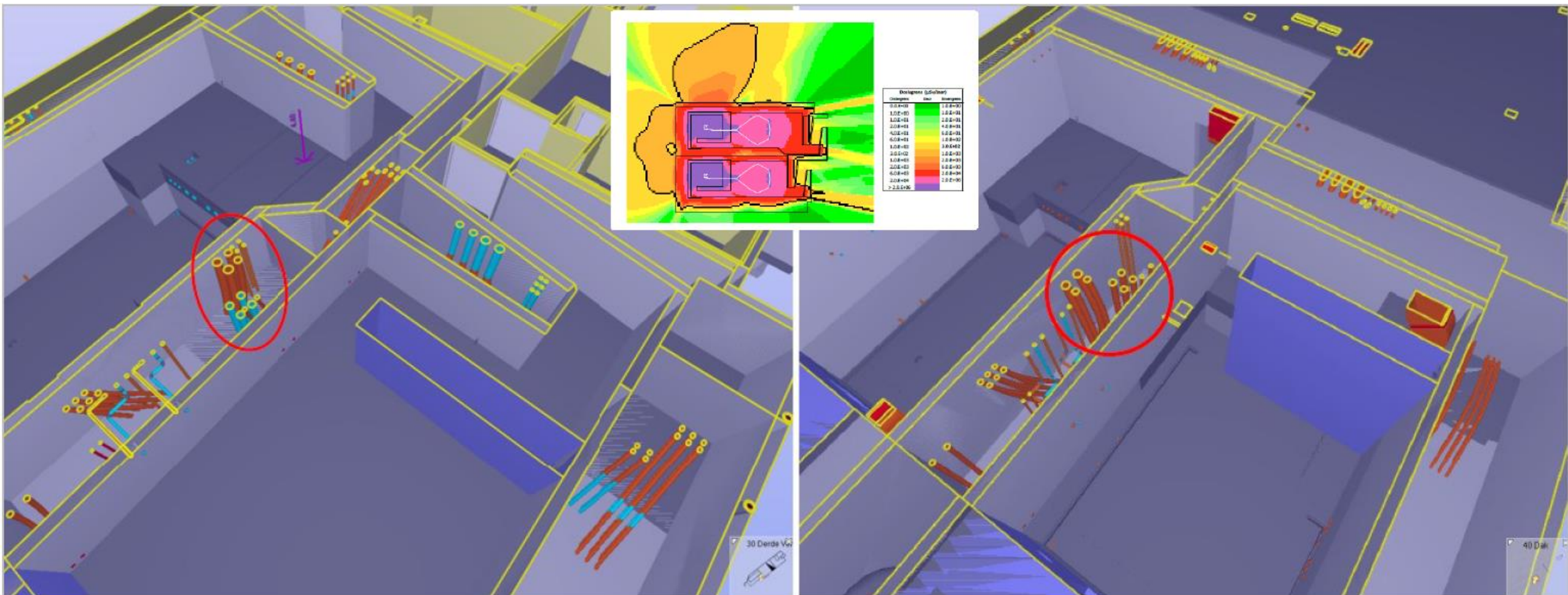
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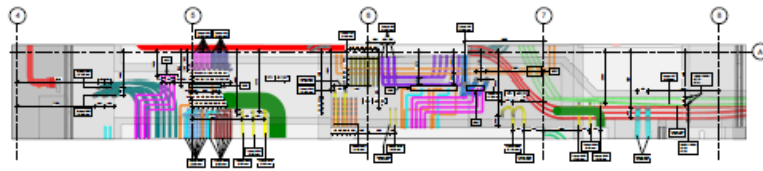




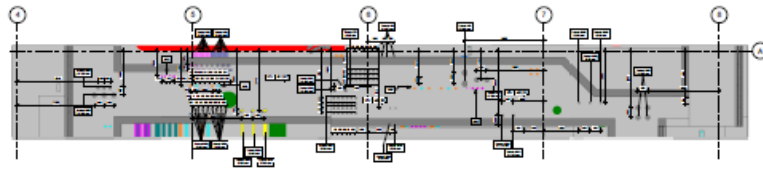




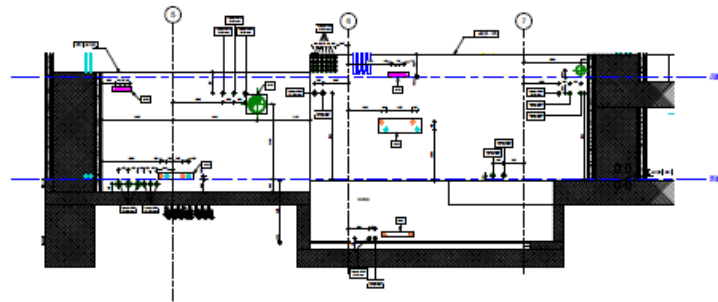




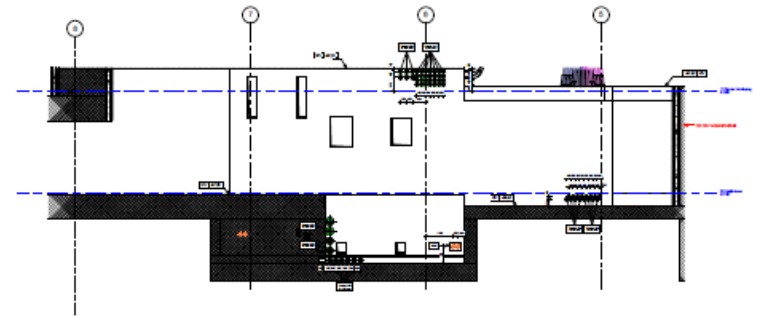
3D - Lokalisatie_01_vulbeton tussen W-00-03 en W-00-04



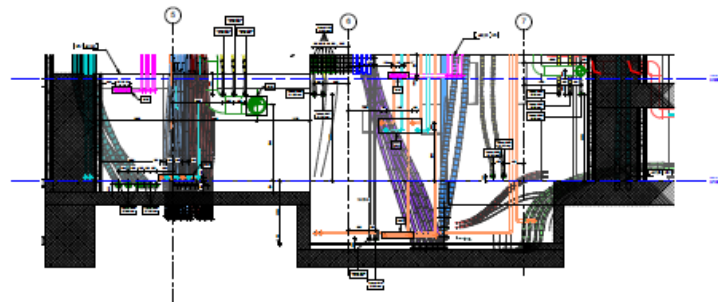
3D - Lokalisatie_01_vulbeton tussen W-00-03 en W-00-04



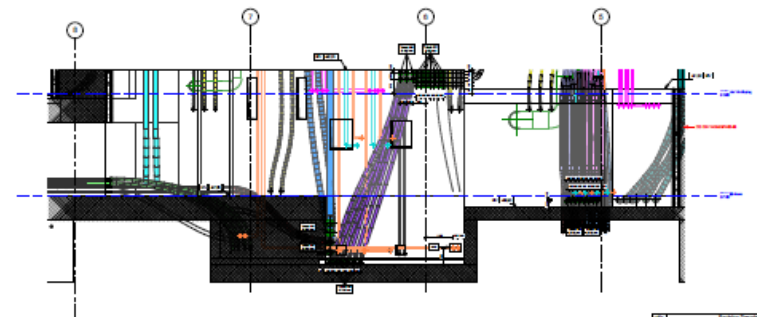
Snede 01 - Tracés tussen W-00-03 en W-00-04
1:50





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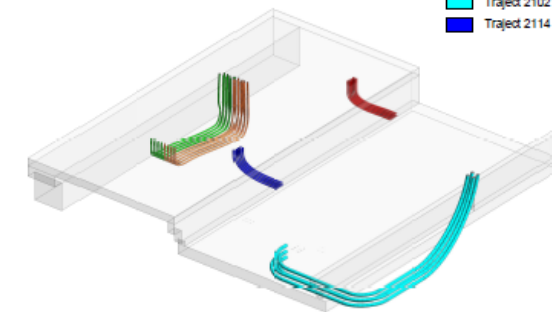
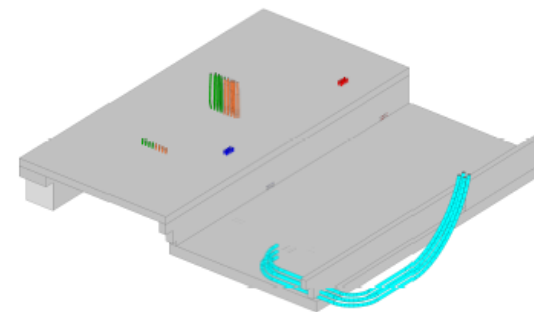
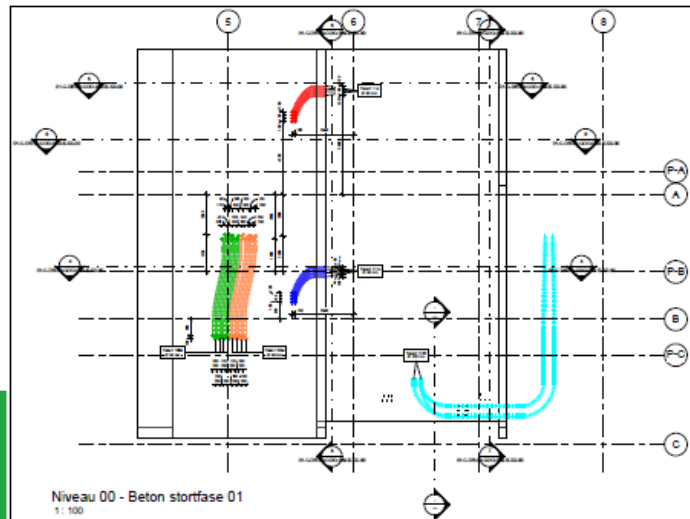
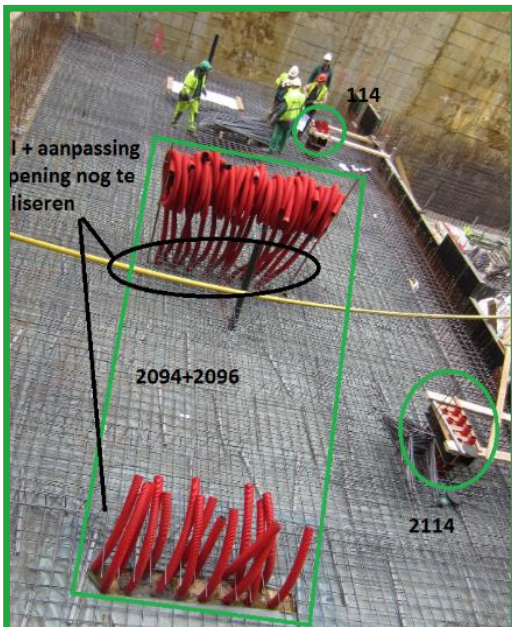


Snede 01 - Tracés tussen W-00-03 en W-00-04_transparant
1:50



Snede 02 - Tracés tussen W-00-03 en W-00-04_transparant
1:50

Projectgegevens		Blz.	1	van	1
Naam Project		 bam Bouwen aan de Maatschappij			
Project		U2 Leuven - protonenbunker			
Taal		Tracés tussen W-00-03 en W-00-04			
BAM		 bam Bouwen aan de Maatschappij			
Projectnummer		40006		SI-C-05-05-C00-040-5-02	

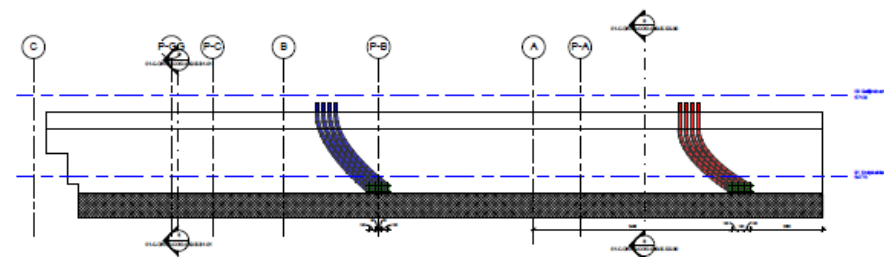
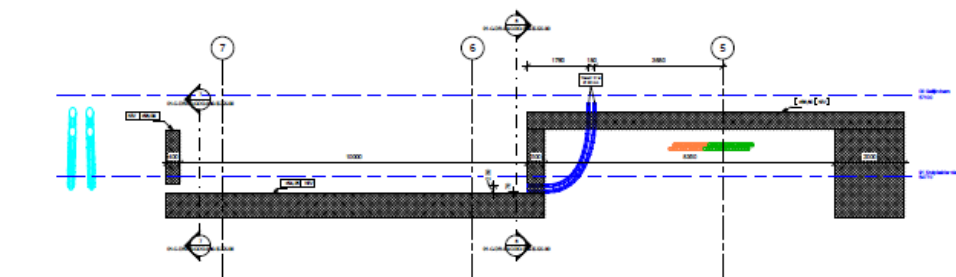


- Traject 114
- Traject 2094
- Traject 2096
- Traject 2102
- Traject 2114

Niveau 00 - Beton stortfase 01
1:100

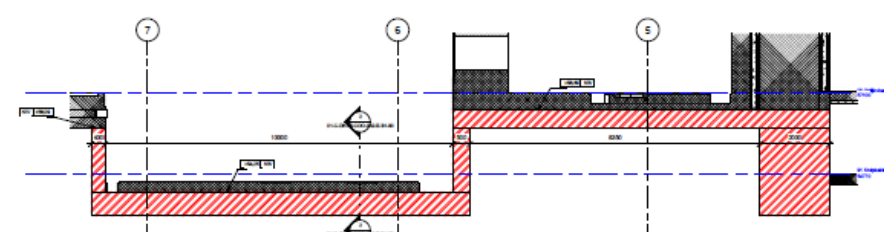
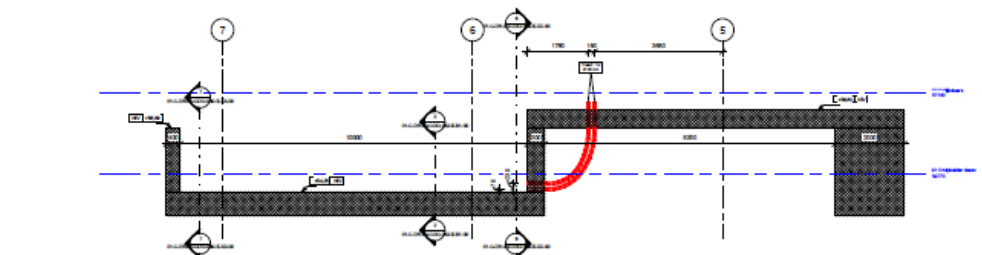
3D - Beton stortfase 01

3D - Beton stortfase 01



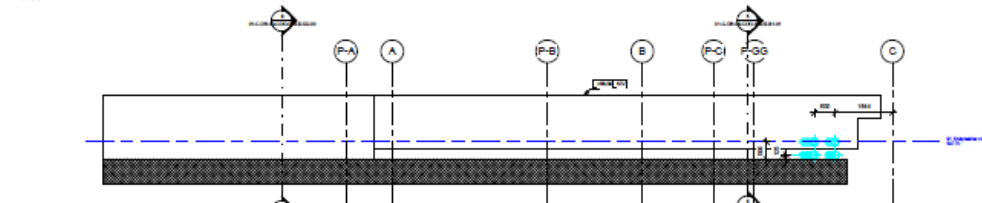
Niveau B1-00 - Beton stortfase 01 - section axe 7/5
1:50

Niveau B1-00 - Beton stortfase 01 - section axe C/P-A
1:50



Niveau B1-00 - Beton stortfase 01 - section axe 7/5
1:50

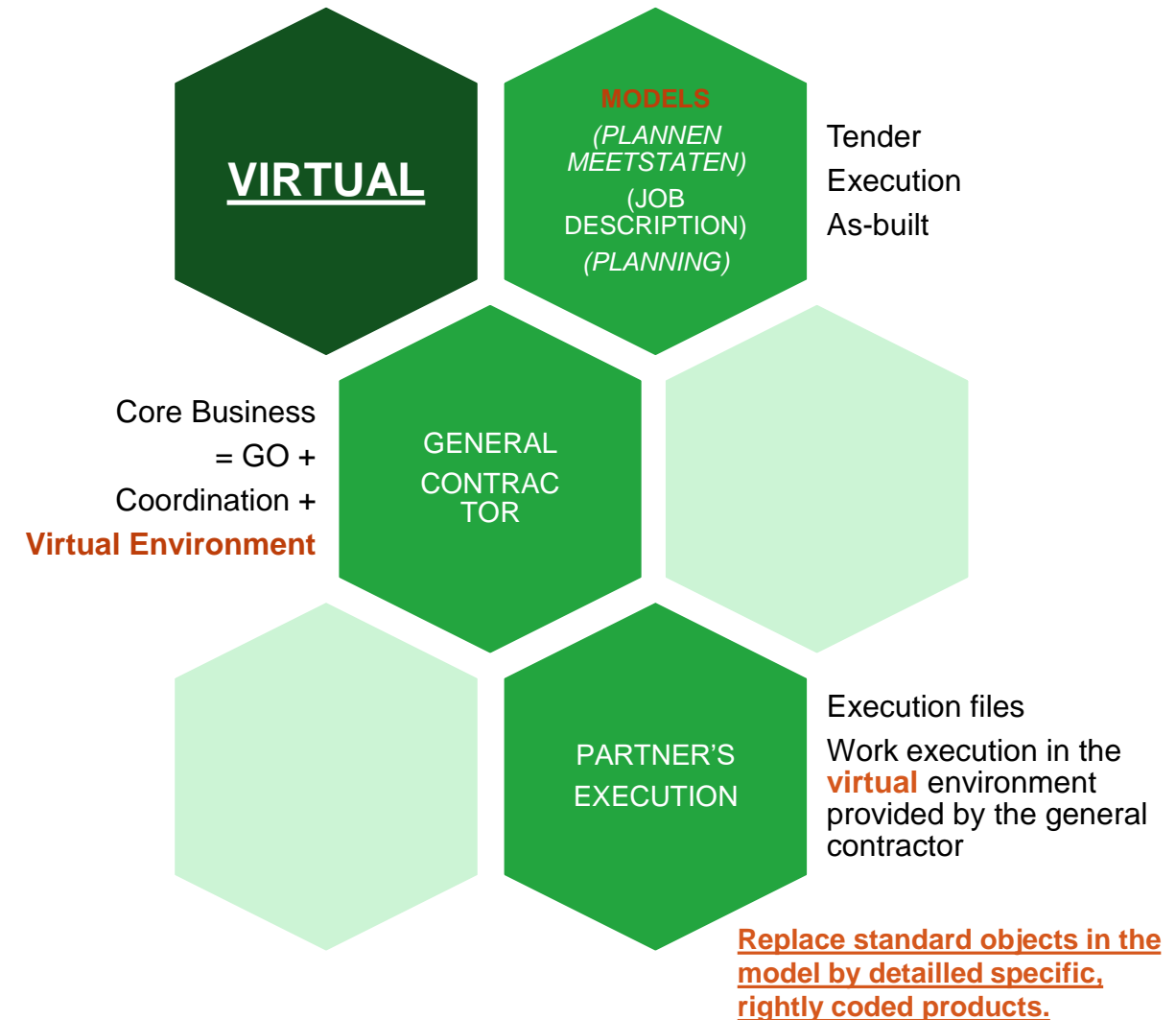
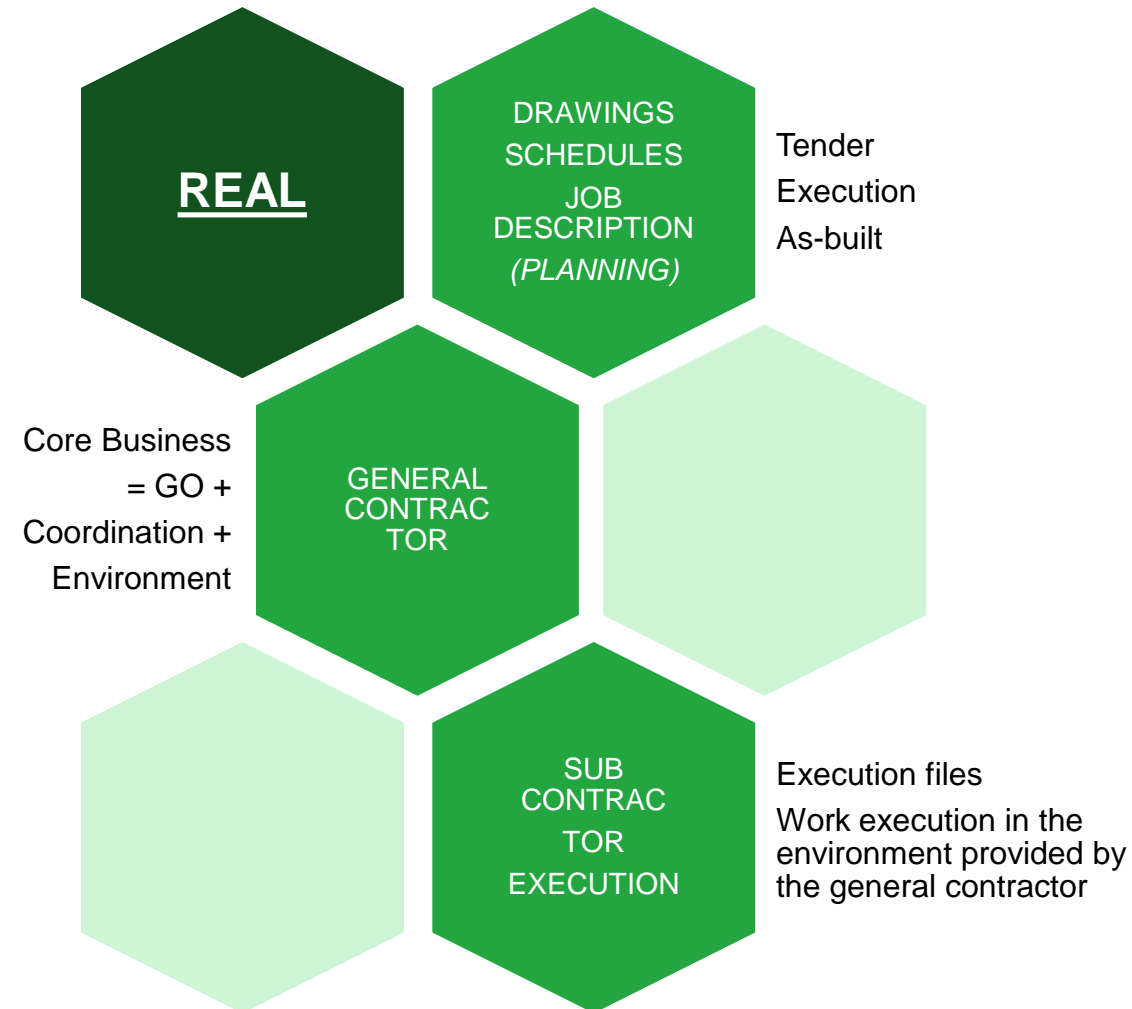
Niveau B1-00 - Beton stortfase 01 - section axe 7/5_overzicht
1:50



Niveau B1-00 - Beton stortfase 01 - section axe P-A/C
1:50

MSB	Revision	Autor	gepl.	datum
Naam d'aanvrager: bam Naam d'aanvrager: bam Naam d'aanvrager: bam				
project: UZ Leuven - protonenbunker				
Stortfase 01 - Overzicht				
bam Naam d'aanvrager: bam Naam d'aanvrager: bam				
		Code:	Project No:	
		40006		
01-C-DR-00-CDO-030-E-XX-00				

Conclusions



*Have faith in BIM ...
then miracles happen !*

Merci pour votre attention
Bedankt voor uw aandacht
Thank you for your attention
Danke für Ihre Aufmerksamkeit



Questions, reactions , good ideas, suggestions, reflexions,...

Mail to Robin.Collard@bamcontractors.be

Join my LinkedIn network <https://be.linkedin.com/in/robincollard210115>