



BIM: /bɪm/ Building Information Modelling

Equity: /'ɛkwɪti/ Value



drift

bygbarhed

kvalitetssikring

vedligehold



RÅDGIVNING

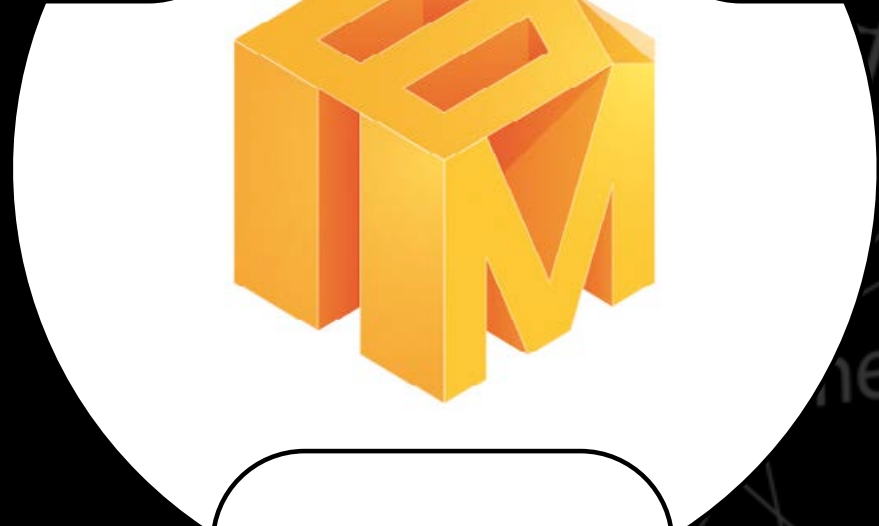
SERVICES



koordinering



IKT-krav



digitalisering



BIM-manual



TEKNOLOGI

opmåling



OpenBIM



IFC

BIMEQUITY

RÅDGIVNING

SERVICES

TEKNOLOGI

KUBUS

Abvent

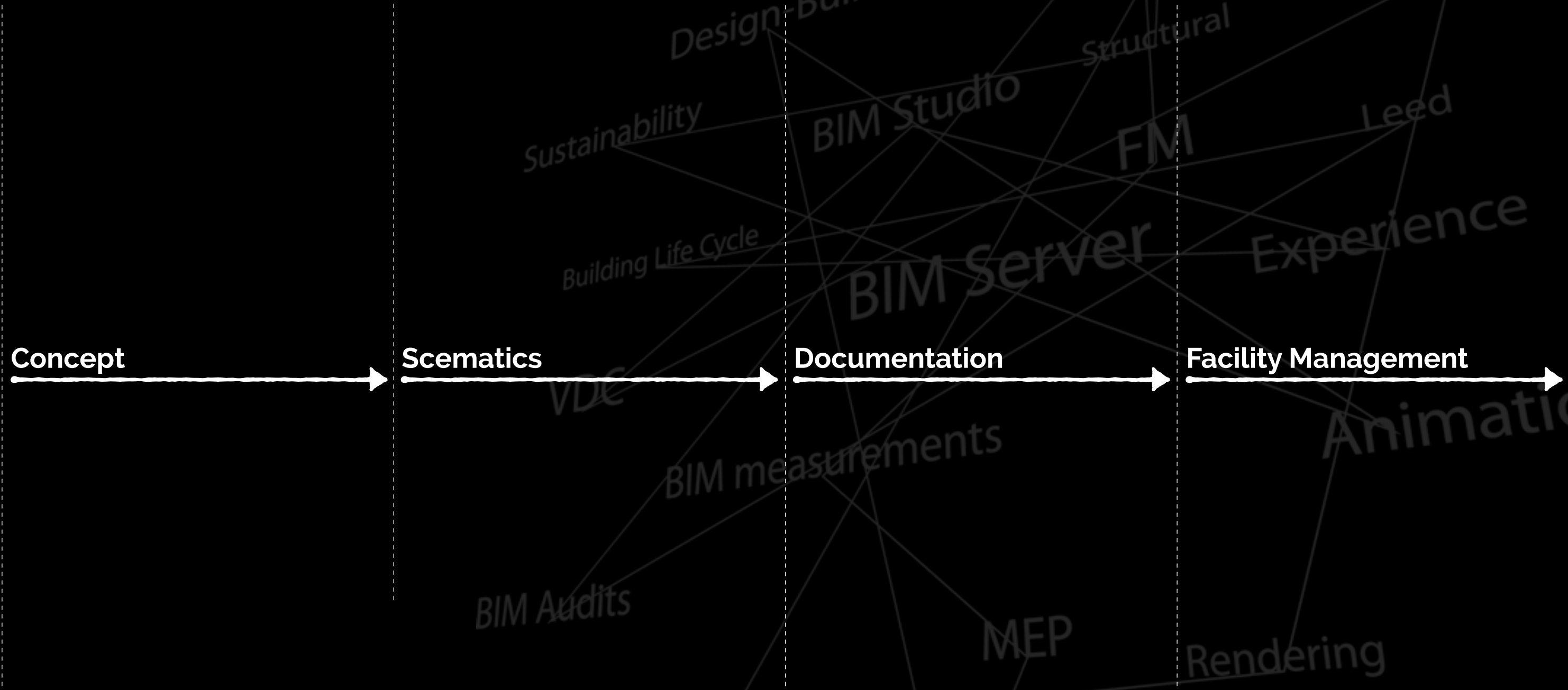


Concept

Scematics

Documentation

Facility Management





BIM Workflow Guide



Create
Shape
Visualize

Detail
Measure
Evaluate

Exchange
Coordinate
Build

Manage

ICT-consultancy

BIMhub

OpenBIM Lab

OpenBIM Studio

BIMhub

PROJECT OWNER

ARCHITECT

ENGINEER

CONTRACTOR

FACILITY MANAGER

BUILDING OWNER

Concept

Scematics

Documentation

Facility Management

Program

Competition

Idea

Scetchina

Contracts

Survevina

Visualizatina

Presentatio

Detailina

Worksharing

Enerav evaluation

User envolvment

Exchange

Coordination

Calculation

Issues

Quality control

As Built

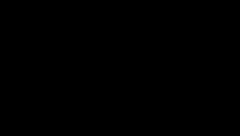
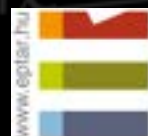
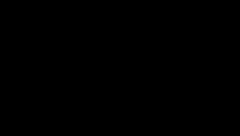
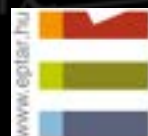
Collect FM data

Asset manaaent

Renewal

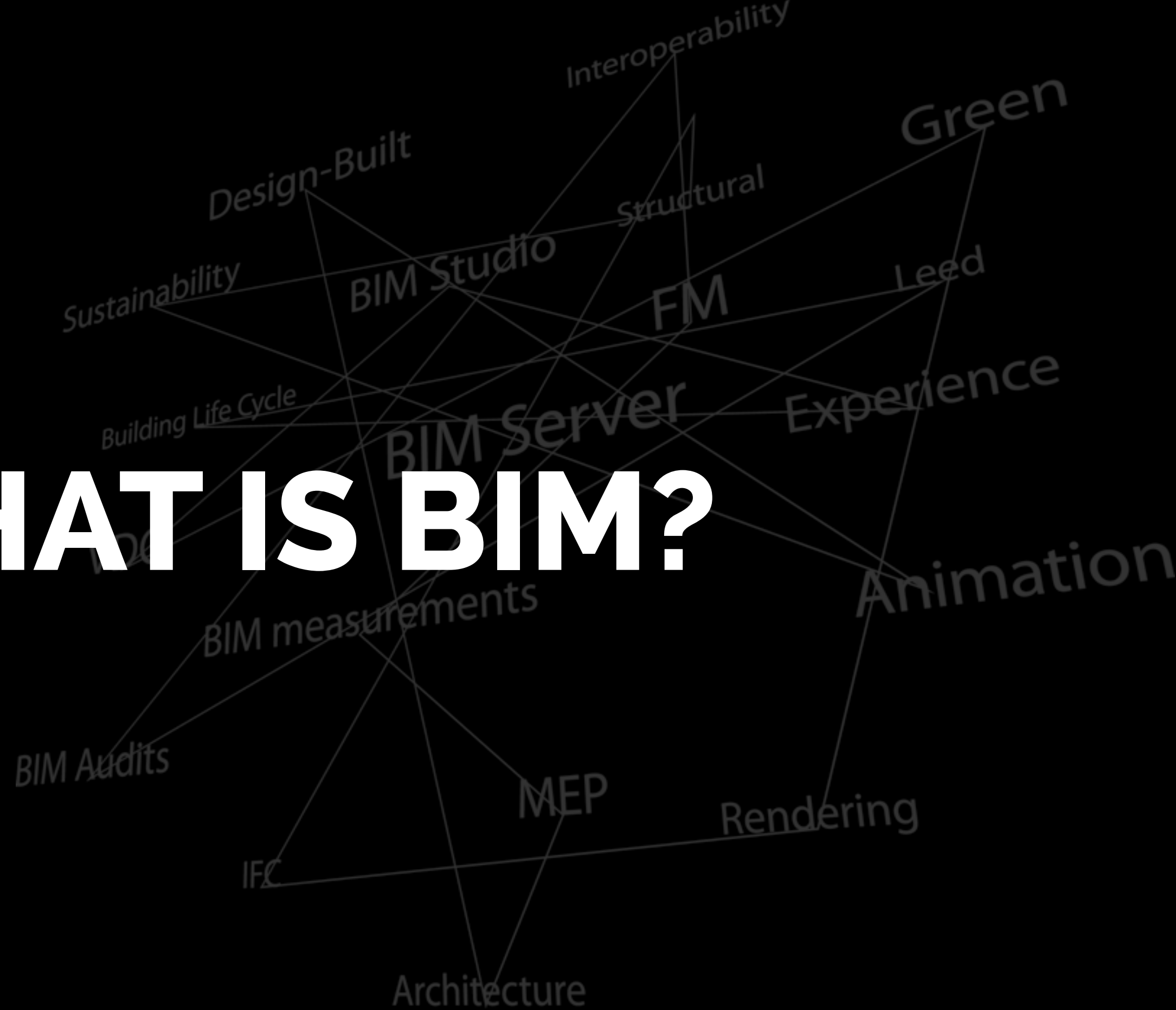
Maintanance

Reuse





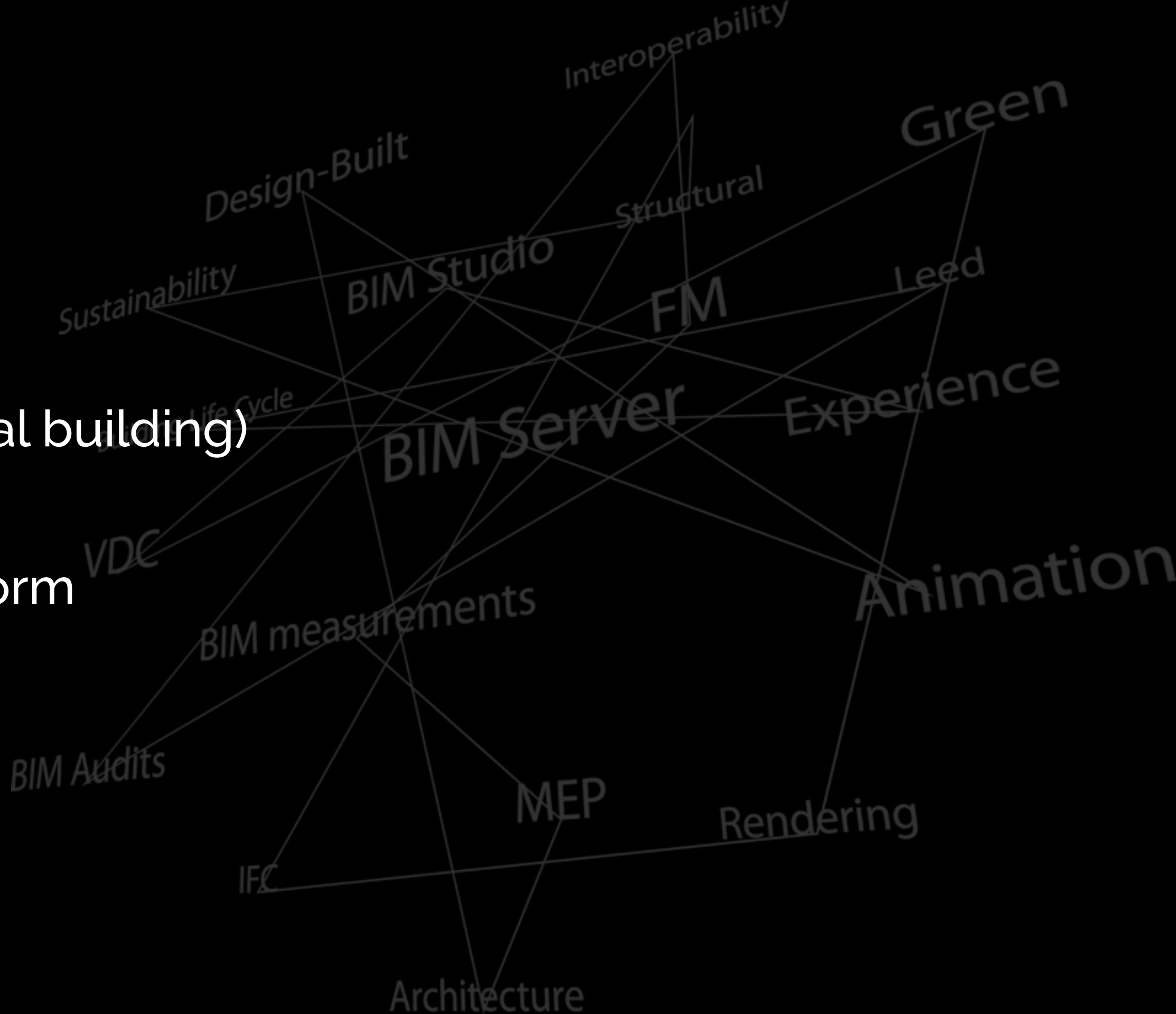
WHAT IS BIM?





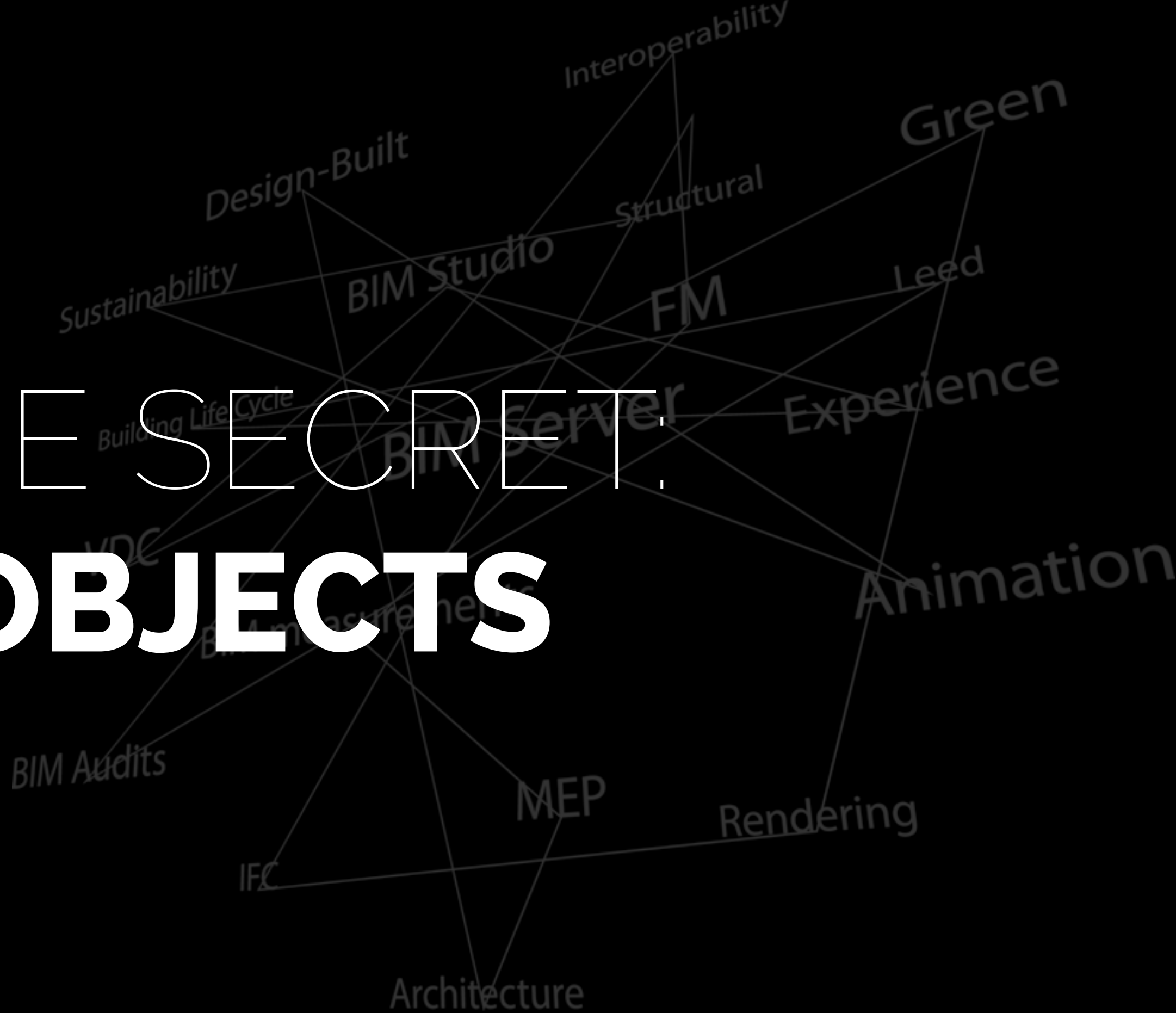
DEFINITION: BIM

- Tool
- Prototype (virtual building)
- Data storage
- Exchange platform





THE SECRET: **OBJECTS**





Window Default Settings

Embedded Library

Linked Libraries

- ArchiCAD 18 Dansk Bibliotek v1.lcf
- ArchiCAD Library 19
 - 1.2 Doors 19
 - 1.3 Windows 19
 - Basic Windows 19
 - Bay and Bow Windows 19
 - Empty Window Openings 19
 - Historic Windows 19
 - Single Double Hung Windows 19
 - Sliding Windows 19
 - Special Windows 19
 - Storefronts 19
 - 1.4 Building Structures 19
- BIMcloud / BIM Server Libraries
- Built-in Libraries

Basic Windows 19

- Double Sash Window 19
- Double Window 19
- Horizontal Multi-Sash Wi...
- Triple Window 19
- Triple Window with Middle Tr...
- Triple Window with Side Tra...
- Variable Double Sash Window...
- Variable Window 19
- Vertical Multi-Sash Window...
- Window 19
- Window with Sidelight 19

Empty Opening

Favorites... Default

Preview and Positioning

Window 19

900

1500

Anchors:

Sill to Story 0

1000

Reveal to Wall Face

100

Flip

Basic Window Settings

Nominal Sizes and Tolerance...

Set As Nominal	Width	Height
<input checked="" type="radio"/> 1. Wallhole Dimensions	900	1500
<input type="radio"/> 2. Reveal Dimensions	900	1500
<input type="radio"/> 3. Unit Dimensions	900	1500

Transfer Current Nominal Size to Selection

0

0

0

1 2 3

0

0

1 2 3

0

Floor Plan and Section

Dimension Marker

Marker Custom Settings

Tags and Categories

Cancel OK



Window Default Settings

Default

Preview and Positioning

Window 19

900

1500

Anchors: Sill to Story 0

1000

Reveal to Wall Face

100

Flip

Basic Window Settings

Wall Closure...

Closure Type: Traditional Cavity Closure

Traditional Cavity Closure

Turn Skin on Side: Both

Number of Skins to Turn: 1

Number from: Outside F...

Insulation Strip

Plaster Skin Definition

Use Wall Finish Component

Thickness Limit: 40

Turn Plaster

Show in 3D

Outside Face: Automatically

Number of Skins to Turn: 0

Inside Face: Automatically

Number of Skins to Turn: 0

Note: Plaster is turned outside the wall contour defined in the reveal settings

Floor Plan and Section

Dimension Marker

Marker Custom Settings

Tags and Categories

Cancel OK

Library Structure:

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- Linked Libraries
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- Variable Window 19
- Vertical Multi-Sash Window...
- Window 19
- Window with Sidelight 19

Empty Opening



Window Selection Settings

Selected: 2 Editable: 2

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- ArchiCAD Library 19
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- Triple Window with Side Tra...
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- Variable Window 19
- Vertical Multi-Sash Window...
- Empty Opening

Preview and Positioning

Window 19

900 1500

Anchors: Sill to Story 0 1000

Reveal to Wall Face 260

Flip

Basic Window Settings

Masonry Arch...

Masonry Arch

Masonry Straight Arch

Rise 30

Skewback Angle 75.00°

Type Stucco Arch

Brick Thickness 65

Mortar Thickness 10

Keystone

Width 100

Oversize 0

Projection 10

120 0

250 0

Arch on Header

Niche below Arch

0 0

Floor Plan and Section

Dimension Marker

Marker Custom Settings

Tags and Categories

Cancel OK

Ability
Green
Natural
Lead
Experience
Animation
Rendering



Window Selection Settings

Selected: 2 Editable: 2

Favorites...

Preview and Positioning

Basic Window Settings

Descriptions...

Window belongs to the Zone...	<input type="checkbox"/>
Cost	0,00
Manufacturer	
Note/Remarks	
Location	
Accessories	
Glazing	
Header Detail	
Jamb Detail	
Sill Detail	
Hardware Set	
Operation Type	
Finish	
Elevation	
Hinges	
Lockset	
Override Glazed Area	<input type="checkbox"/>
Total Glazed Area	0,90
Total Glass Perimeter	0,00
U-value	
Fire Rating	
Ventilation	
Acoustic Rating	
Group Type	Default Objects
Inventory No.	
Serial No.	
Production Year	
Object Weight	0,00
Object Weight Unit	kg
User Defined 1	
User Defined 2	
User Defined 3	

Floor Plan and Section

Dimension Marker

Marker Custom Settings

Tags and Categories

Cancel OK

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BIMcloud / BIM Server Libraries

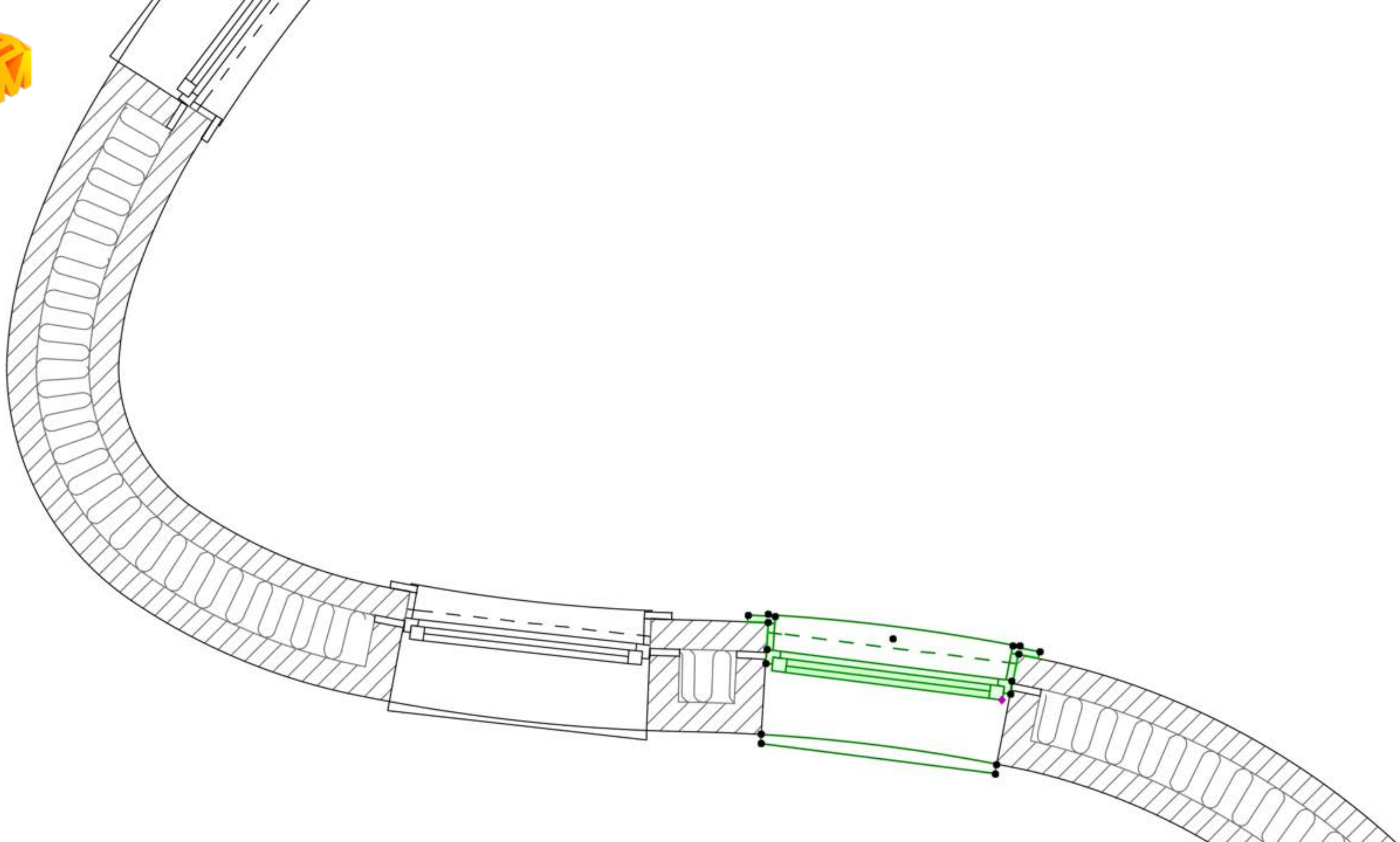
Built-in Libraries

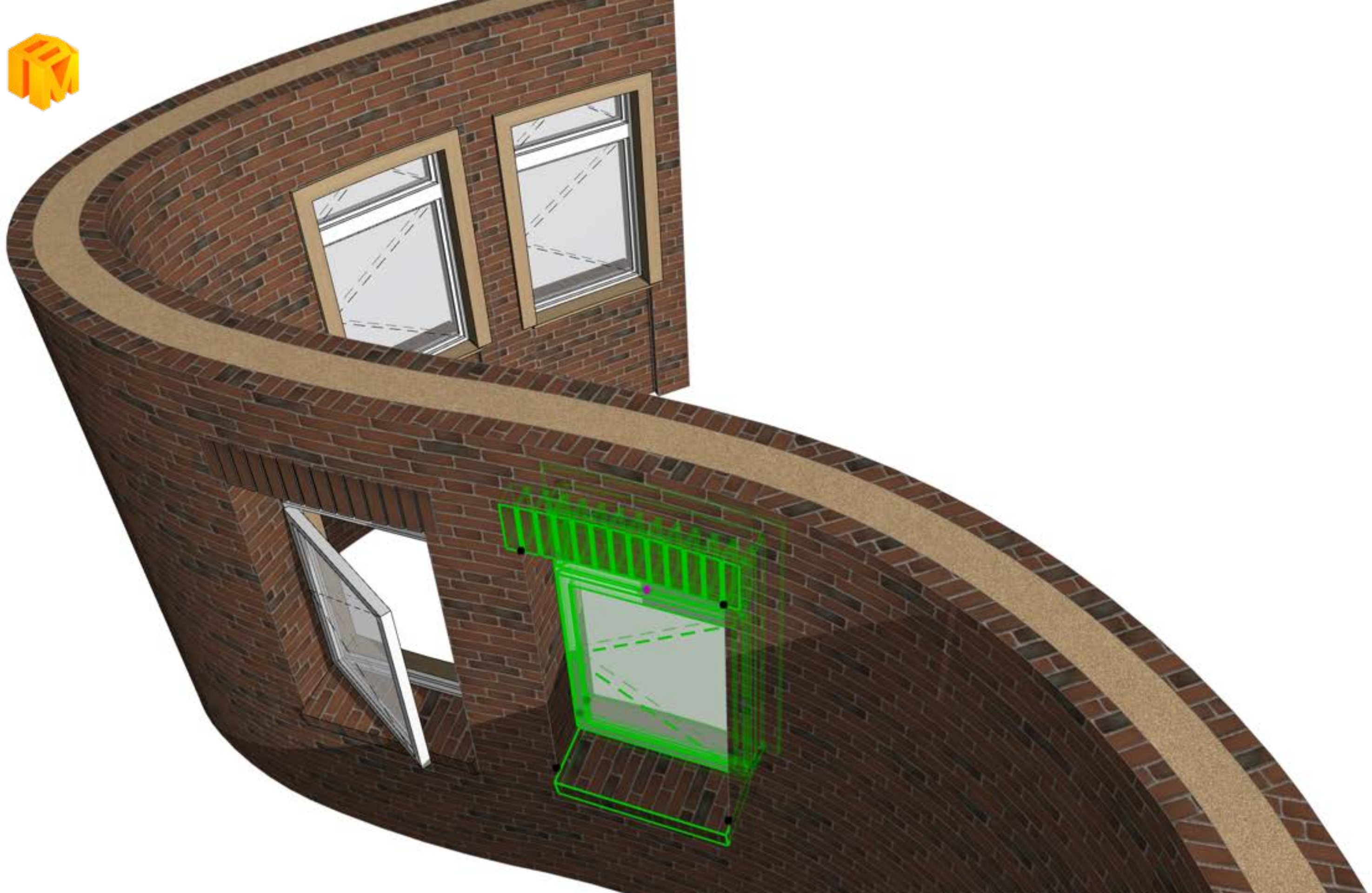
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Empty Opening

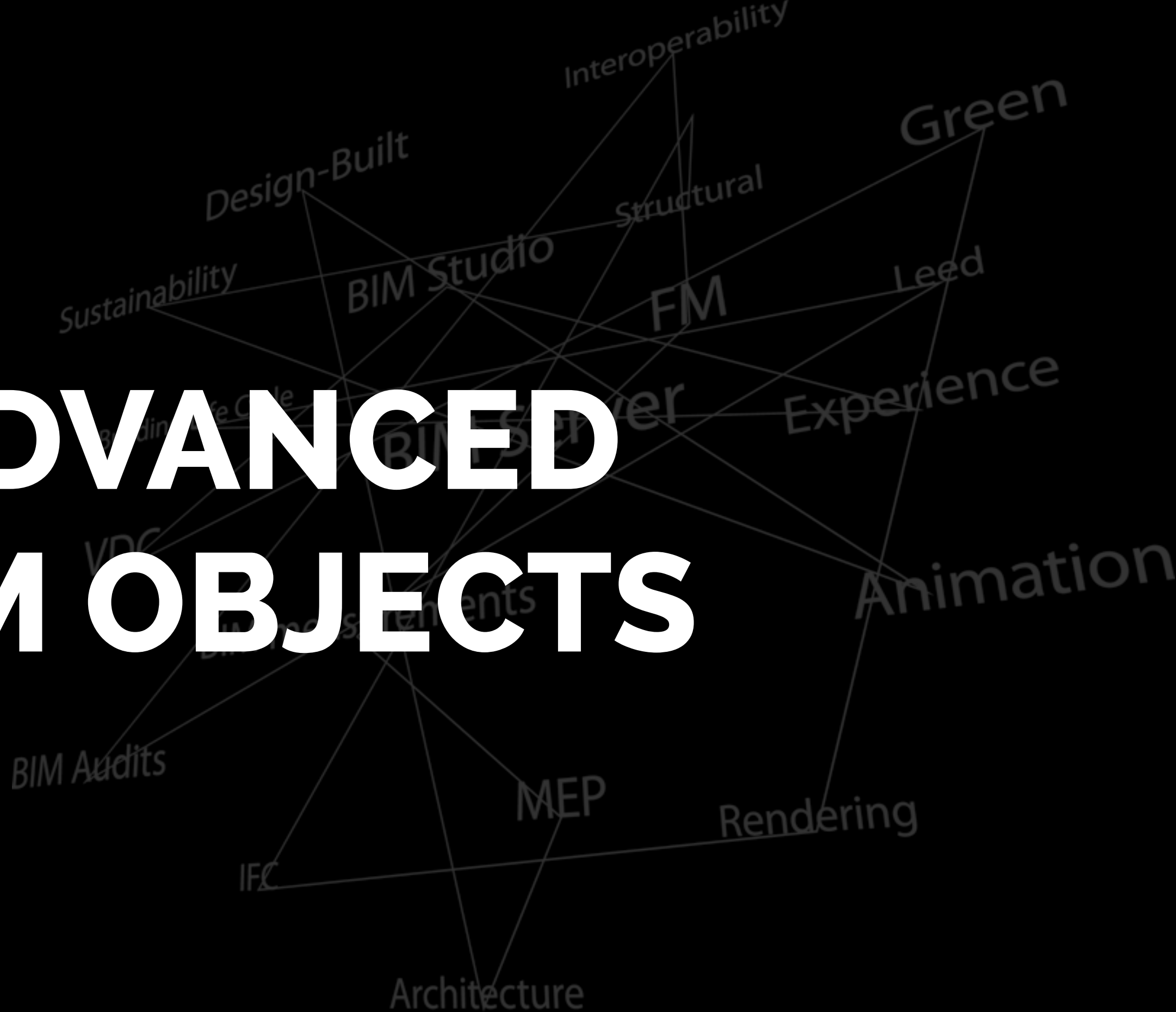
DATA FOR FACILITY MANAGEMENT







ADVANCED BIM OBJECTS





MODULBAD



Access
Produktinformation:
Parametre
Priser
Textures

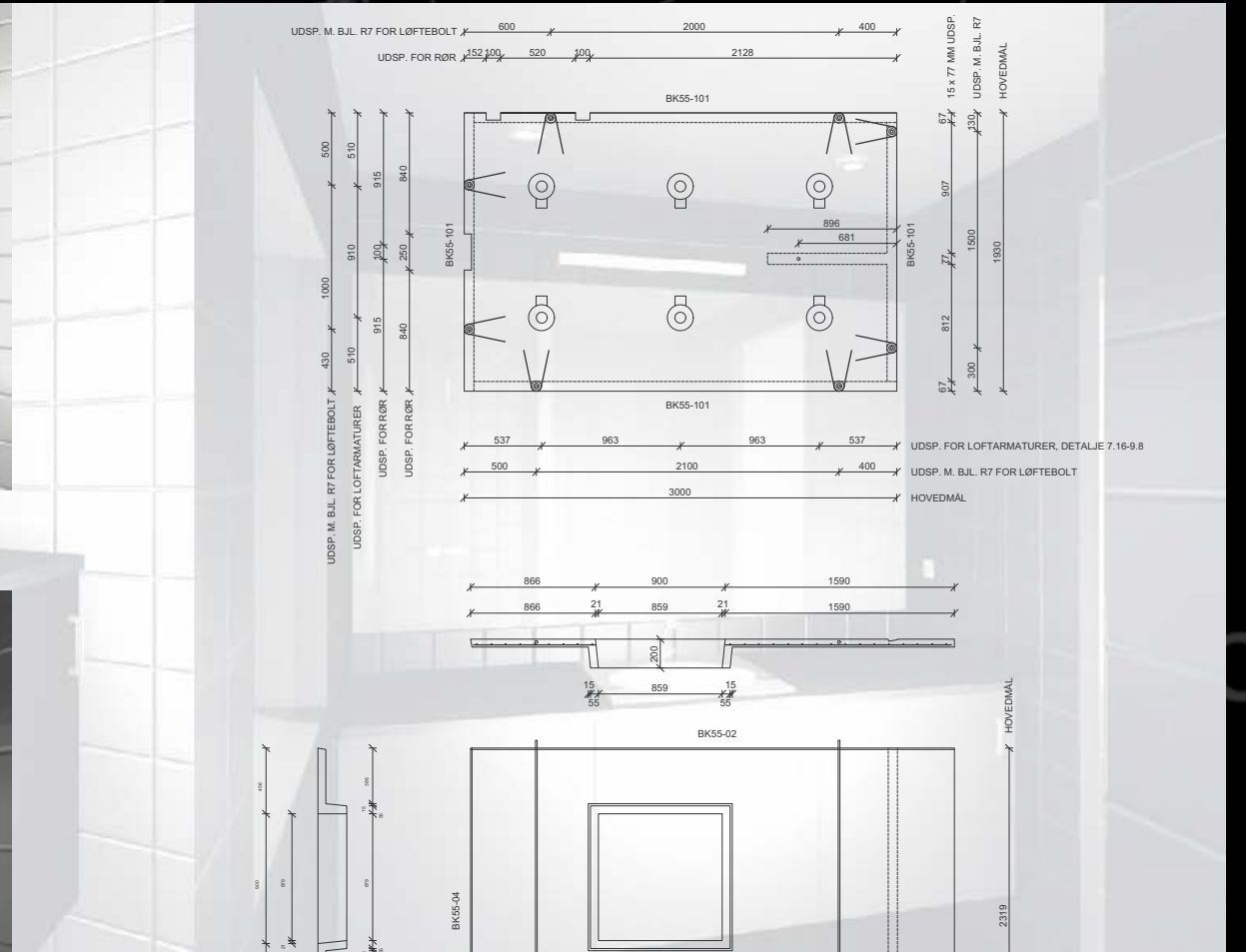
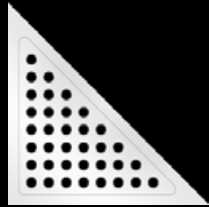
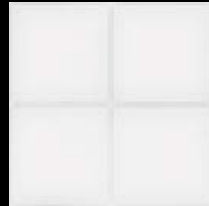


Interoperability

Green

Design-Build

Structural



Excel
Stykliste/
Prislister



Word
Ydelsesspecifikation

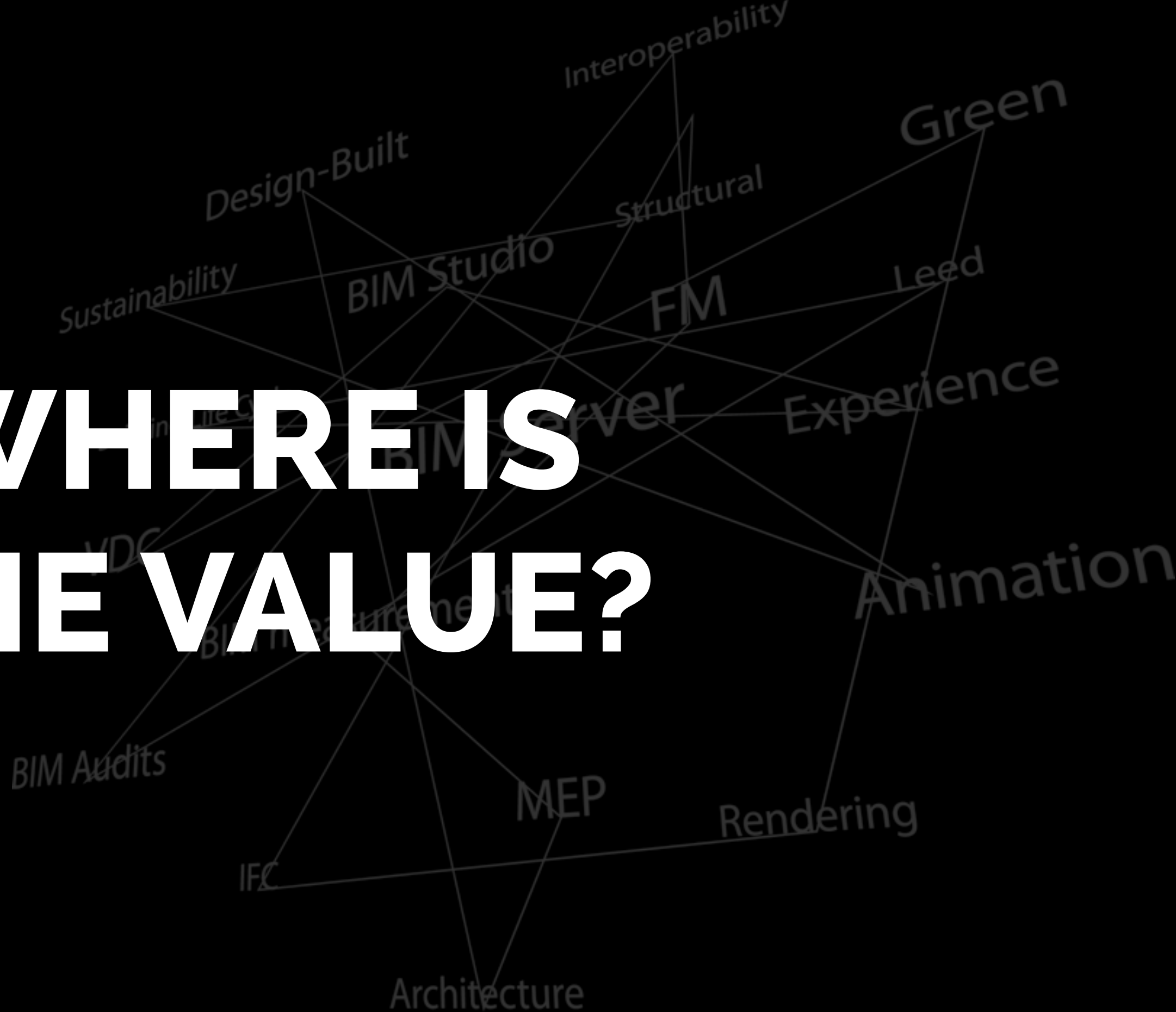
MEP

Rendering

Architecture



WHERE IS THE VALUE?





BIM FOR CONSULTANTS

- Efficiency
- 3D vizualisation
- Quality

1%

Total building expenses



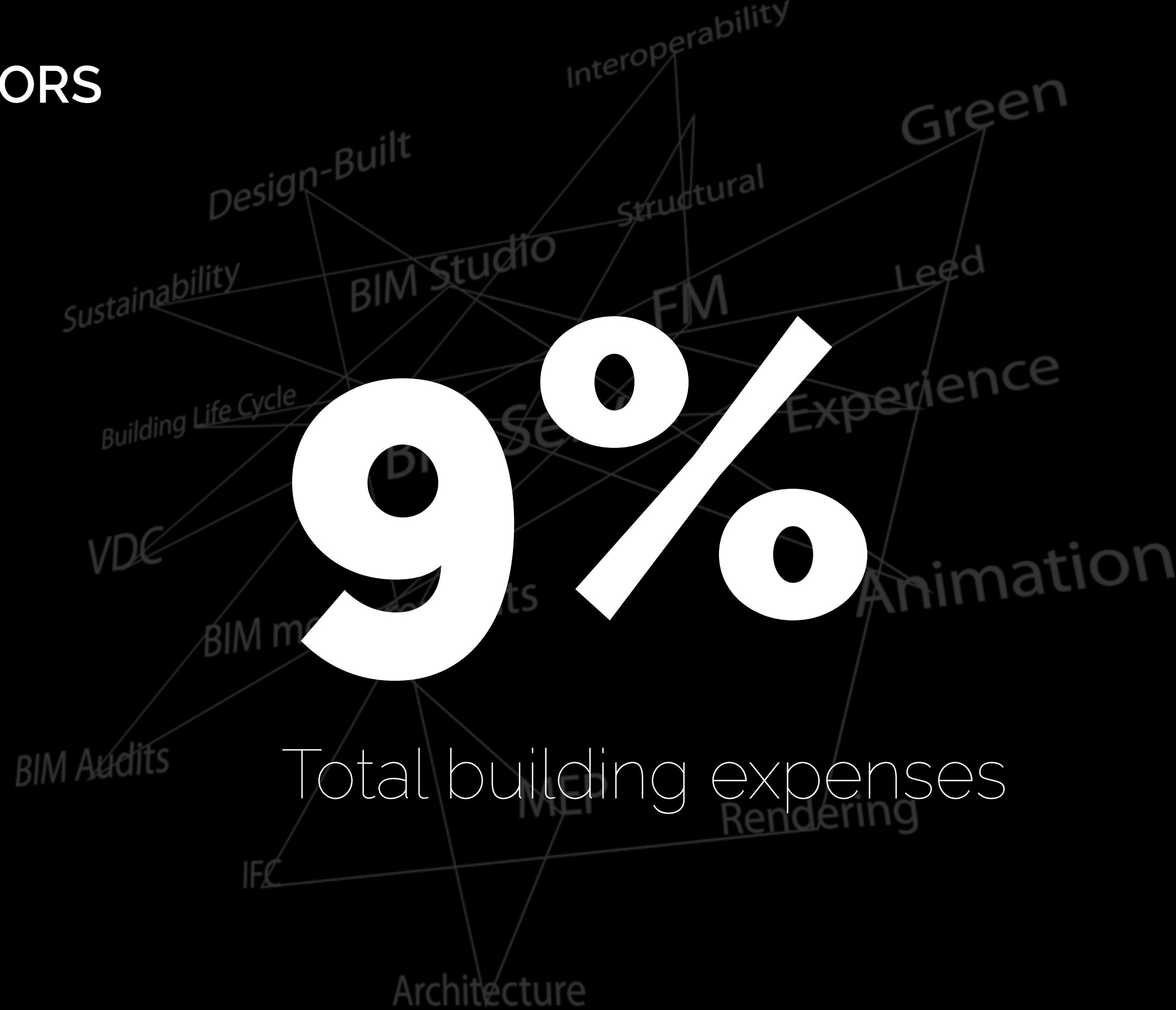


BIM FOR CONTRACTORS

- Quality
- Quantities
- Planning
- Estimation

9%

Total building expenses



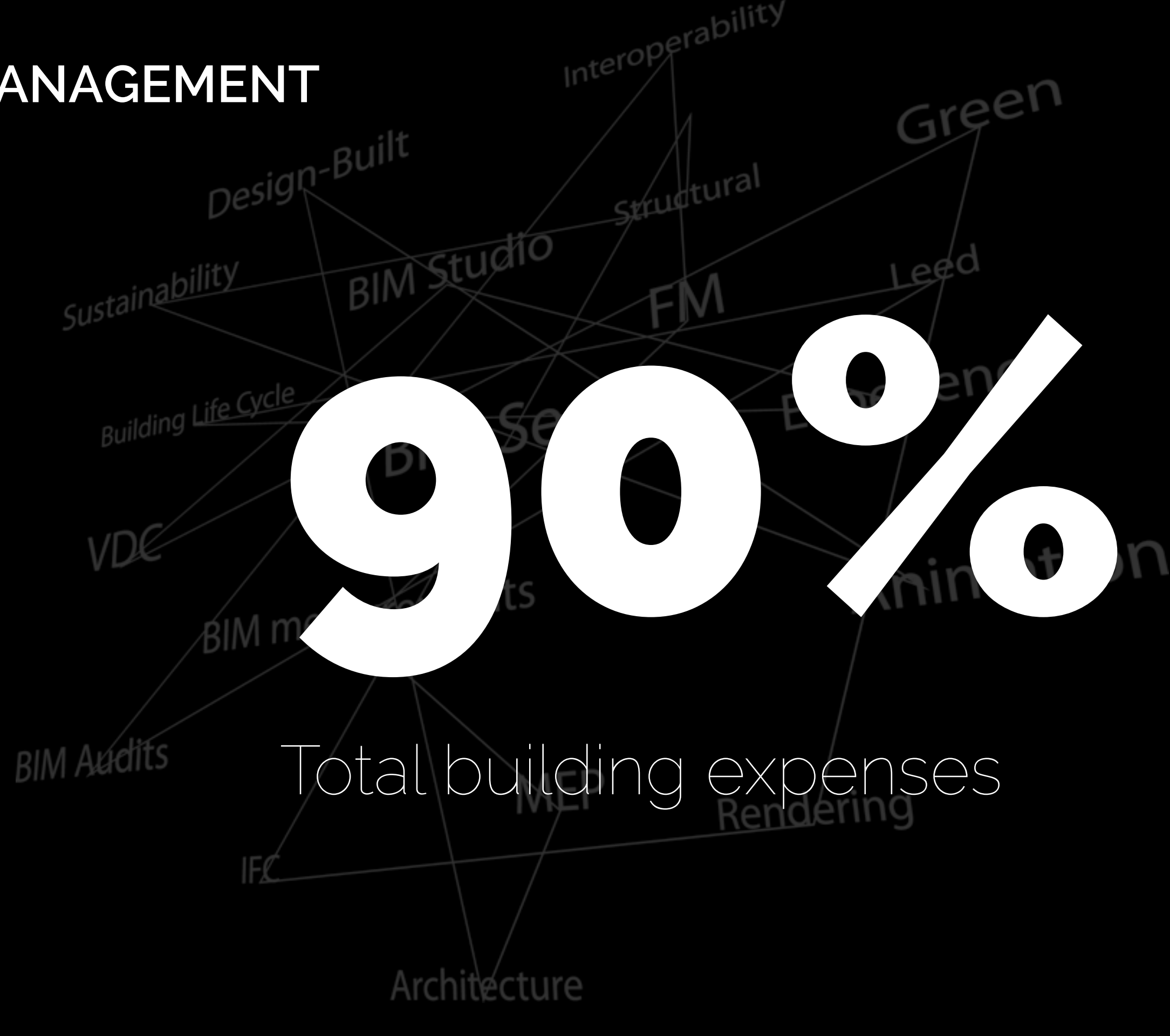


BIM FOR FACILITY MANAGEMENT

- Quantities
- Knowledge
- Better buildings
- Happy users

90%

Total building expenses





DANISH ICT SPECIFICATIONS

APRIL 1ST 2013

BIM Audits

IFC

Architecture

MEP

Rendering

Animation

Experience

Lead

Green

Structural

FM

Interoperability

Design-Built

BIM Studio

BIM Server

Sustainability

Building Life Cycle

BIM measurements



Bekendtgørelse om anvendelse af informations- og kommunikationsteknologi (IKT) i alment byggeri

I medfør af § 113, stk. 1, i lov om almene boliger m.v., jf. lovbekendtgørelse nr. 884 af 10. august 2011, fastsættes:

Anvendelsesområde

§ 1. Bekendtgørelsen gælder, jf. dog § 2, for:

- 1) Byggerier i henhold til § 115 i lov om almene boliger m.v.
- 2) Renoveringer i henhold til § 91 og § 92, stk. 1 og 3, i lov om almene boliger m.v.
- 3) Projektkonkurrencer, som bygherren afholder i forbindelse med de byggerier, der er nævnt i nr. 1.

§ 2. Bekendtgørelsen finder kun anvendelse på byggerier, renoveringer eller projektkonkurrencer, hvor en almen boligorganisation, en kommune eller region er bygherre, og hvor byggeriets eller renoveringens samlede, anslåede entreprisesum er på 20 mio. kr. ekskl. moms eller derover.

IKT-koordinering

§ 3. Bygherren skal sikre, at der gennem hele byggesagen sker en koordinering af den samlede IKT-anvendelse mellem alle involverede parter.

Håndtering af digitale byggeobjekter

§ 4. Bygherren skal stille krav om, at digitale byggeobjekter gennem hele byggesagen struktureres, klassificeres, navngives, kodes og identificeres ensartet i en nærmere bestemt detaljeringsgrad. Bygherren skal i den forbindelse stille krav om, at byggeobjekterne forsynes med de informationer og egenskaber, der er relevante for den efterfølgende forvaltning, drift og vedligehold. Stk. 2. Bygherren skal sikre, at der fastsættes retningslinjer for håndteringen af digitale byggeobjekter gennem hele byggesagens forløb.

Digital kommunikation og projektweb mv.

§ 5. Bygherren skal stille krav om, at der anvendes et system til digital kommunikation og arkivering af al relevant information under byggesagens forløb.

Stk. 2. Bygherren skal sikre:

- 1) at der udarbejdes en plan for, hvilke parter der skal gøre hvilke informationer tilgængelige i systemet og på hvilke tidspunkter,
- 2) at informationer kan hentes ud fra systemet og overføres til andre systemer, og at det indgår i den udarbejdede plan, hvilke overførsler, der ønskes i projektforsøbet og ved byggeriets afslutning, jf. § 10,
- 3) at systemet er forsynet med adgangskontrol, advisering og log,
- 4) at det fastlægges, hvilke filformater der skal anvendes, og
- 5) at det fastlægges, hvilke metadata der skal knyttes til de enkelte filtyper.

af digitale bygningsmodeller

konkurrenceprogrammet stille krav om, at de indkomne bygningsmodeller samt visualiseringer udført på grundlag af IFC skal dokumentere forslagernes arkitektoniske, funktionelle og tekniske informationsniveau.

Bygherren skal stille krav til bygningsmodellers struktur og informationsindhold, størrelse, karakter og kompleksitet, og disse skal fastlægges ud fra konkurrencens størrelse, karakter og formål.

Bygningens IFC-leveres i IFC-format.

Bygherren stille krav om, at der anvendes objektbaseret IFC-format.

Bygherren skal stille krav om, at der udarbejdes fællesmodeller, der udarbejdes, og at der udarbejdes de nødvendige fagmodeller, hvis indhold og struktur er relevante for enkelte parts ydelse, og at der udarbejdes fællesmodeller med henblik på simulering, kollektion og beskrivelser, og at disse leveres i IFC-format.

Udbud og tilbud

Bygherren skal stille krav om, at udbud af byggearbejder benyttes digitalt udbud og at materialet skal udarbejdes således, at det i forbindelse med tilbudsafgivelsen, og således anvendes i byggesagen, jf. § 4.

Bygherren sikre: 1) at der leveres tilbudslister, som omfatter såvel tilbudslister som relevante, digitale grundlag, således at mængder kan udlæses, og at grundlag for tilbudsgiver i IFC-format, og at grundlag mængdemere er beregnet, herunder om beregning af mængder, der er anvendt.

Byggeriets aflevering

Bygherren skal stille krav om digital aflevering af de informationer,

Interoperability

Green

Leed

Experience

Animation

Aflevering indgår i aftalerne med rådgivere og udførelse af byggesagen, struktur, klassifikation, identifikation og formateres i IFC-format.

Information

Bygherren skal stille krav om, at der leveres mangellister, som beskriver de registrerede informationer, jf. § 4.

Bygherren skal stille krav om, at der leveres mangellister, som beskriver de registrerede informationer, jf. § 4.

februar 2013

/Mikael Lynnerup Kristensen



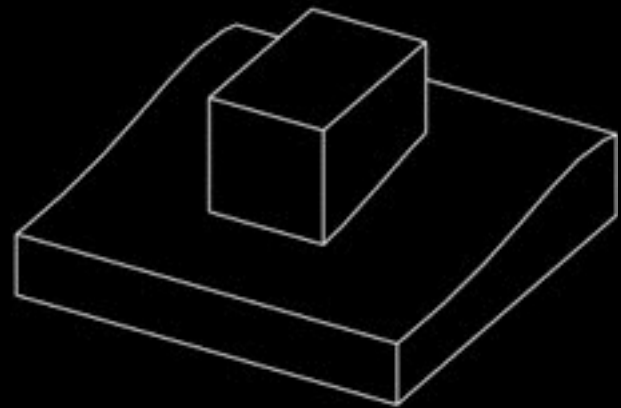
DANISH ICT SPECIFICATIONS

- Effective from April 2013
- All public founded building projects and renewals
- Building owner must specify FM data
- Building owner must specify structure, klassifikation, ID's, etc.
- IFC files for digital handover



LOGICAL LEVEL OF DETAIL THROUGH DEVELOPEMENT

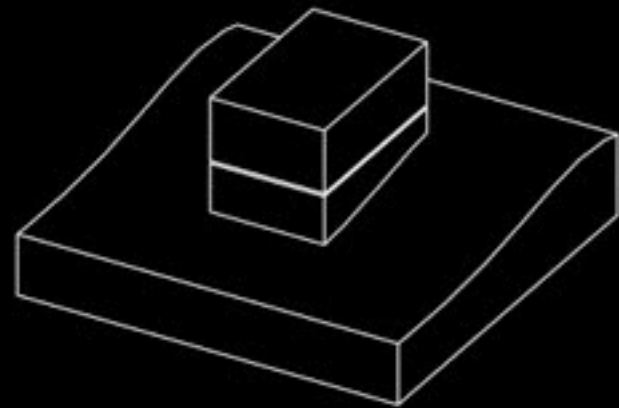
01



- > Areal "fodaftryk"
- > Sol, Vind, lyd analyse

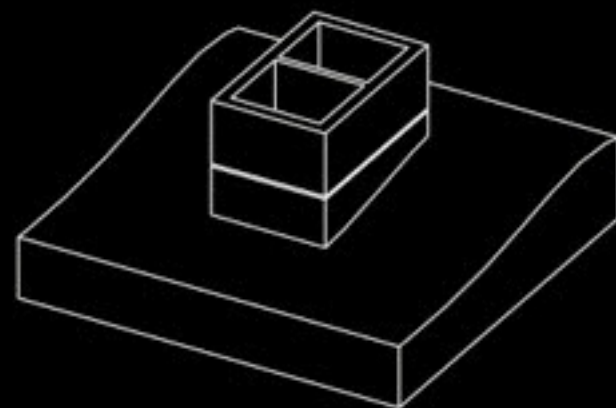
- > Jordballance
- > Byrumsnit

02



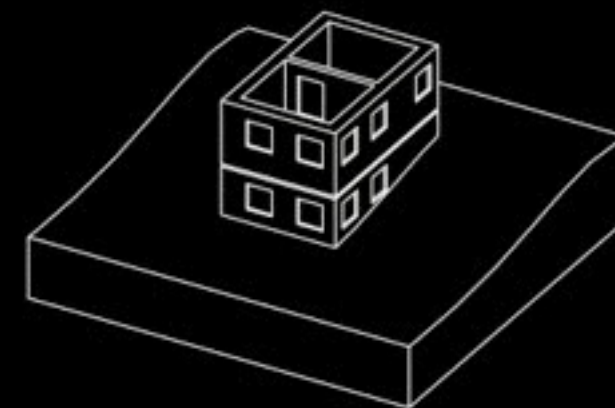
- > Etageareal

03



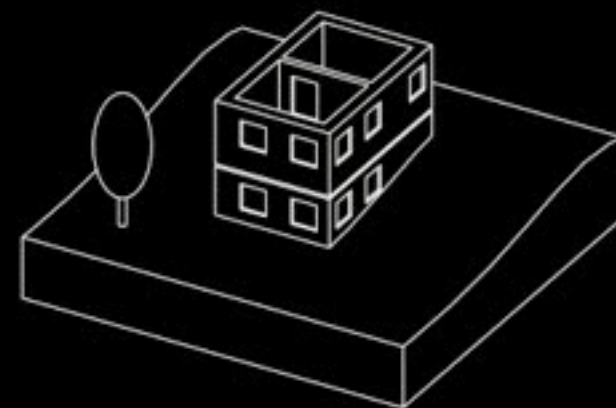
- > Programmering
- > Rumskema
- > Rum Areal/Volumen
- > Drift vedligehold

04



- > Dør-/vindues-skemaer
- > Energiberegning
- > Renoveringsplan
- > Drift vedligehold

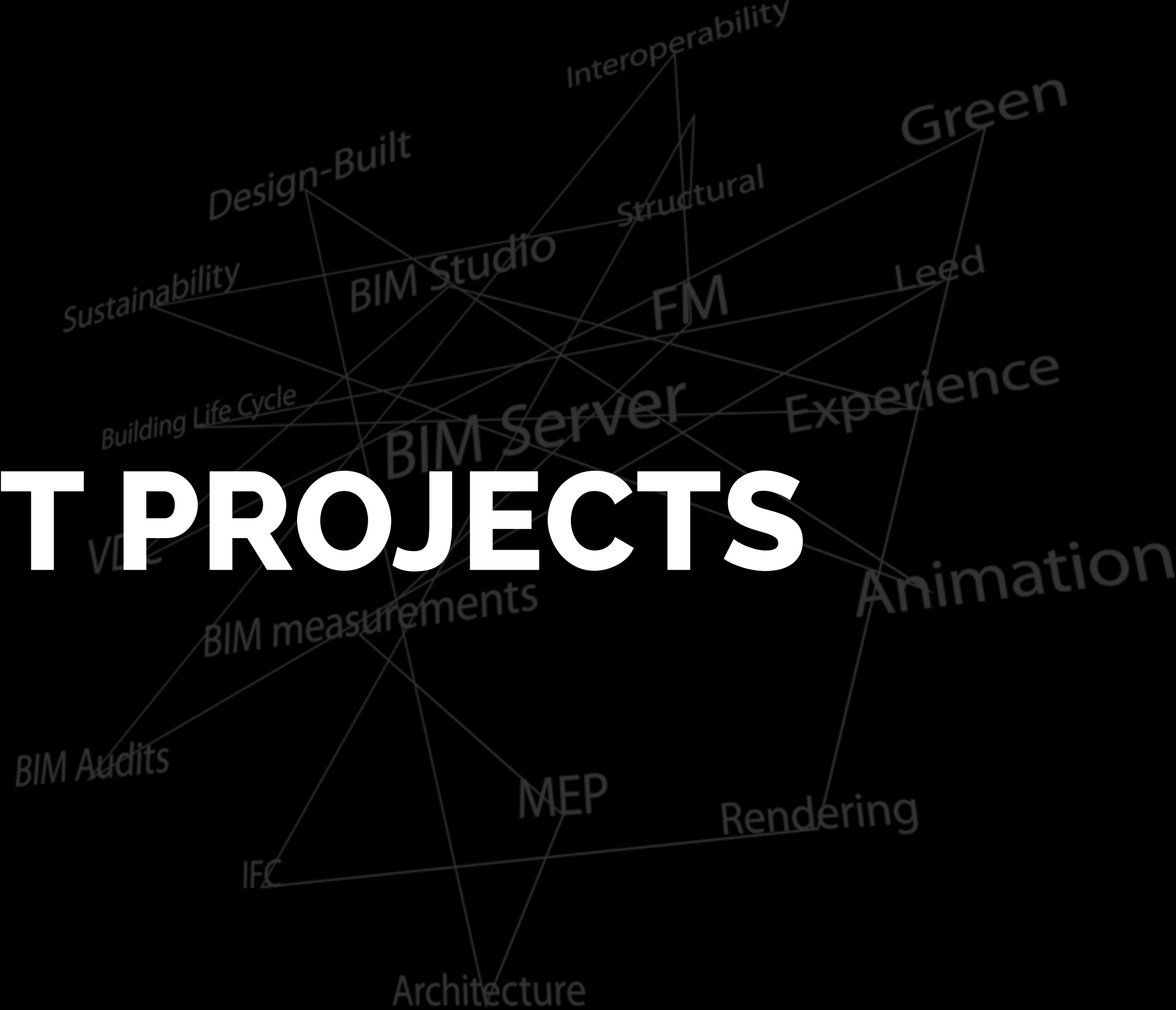
05



- > Inventar-skema
- > Anlægs-skema
- > Drift vedligehold



PILOT PROJECTS





BIG

BJARKE INGELS GROUP





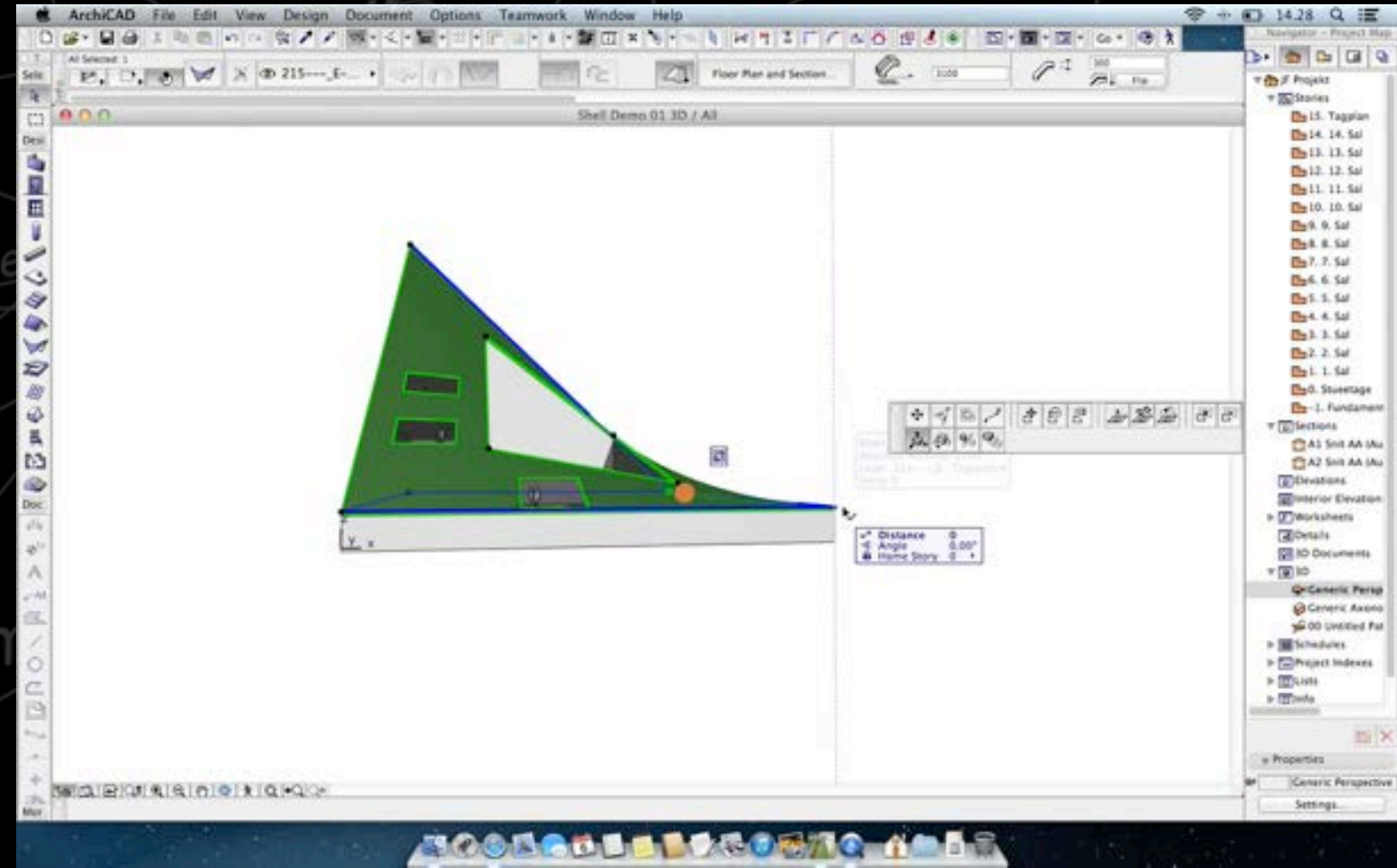
> 210 people

> Offices in Copenhagen & New York





FIRST PUSH 2012



Interoperability
Design-Built
Structural
Green

BIM Audits

MEP

Rendering

IFC

Architecture



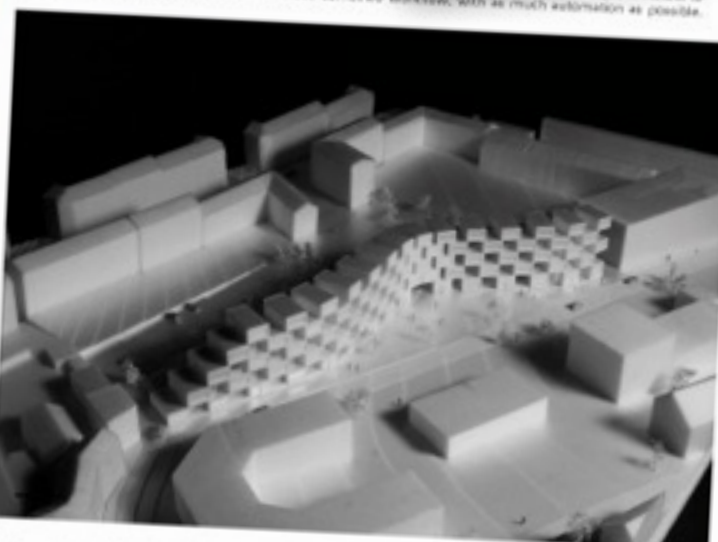




WHITEPAPER



WHITEPAPER: ARCHICAD PILOT PROJECT
November 2013 – BIG & BIM Equity



Collaboration internally at BIG between the 5 people team, will be done through the use of GRAPHISOFT BIM Server. For external collaboration, models will be exchanged through the IFC-format. 2D drawings are imported and exported as DWG files. Digital drawings are saved as PDF files.

The process will be used to decide, how BIG will work with BIM on future projects.

2.0 BIM PROJECT START UP

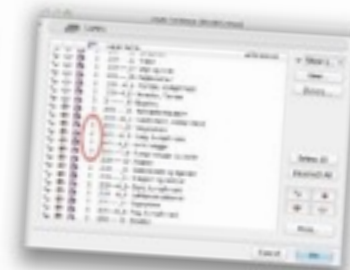
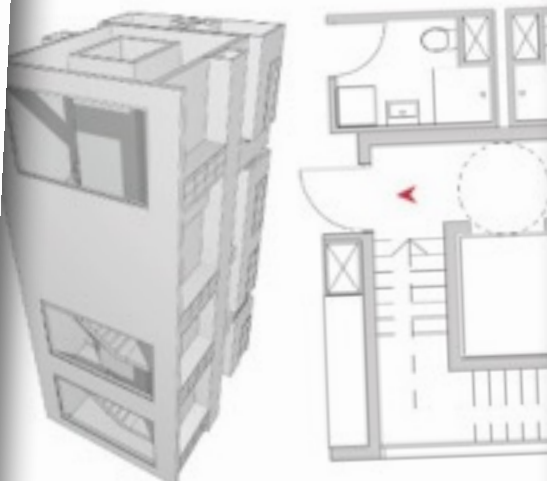
- Link DWG drawings from 2D AutoCAD into ArchCAD as Xrefs. Clean up DWGs before attaching, and import only relevant layers from the DWGs, using the import dialog checkboxes. Easiest way to keep project structure, is to attach the Xrefs into ArchCAD's "worksets", with one "worksheet" per Xref. Xref layers will be placed under ArchCAD layers in the list of layers. They will automatically be grouped and the layer will be locked. Turn on DWG layers in at "Layer Constructions"
- Model surrounding terrain with "Mesh" tool and buildings with "Morph" tool. Place "Mesh" correctly considering where to put Drigo [D.O]. Model streets with the "Site" tool and cut away from "Mesh" with "Solid Element Operators". Trees, people and cars can be placed as objects from ArchCAD library and other landscape architecture can be drawn with "Polyline" and "Tilt".



- Write info into the "Project info" dialog. This is used for info in the drawing titles.
 - Set up stories and story heights. Standard store is 3,500 mm.
 - Set up "Layout Masters" and drawing titles.
 - Set "Home Zoom" to frame just the building in plan view.



ArchCAD Pilot Project – BIG Architects



elements will automatically merge, unless they are on layers with different layer classes (see 2.0.1)

Use the windows from the ArchCAD library and curtain walls between walls. Adjust the settings and geometry in 3D.

Always use the BIM objects delivered with the ArchCAD library. This is especially true for doors, bathroom and kitchen objects.

LINKED MODULES

Complex models are saved as a "Module File" and placed together with the project, perhaps in a subfolder. These module files are linked into the ArchCAD file. This is a great way to manage settings and not lose settings when working with the original file.

3.0 COMPOSITE STRUCTURES

Use "Find & Select" within the perspective view, to find and replace walls with "Composites"

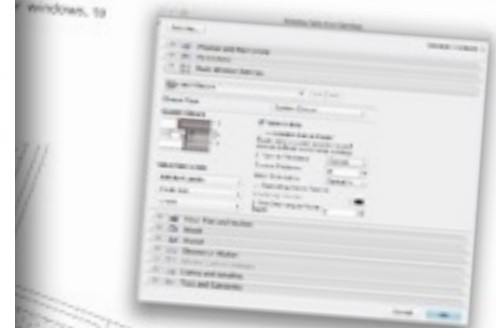
Use "Composite" by right-clicking a wall and choose "Edit Selected Composite"

Use the different handles to merge properly together, elements must be on the same layer.



7.0 PUBLISHER SETS

- Drawings, model views and models can be put into "Publisher Sets" for easy printing, saving or uploading to FTP servers. Make a "Publishing Set" for PDF's, DWG export for eg. MEP engineers, a IFC export (of the 3D model) for eg. structural engineers and a BIMx Hyper Model for the building owner and client.
- Be careful when publishing: ArchCAD does not warn you before overwriting existing files! This is not a bug, but something everybody needs to know. The best way to avoid problems, is to publish to a temporary folder and rename the files (with a date) and move them to the right location.



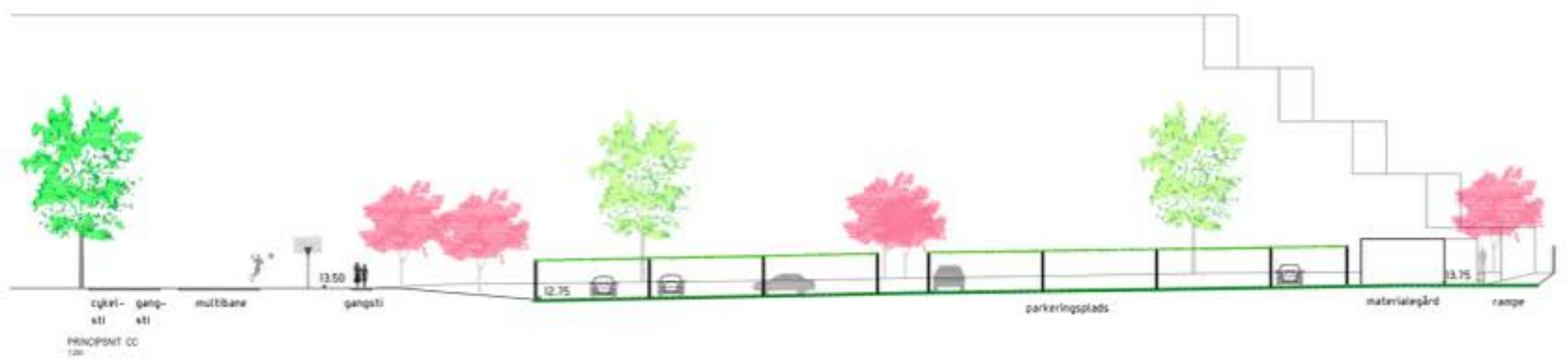
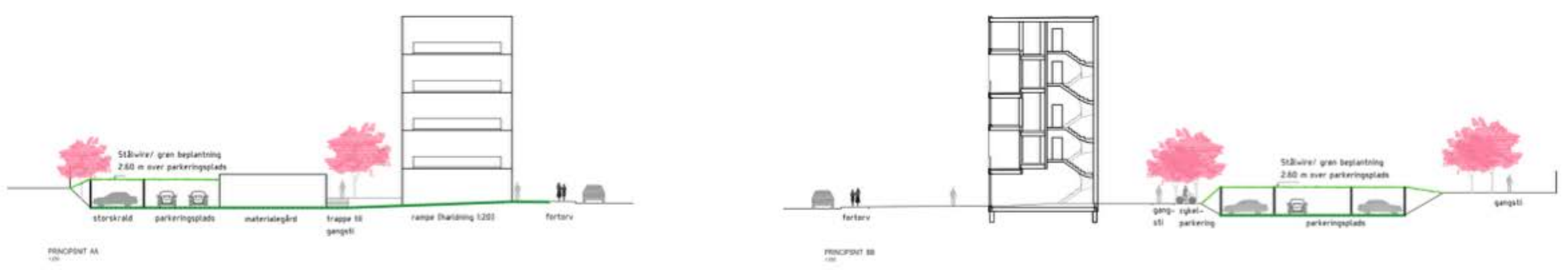


DESIGN PHASE | JANUAR 2014

Interoperability

Green





Foreløbig
2014-01-18

Projektforslag
Tegnr. K01_N050

Udført af: [Logo] DONG
Landskabsunit

ADRESSE: Frederiksborgvej 78, 2600 Kalundborg NV
BYGNINGS: Lærtoft 52, Kagefabriksvej 28, 2500 Valby

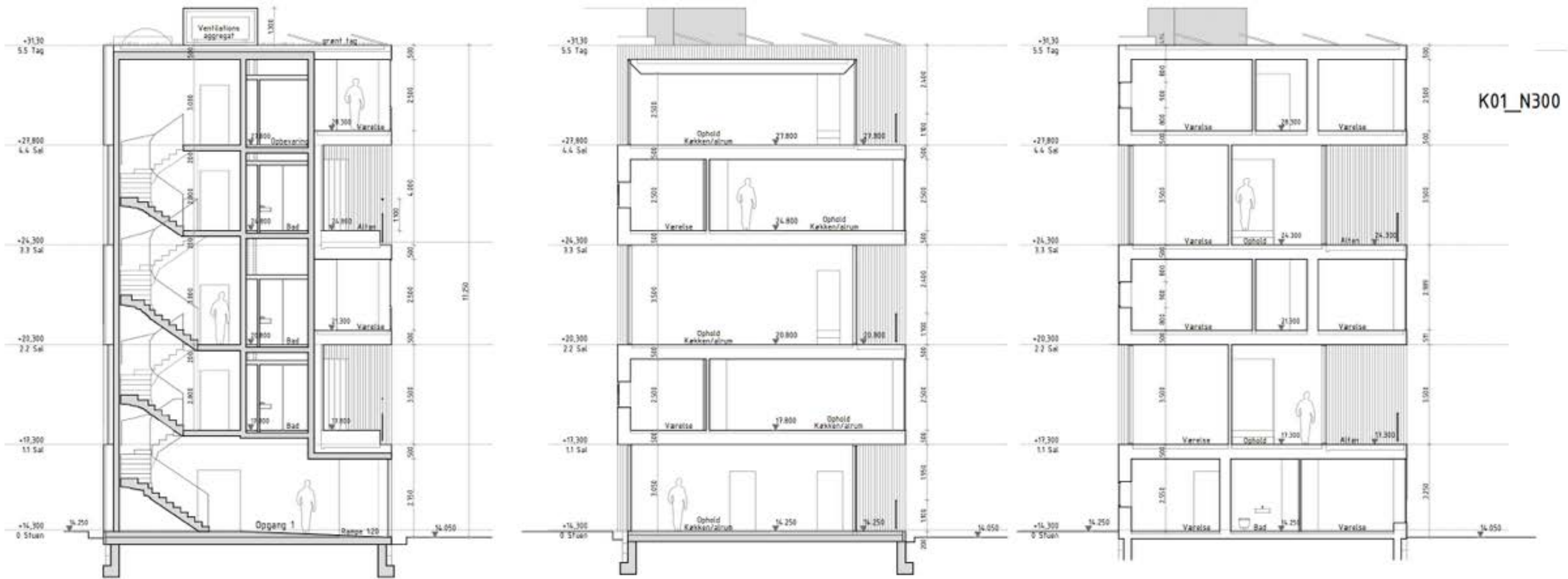
Navn	Titel	Stilling	Dato
[Name]	[Title]	[Position]	[Date]
[Name]	[Title]	[Position]	[Date]

NOTE: Alle mål i millimeter



DESIGN PHASE | JANUAR 2014

Interoperability
Green





DESIGN PHASE | JANUAR 2014

Interoperability

Built

Green

K01_N201



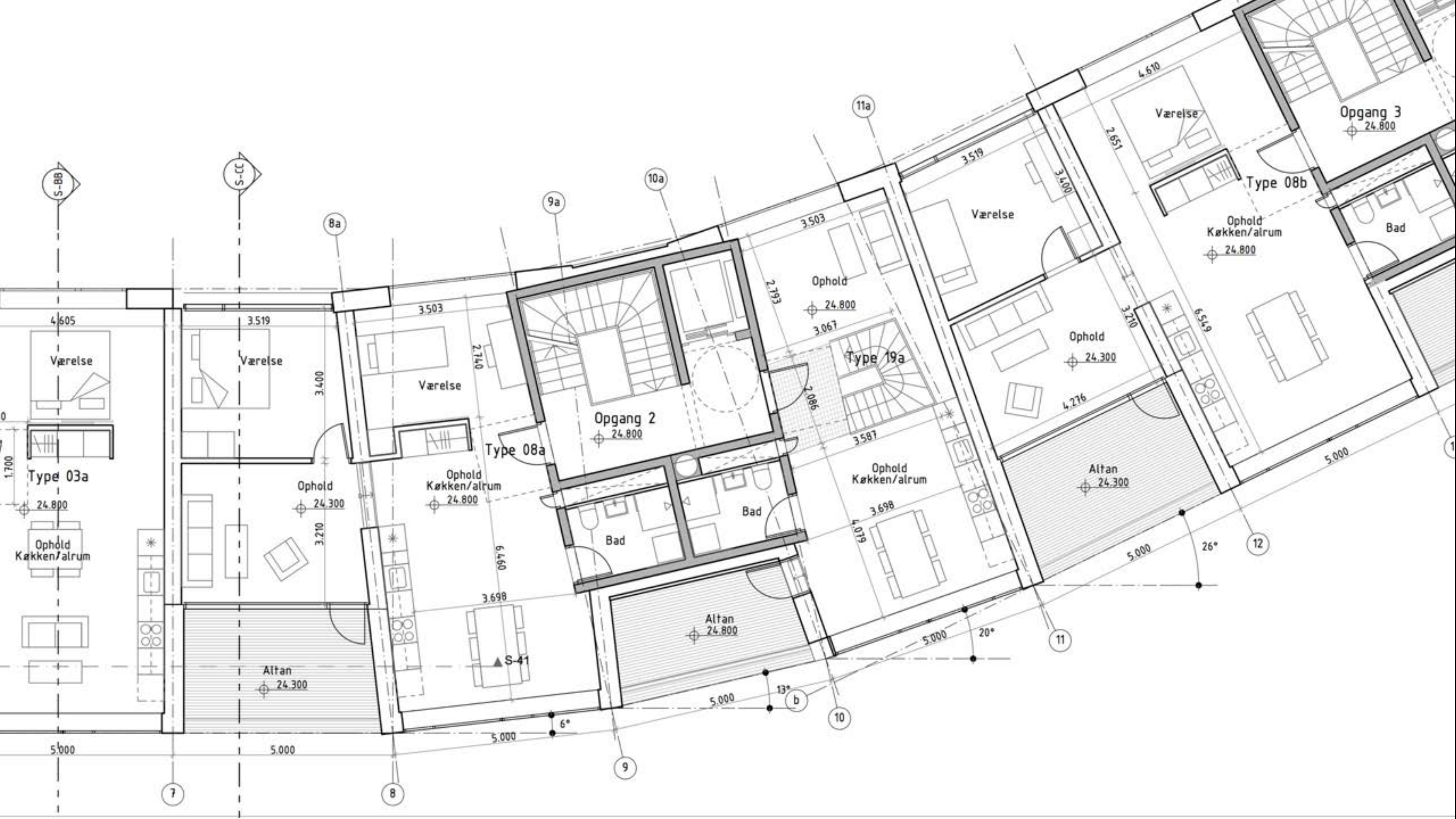
DONG
 SAGADRESSE: Sørtranevej 34-36 København NV, Post. 146-2
 BYGGERI: Lørris, St. Kage Landevej 26, 2500 Valby

Foreløbig
 2014-01-18
 Projektforslag

Facader
 Tegnet af
K01_N201
 P05041200

Navn	Kontakt	Telefon	Side	Dato	Projekt
...

NOTE: Alle mål i millimeter





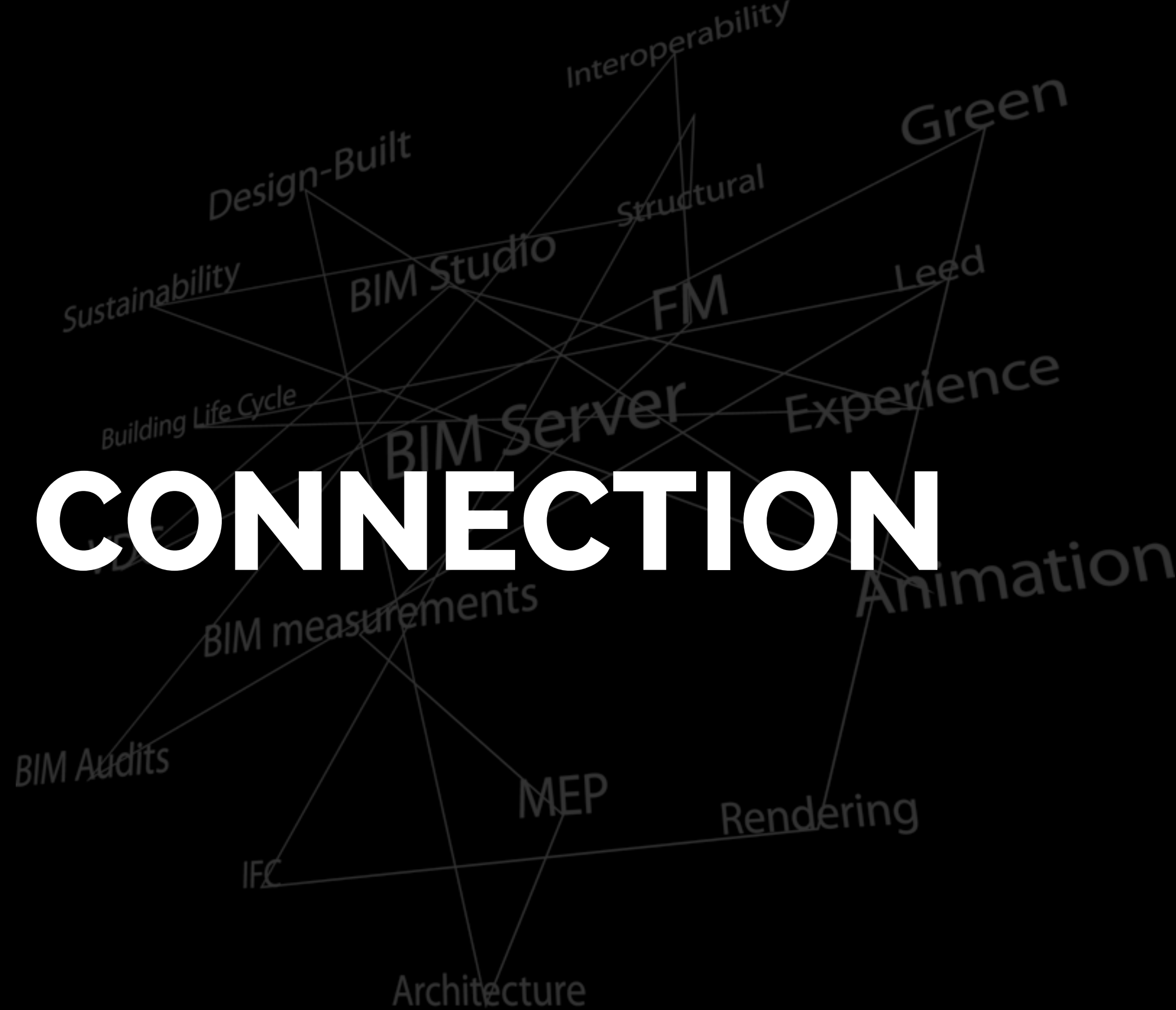
FINISHED PROJECT | APRIL 2014





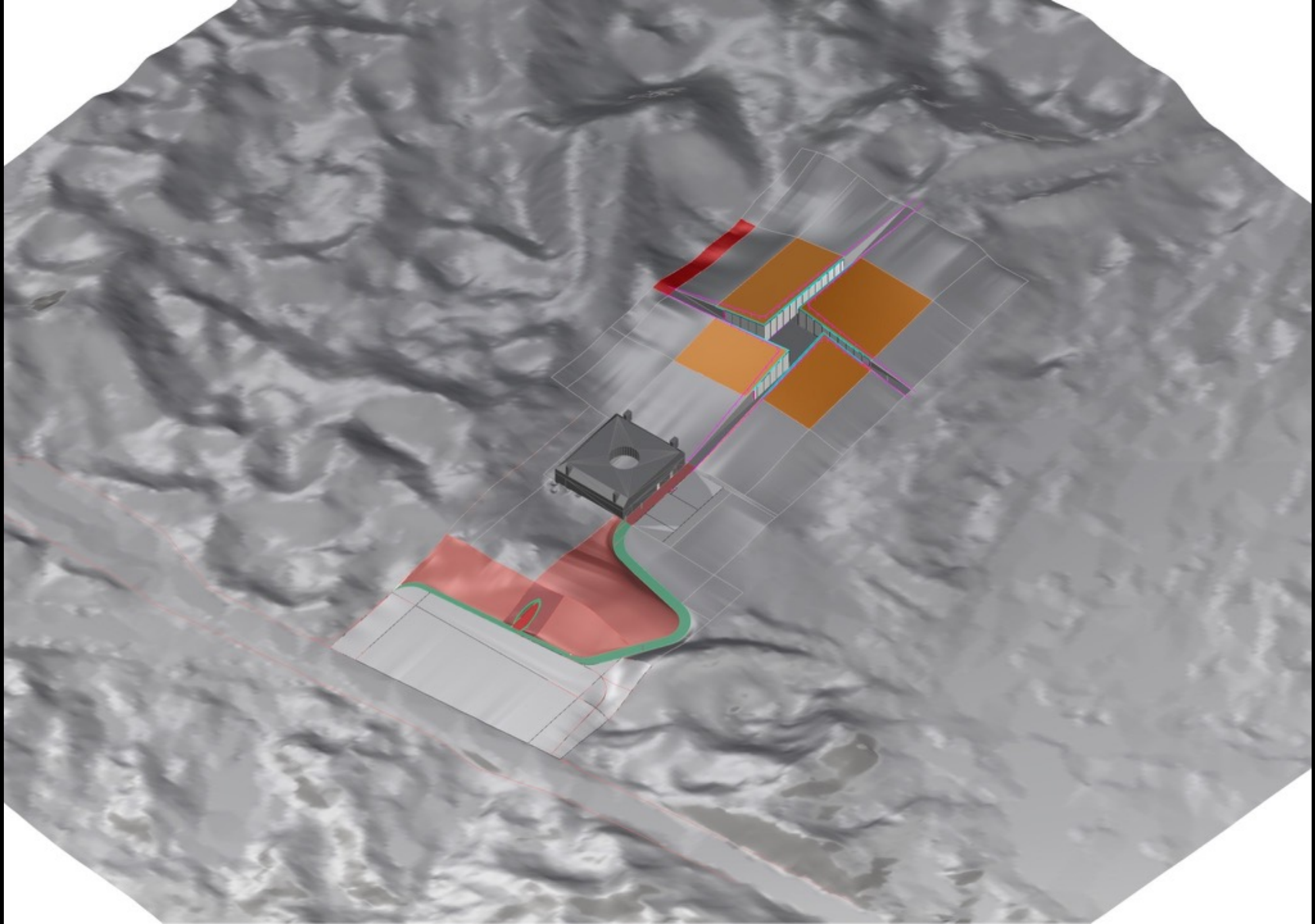


RHINO CONNECTION











Export

Rhino 5 to ArchiCAD 17

Organize ▾ Ne

★ Favorites

- Desktop
- Downloads
- Dropbox
- Recent Places

Libraries

- Documents
- Music
- Pictures
- Videos

Homegroup

Computer

- Local Disk (C:)
- Local Disk (D:)

File name:

Save as type: Rhino 5 3D Models (*.3dm)

- Save Small
- Save Geometry Only
- Save Textures

Rhino 5 3D Models (*.3dm)

Rhino 4 3D Models (*.3dm)

Rhino 3 3D Models (*.3dm)

Rhino 2 3D Models (*.3dm)

3D Studio (*.3ds)

ACIS (*.sat)

Adobe Illustrator (*.ai)

ArchiCAD 17 GDL Object (*.gsm)

AutoCAD Drawing (*.dwg)

AutoCAD Drawing Exchange (*.dxf)

COLLADA (*.dae)

Cult3D (*.cd)

DirectX (*.x)

Enhanced Metafile (*.emf)

GHS Geometry (*.gfi)

GHS Part Maker (*.pm)

Google Earth (*.kmz)

GTS (GNU Triangulated Surface) (*.gts)

IGES (*.igs; *.iges)

LightWave (*.lwo)

Moray UDO (*.udo)

MotionBuilder (*.fbx)

OBJ (*.obj)

Object Properties (*.csv)

Parasolid (*.x_t)

PDF (*.pdf)

PLY (*.ply)

Points (*.txt)

POV-Ray (*.pov)

Raw Triangles (*.raw)

Polygon Mesh Options

Fewer polygons

More polygons

OK Cancel Help Preview Detailed Controls...

Save Cancel

Hide Folders

Search Rhino 5 to ArchiCAD 17

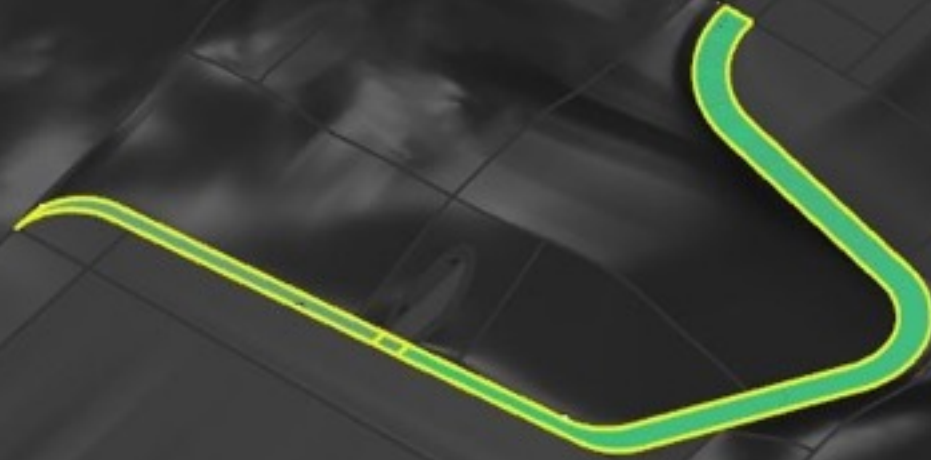


Polygon Mesh Detailed Options

Density:	<input type="text" value="1.0"/>
Maximum angle:	<input type="text" value="0.0"/>
Maximum aspect ratio:	<input type="text" value="0.0"/>
Minimum edge length:	<input type="text" value="0.0001"/>
Maximum edge length:	<input type="text" value="0.0"/>
Maximum distance, edge to surface:	<input type="text" value="0.0"/>
Minimum initial grid quads:	<input type="text" value="500"/>

Refine mesh
 Jagged seams
 Simple planes

Pack Textures





Toolbox

- Select
- Arrow
- Marquee
- Design
- Wall
- Door
- Window
- Column
- Beam
- Slab
- Star
- Roof
- Shell
- Skylight
- Curtain...
- Morph
- Object
- Zone
- Mesh
- Document
- Dimension
- Level D...
- Text
- AI Label
- Fill
- Line
- Arc/Circle
- Polyline
- Drawing
- Section
- Deviation
- Interior...
- Worksh...
- Detail
- Change
- More
- Grid Ele...
- Wall End
- Corner...
- Lamp
- Radiat...
- Angle D...
- Spline
- Hotspot
- Figure
- Camera

Teamwork

Frederik Lyng

Online

Workspace

Send & Receive

Reserve...

Release All

Colored workspaces

All with original Color

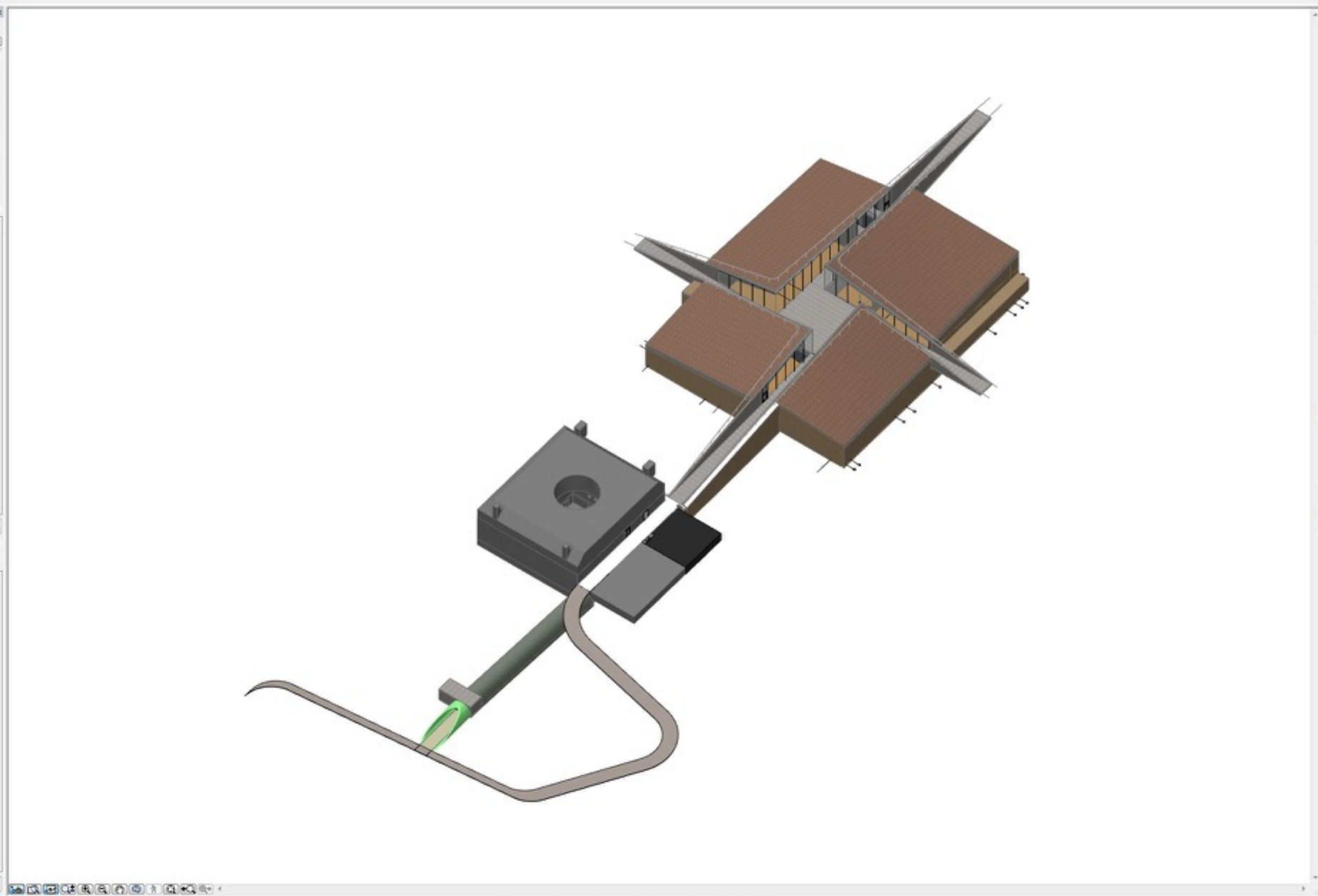
My Workspace

Users

Name
Frederik Lyng
Briitta Gulyás
Maria Teresa ... (offline)
Tobias Hjortdal (offline)

Messages

From: Maria Teresa F... 13.03...
Request Granted.



Navigator - Layout Book

Tree by subset

- Museumscenter Bålvand
 - 00 Tegningliste
 - 00 Tegningliste 2
 - Generelt
 - Etageplaner
 - K01_N301 Etageplan, Niveau 0 (indgangs niveau)
 - K01_N302 Etageplan, Niveau -1 (udstillingsniveau)
 - Loftplaner
 - Brandplaner
 - Facader og opetaler
 - Hovedsnit
 - K01_N301 Snit 1+2
 - K01_N302 Snit 3+4
 - K01_N303 Snit 5+6
 - Detaljer
 - Bygningsdele
 - Rumtegninger
 - Vægopstaller
 - Normalkonstruktioner
 - Overblik

Properties

K01_N301 Snit 1+2

1260x841_BEG 1

1260 / 841

01 Issue

Settings...

Teamwork Status

Free for Reservation

Reserve

Quick Options

- # Snit
- 1:100
- Entire Model
- 00 DK 2013
- 03 Building Plans
- 05 Fremtidsge forhold
- _DK standard

Change Manager

Changes

- Archived
- Active
 - REV 1 - Søjler v toilet flyttet
 - REV 2 - Stik til bar (afleb og vand) tilføjet
 - REV 3 - Teinligang Udvidet
 - REV 4 - Placering af tag-modul præciseret
 - REV 5 - Tunnel og kælder ændret
 - REV 6 - Trekantede Brønger rettet til tag

Elements

ID	Placed To	Linked Elements
----	-----------	-----------------

More

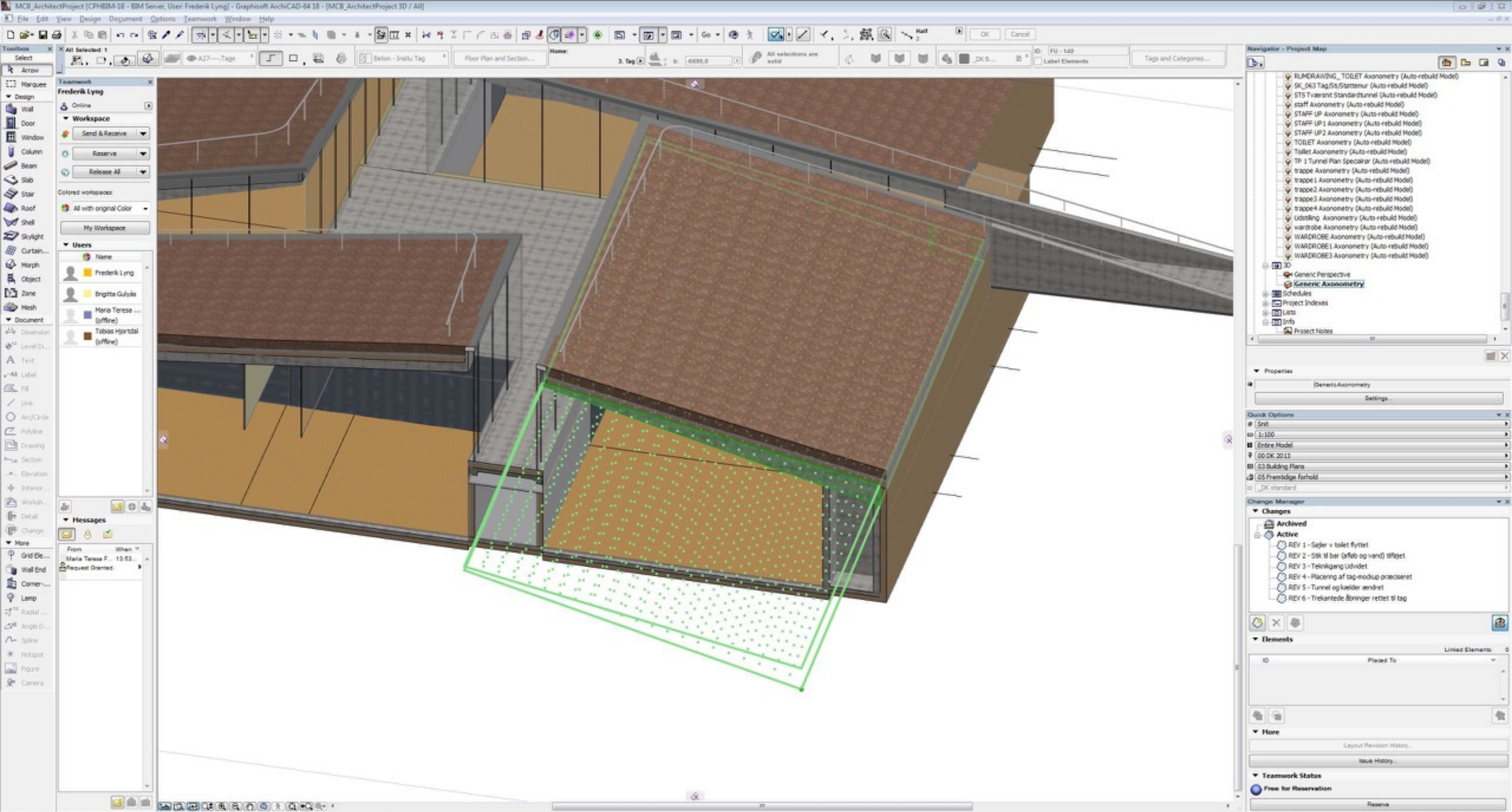
Layout Revision History...

Issue History...

Teamwork Status

Free for Reservation

Reserve



- Navigator - Project Map
- RUMDRAWING_TOILET Axonometry (Auto-rebuild Model)
 - SK_063 Tag/Sti/Støttemur (Auto-rebuild Model)
 - STS Tværsnit Standardtunnel (Auto-rebuild Model)
 - staff Axonometry (Auto-rebuild Model)
 - STAFF UP Axonometry (Auto-rebuild Model)
 - STAFF UP1 Axonometry (Auto-rebuild Model)
 - STAFF UP2 Axonometry (Auto-rebuild Model)
 - TOILET Axonometry (Auto-rebuild Model)
 - Toilet Axonometry (Auto-rebuild Model)
 - TP 1 Tunnel Plan Specalnar (Auto-rebuild Model)
 - trappe Axonometry (Auto-rebuild Model)
 - trappe1 Axonometry (Auto-rebuild Model)
 - trappe2 Axonometry (Auto-rebuild Model)
 - trappe3 Axonometry (Auto-rebuild Model)
 - trappe4 Axonometry (Auto-rebuild Model)
 - Udstilling Axonometry (Auto-rebuild Model)
 - wardrobe Axonometry (Auto-rebuild Model)
 - WARDROBE Axonometry (Auto-rebuild Model)
 - WARDROBE1 Axonometry (Auto-rebuild Model)
 - WARDROBE3 Axonometry (Auto-rebuild Model)
 - 3D
 - Generic Perspective
 - Generic Axonometry**
 - Schedules
 - Project Indexes
 - Lists
 - Info
 - Project Notes

Properties

GenericAxonometry

Settings...

- Quick Options
- Snit
 - 1:100
 - Entire Model
 - 00 DK 2013
 - 03 Building Plans
 - 05 Fremtidsge forhold
 - _DK standard

- Change Manager
- Changes
- Archived
 - Active
 - REV 1 - Søjler v toilet flyttet
 - REV 2 - Slik til bar (afleb og vand) tilføjet
 - REV 3 - Teinligang Udvidet
 - REV 4 - Placering af tag-modul præciseret
 - REV 5 - Tunnel og kælder ændret
 - REV 6 - Trekantede Brønger rettet til tag

Elements

ID	Placed To	Linked Elements

More

Layout Revision History...

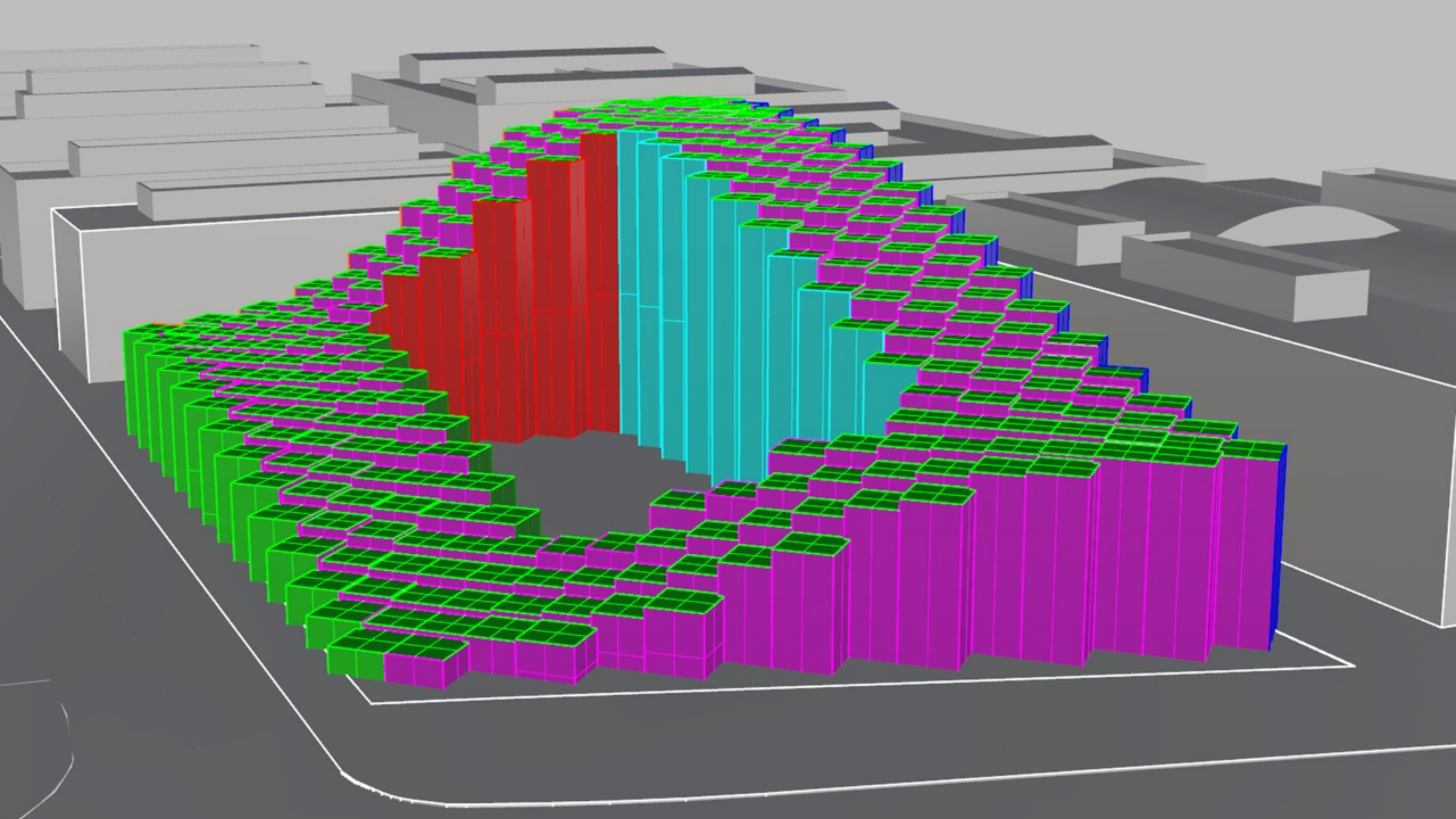
Issue History...

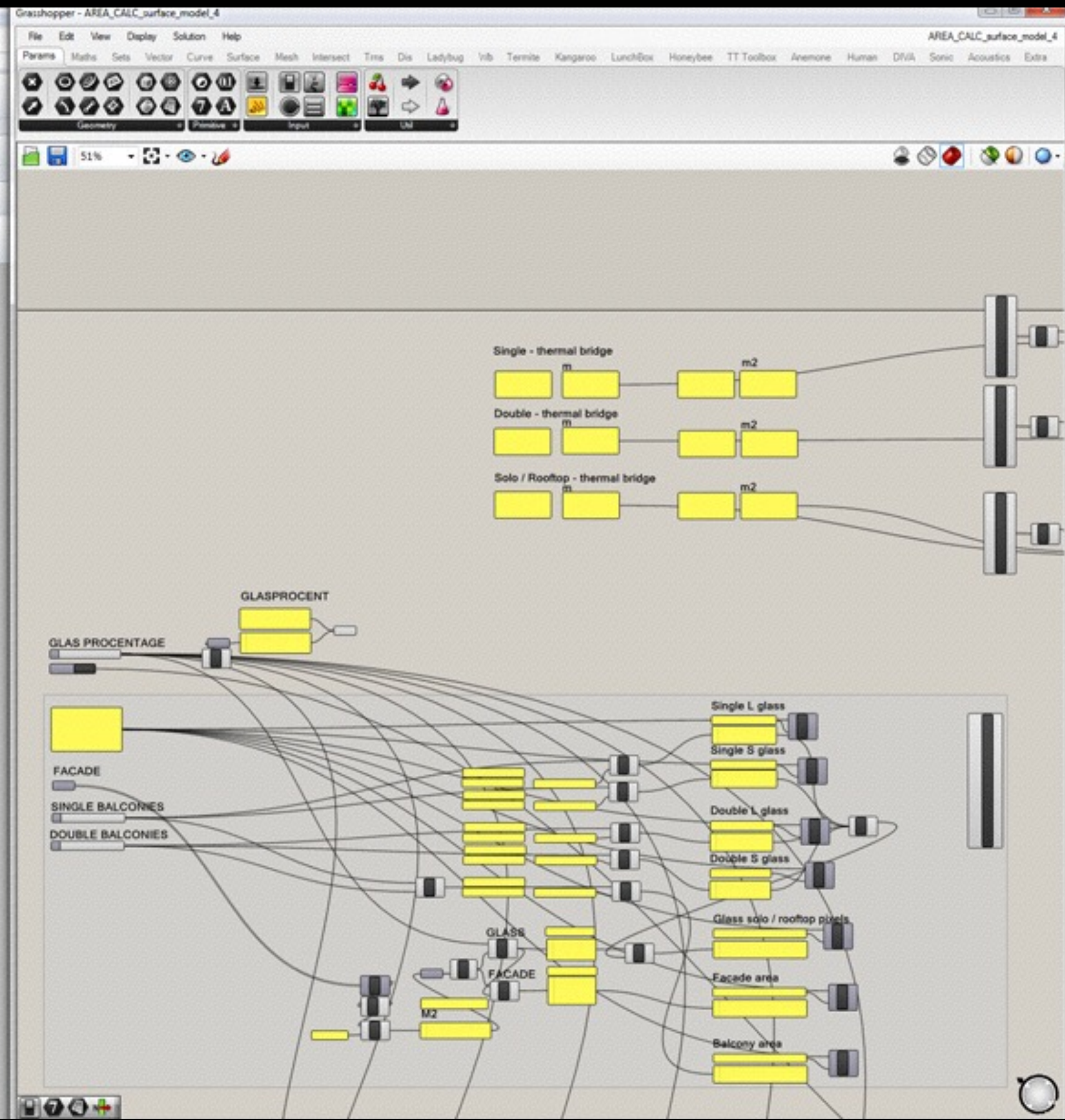
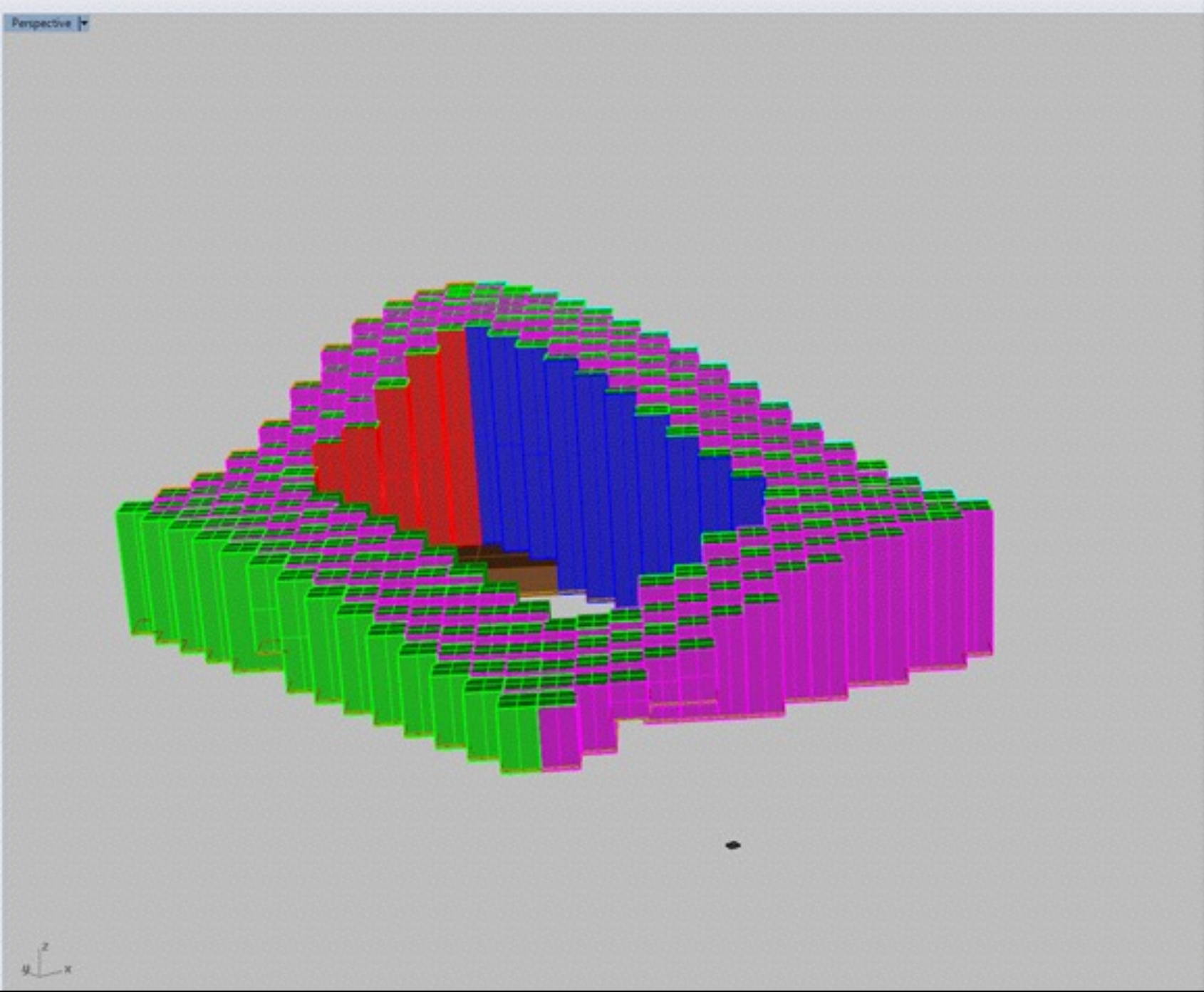
Teamwork Status

Free for Reservation

Reserve









File Edit View Design Document Options Teamwork Window Objective Cadimage BCF Manager Help

Toolbox

- Select
 - Arrow
 - Marquee
- Design
 - Wall
 - Window
 - Beam
 - Stair
 - Shell
 - Curtain ...
 - Object
 - Mesh
 - Door
 - Column
 - Slab
 - Roof
 - Skylight
 - Morph
 - Zone
- Document
 - Dimension
 - Level Di...
- More

Teamwork

- Offline
- Workspace
 - Send & Receive
 - Reserve
 - Release
- Colored workspaces:
 - All with original Color
 - My Workspace
- Users
 - Name

Info Box

Navigator - F

- X Proj
- St
- Se
- Ele
- In
- W
- De
- 30
- 30

Properties

Quick Option

- Alle tændt
- 1:100
- Entire Mode
- 00 DK 2013
- Custom



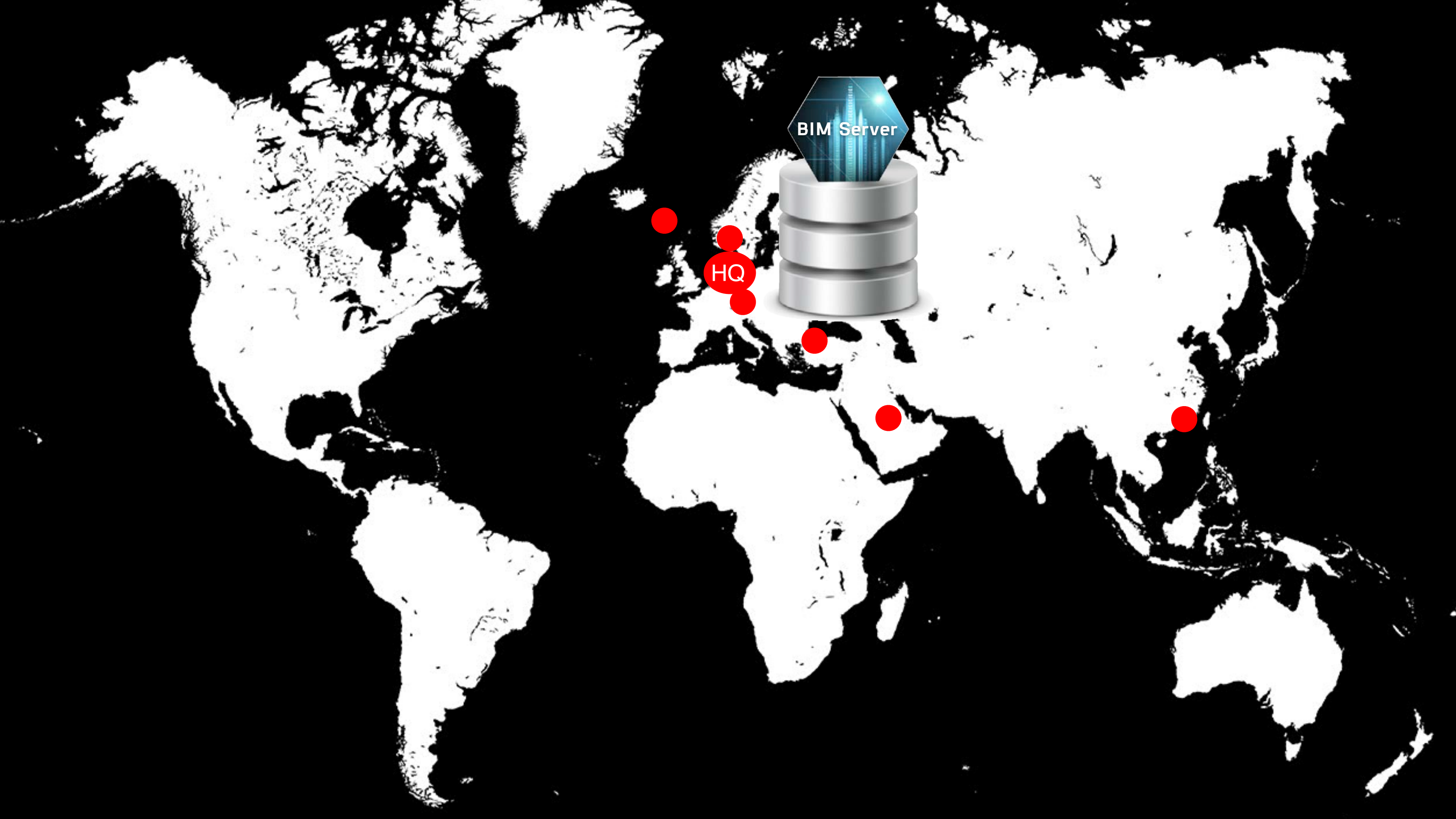
HENNING LARSEN ARCHITECTS





- > 270 people
- > Offices all over the world



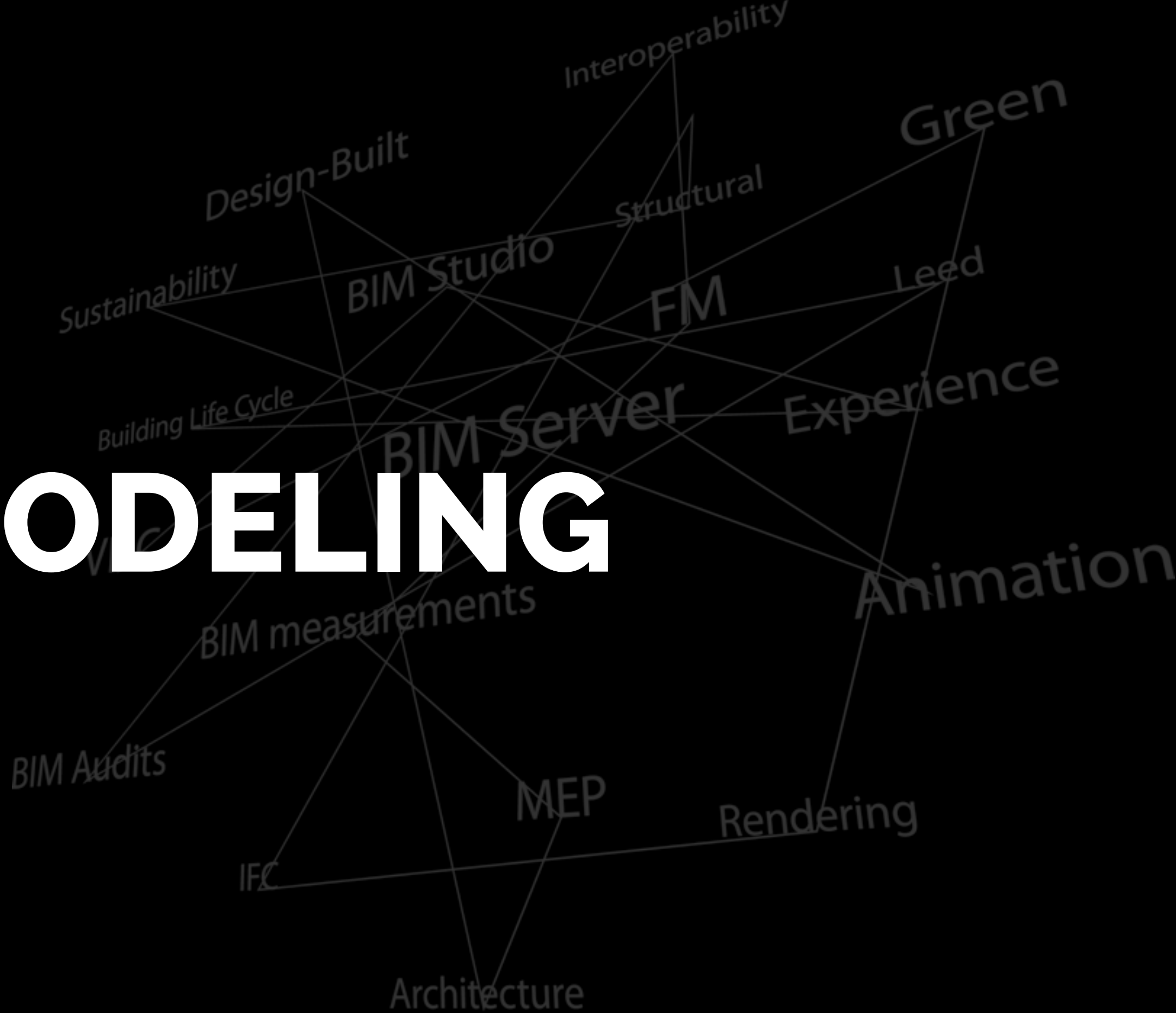


BIM Server

HQ



MODELING





“GOD IS IN THE **DETAILS**”

Mies van der Rohe





Building Materials

Editable: 1

ID	Name	Priority
	Stål - Rustfri	
	Stål - Bærende	
	Stål	
	Aluminium	
	Jern	
	Beton - Armeret Prefab	
	Træ - Bærende	
	GENERISK - PREFAB	
	Zink	
	Tagsten	
	Membran - Vandtæt	
	Isolering - Termisk Brydning	
	Træ - Tag	
	GENERISK - UDVIDET MEMI	
	Beton - Armeret Bærende	
	Beton - Letbeton Bærende	
	Beton - Insitu Bærende	
	Murblok - Bærende Grå	
	Murblok - Bærende Brun	
	Murblok - Bærende Gul	
	Murblok - Bærende Rød	
	Mursten - Bærende	
	Sten - Bærende	
	GENERISK - STRUKTUREL	
	Mursten - Beklædning Rød	
	Mursten - Beklædning Gul	
	Mursten - Beklædning Brun	
	Mursten - Beklædning Grå	
	Sten - Beklædning	

Name: Stål - Rustfri

Structure and Appearance

Stål 161

Fill Orientation: Project Origin

Note: Fill Orientation is only available for Composites and Complex Profiles

Metal - rustfri stål

Intersection Priority: Weak Strong 970

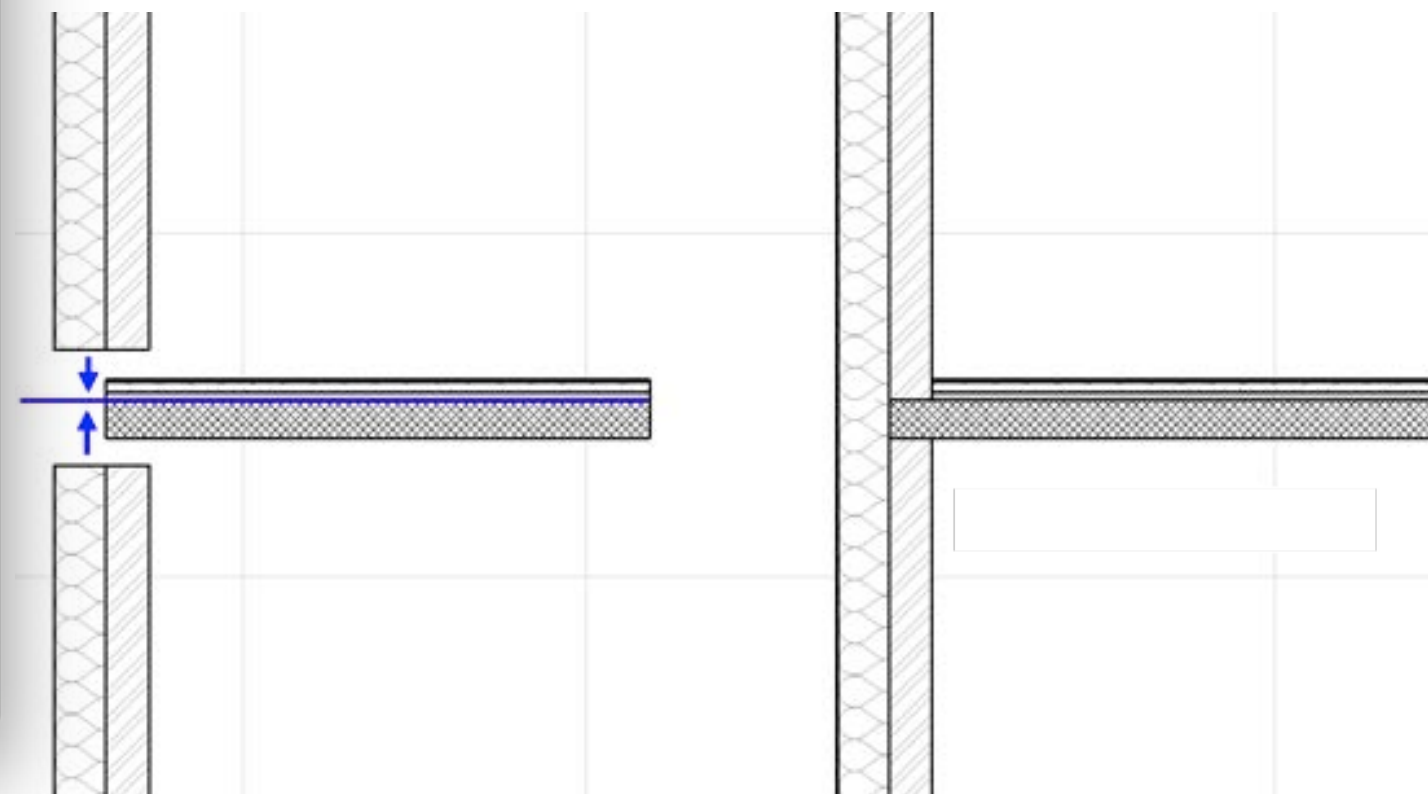
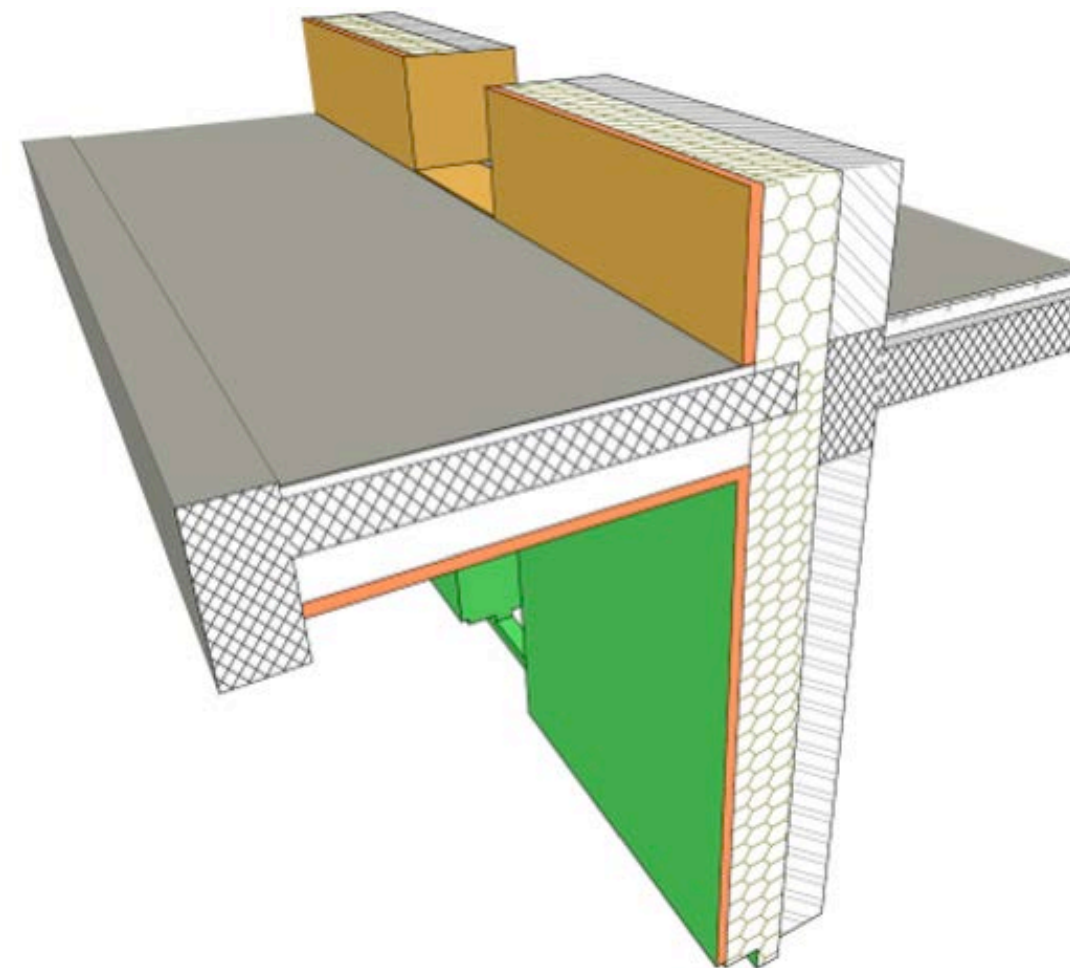
Tags and Categories

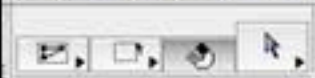
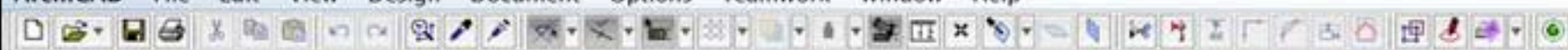
ID	Manufacturer	Description	Participates in Collision Detection
			<input checked="" type="checkbox"/>

Physical Properties

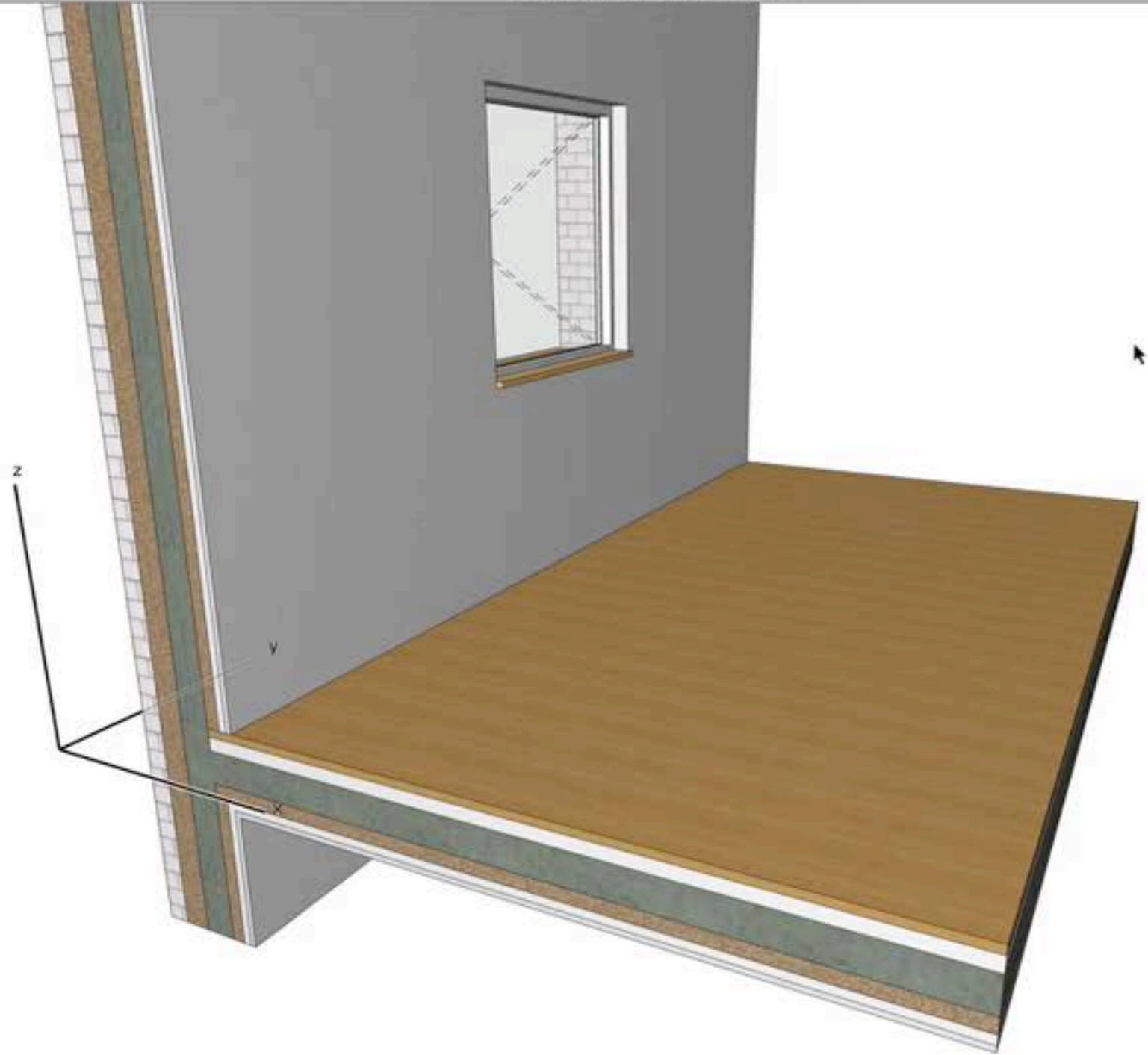
Material Catalog	Open Catalog...
Thermal Conductivity	17,000 W/mK
Density	7900,000 kg/m ³
Heat Capacity	460,000 J/kgK
Embodied Energy	56,700 MJ/kg
Embodied Carbon	6,150 kgCO ₂ /kg

New... Delete... Cancel OK





Untitled 3D / Marquee, All Stories



Trace & Reference

Reference:

Active:

Favorites

Type Name

- Væg Basis Indv...
- Væg Basis Udve...
- Væg Gips
- Væg Letbeton/...
- Væg Tegl/Tegl
- Generic Wall En...
- Wall End - Parti...
- Wall End - Stru...
- Column - Recta...
- Column - Steel
- External Column
- Generic Colum...
- Round Column
- Søjle Basis
- Drager Basis
- Generic Beam (...)
- Precast I Beam
- Rectangular Beam
- Vindue Basis Hvid
- Vindue Danneb...
- Vindue Danneb...
- Vindue Danneb...
- Der Basis Indve...
- Der Basis Udve...
- Skylight (Default)
- See Info Box for Preview

Renovation

Default elements:

Renovation Filter:

05 Fremtidige for...

Quick Options

- Custom
- 1:100
- Entire Model
- JF Standart Pen 01
- D03
- 05 Fremtidige forhold
- DK standard

Navigator - Project Map

- Projekt
 - Stories
 - 3. Tagplan
 - 2. 2. Sal
 - 1. 1. Sal
 - 0. Stueetage
 - 1. Fundament
 - Sections
 - A7 Snit AA (Auto-rebuild)
 - Elevations
 - Interior Elevations
 - Worksheets
 - Details
 - 3D Documents
 - 3D
 - Generic Perspective
 - Generic Axonometry
 - Schedules
 - Project Indexes
 - Lists
 - Info
 - Help

Properties

Generic Perspective

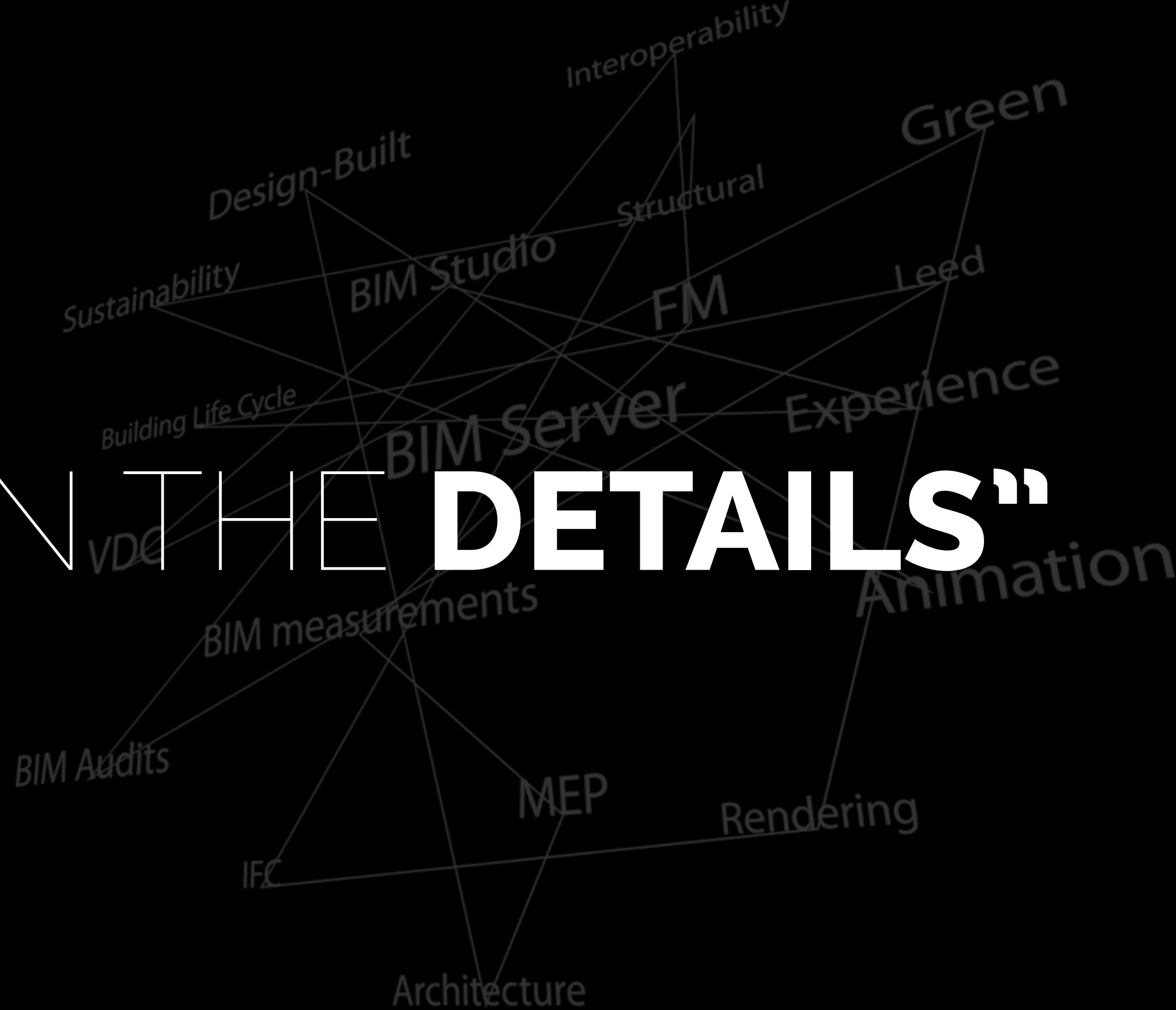
Settings...

Click an Element or Draw a Selection Area. Press and Hold Ctrl+Shift to Toggle Element/Sub-Element Selection.





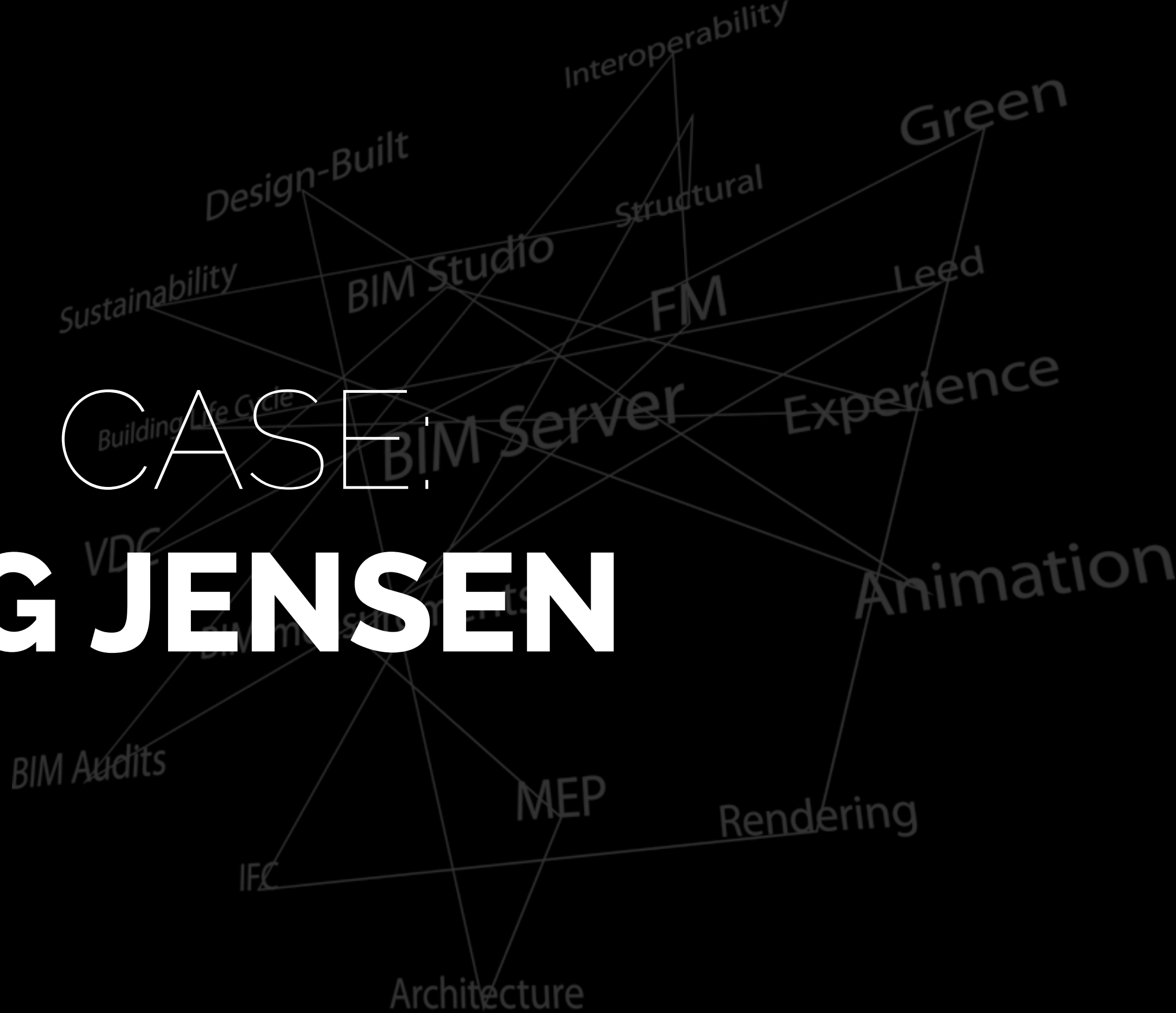
“BIM IS IN THE DETAILS”







CASE: CG JENSEN



Det er yderst vigtigt at gevindstænger skrues helt op i forankringsbøjlerne!

Ved støbning er det essentielt at betonen fyldes jævnt op omkring spærrørene for sikre et ens træk i forankringsbøjlerne fra opdriften.

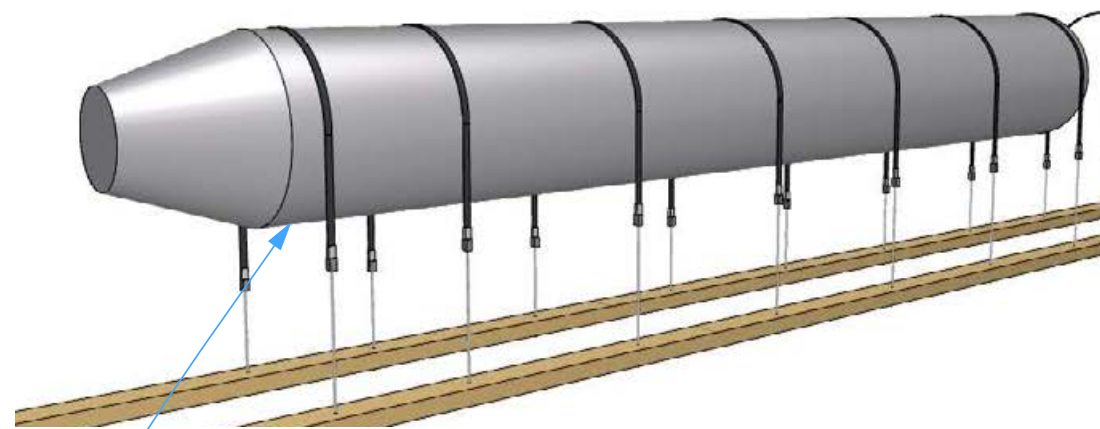
Gevindstænger bestilles efter disse mål med en vis overlængde. Ved tvivl om hvad der skal bruges hvor - kontakt ingeniøren.

Stole under rørene bukes in-situ.

S-03

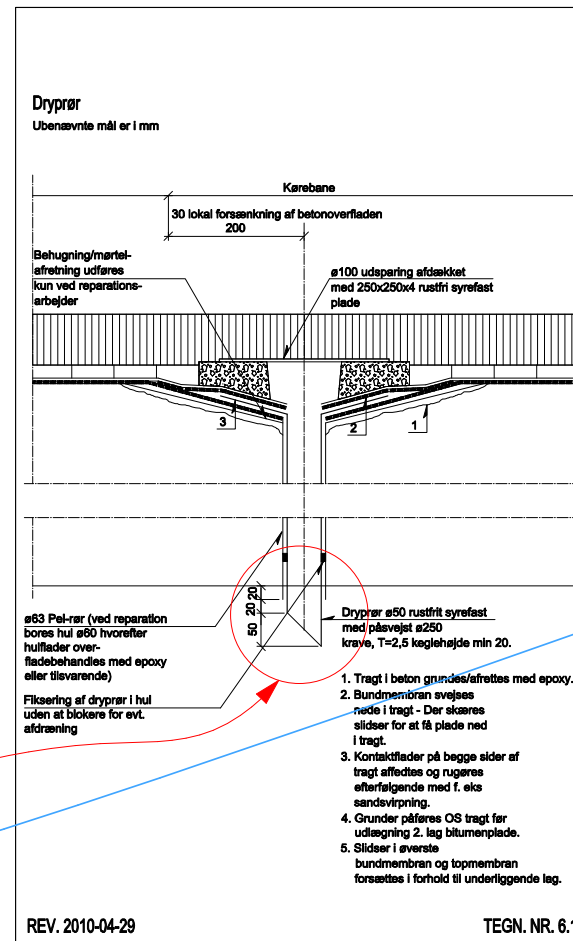
Building Section

1:50

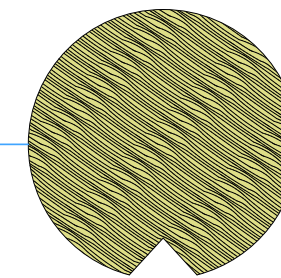
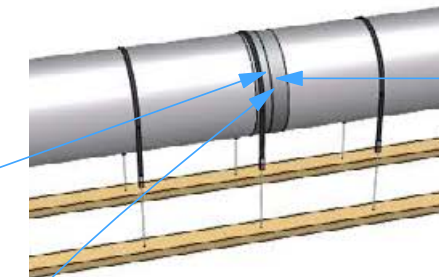


Der skal monteres dryprør tæt på endekonus i begge enden af hver streng. disse afsluttes under brodæk som ved dryprør i fugtisolerung jf. ABB - fugtisolerung.

Der bestilles 3 ekstra samleled til Ø800 og Ø1000. I tilfælde af buler i rørene kan der monteres et samleled som forstærkning over disse.



Gevindstænger spændes mod vederlagsplade på 10x100x100 mm. Vi har en stor del af disse plader på pladsen, men disse er boret med Ø17mm huller. Der skal altså tilføjes nogle mindre spændeskiver ovenpå en Ø16 spændeskive til at fordele trykket på gevindstængerne (eftersom gevindstængerne er Ø10). Derudover vil det være hensigtsmæssigt at spænde til med 2 møtrikker, og lade den ene fungere som kontramøtrik (jeg kan frygte at de kan vibreres af ved svumning af betonen).



2 x X-finer i samlinger.

I samlinger skal hvert rør forstærkes med en x-finerplade. Der skæres et passende stort "skræp" i bunden af pladen, således at der er fri passage af vand/ventilation gennem hele strengen. Pladerne tilføjes ligeledes ved endekonus.



CG JENSEN

CG Jensen A/S
Rokhøj 8
8520 Lystrup
Denmark
Tlf: 43448000
Fax: 43446802

Projekt:
130156 - Fem broer - Hårup-Låsby

Informations-nivea:
5

Emne:
**Bro 081
Detaljer spærrør 1**

Dato:
12.02.2013

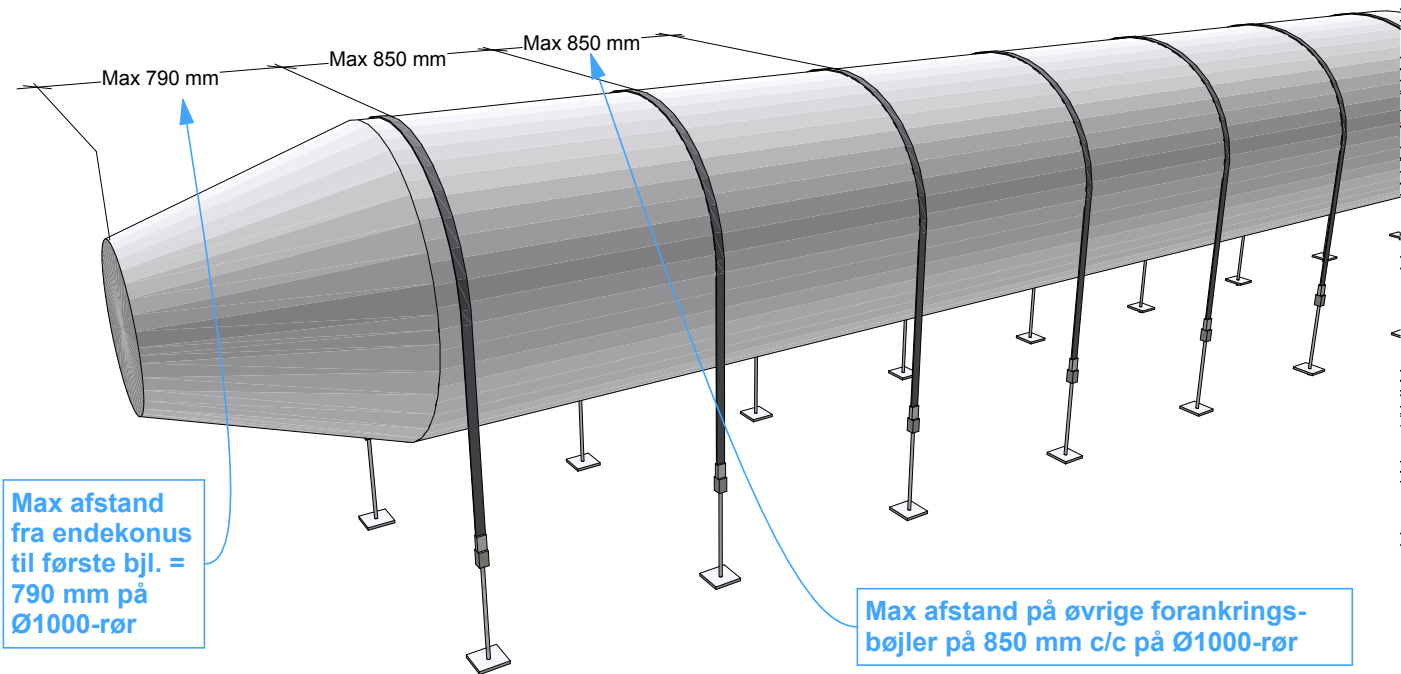
Målestoksforhold:
Ikke målfast

Tegnet af: **HEG**
Kontrolleret af: **JJP;TGR**

Tegningsnummer:

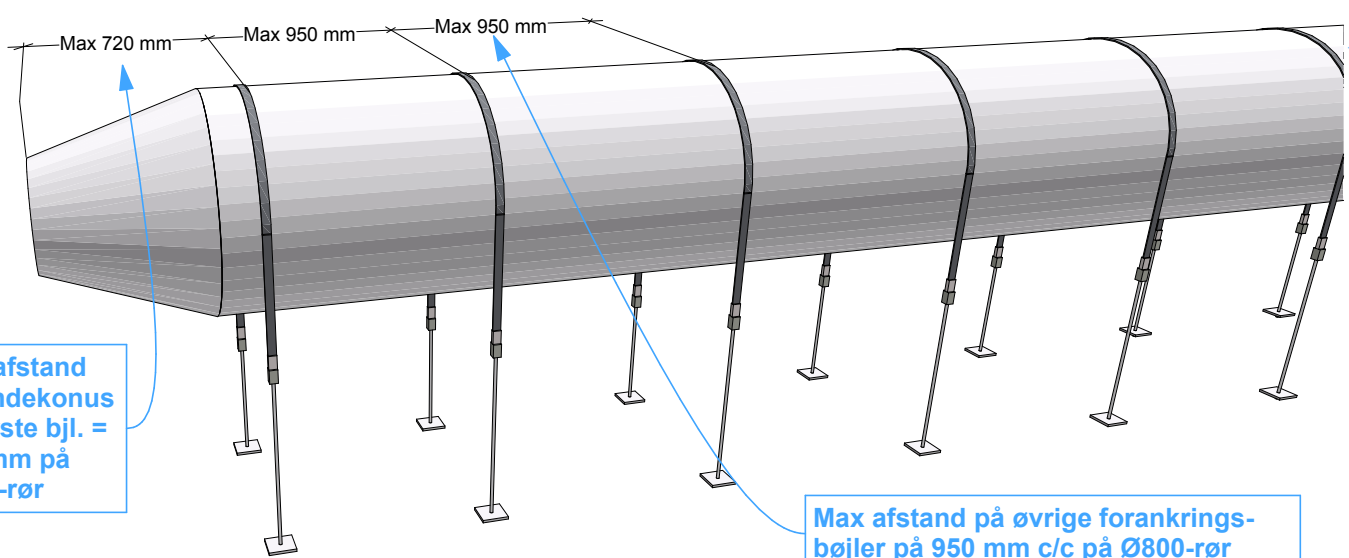
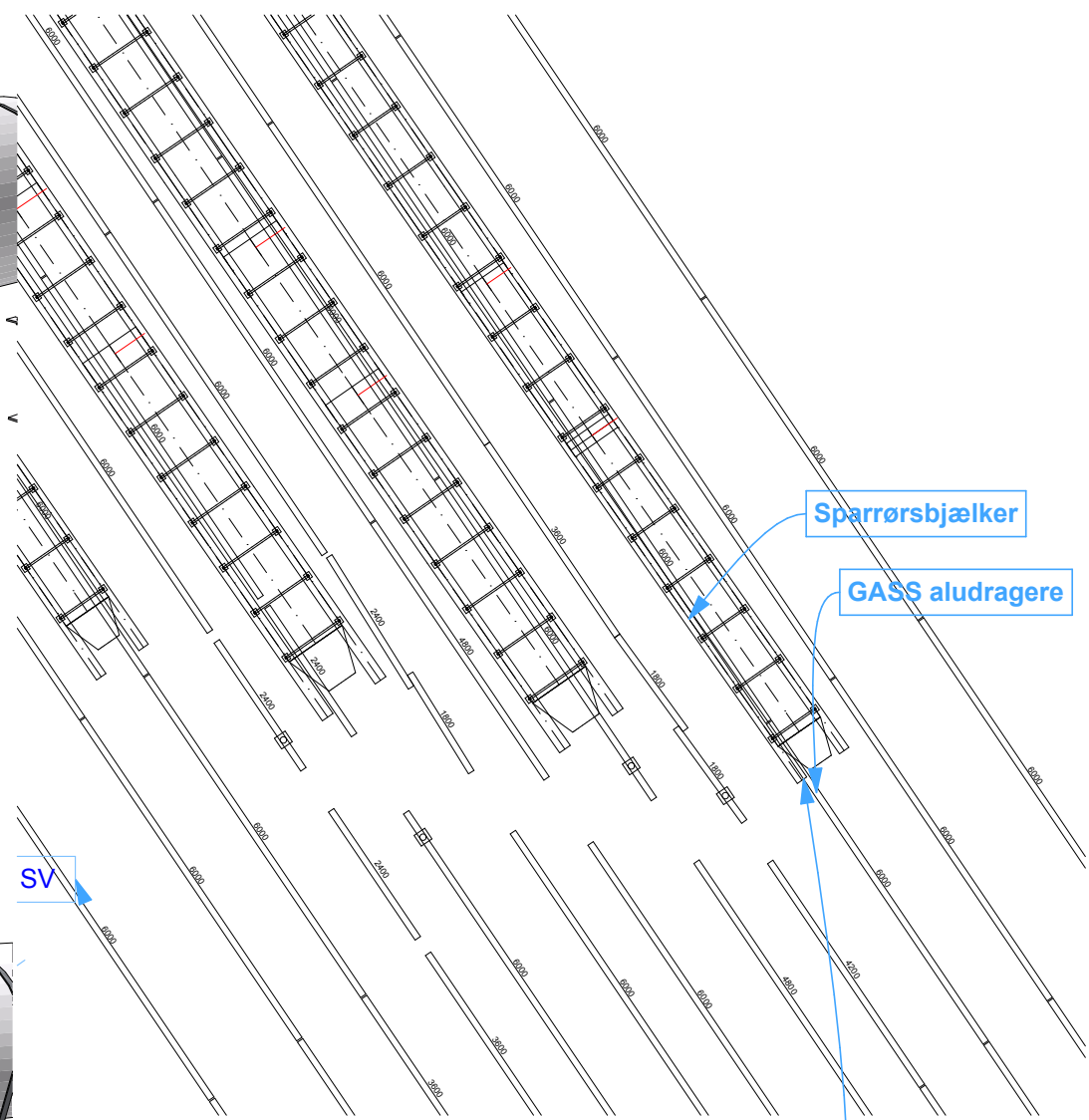
006

BIPS filnavn:



Max afstand fra endekonus til første bj. = 790 mm på Ø1000-rør

Max afstand på øvrige forankringsbøjler på 850 mm c/c på Ø1000-rør



Max afstand fra endekonus til første bj. = 720 mm på Ø800-rør

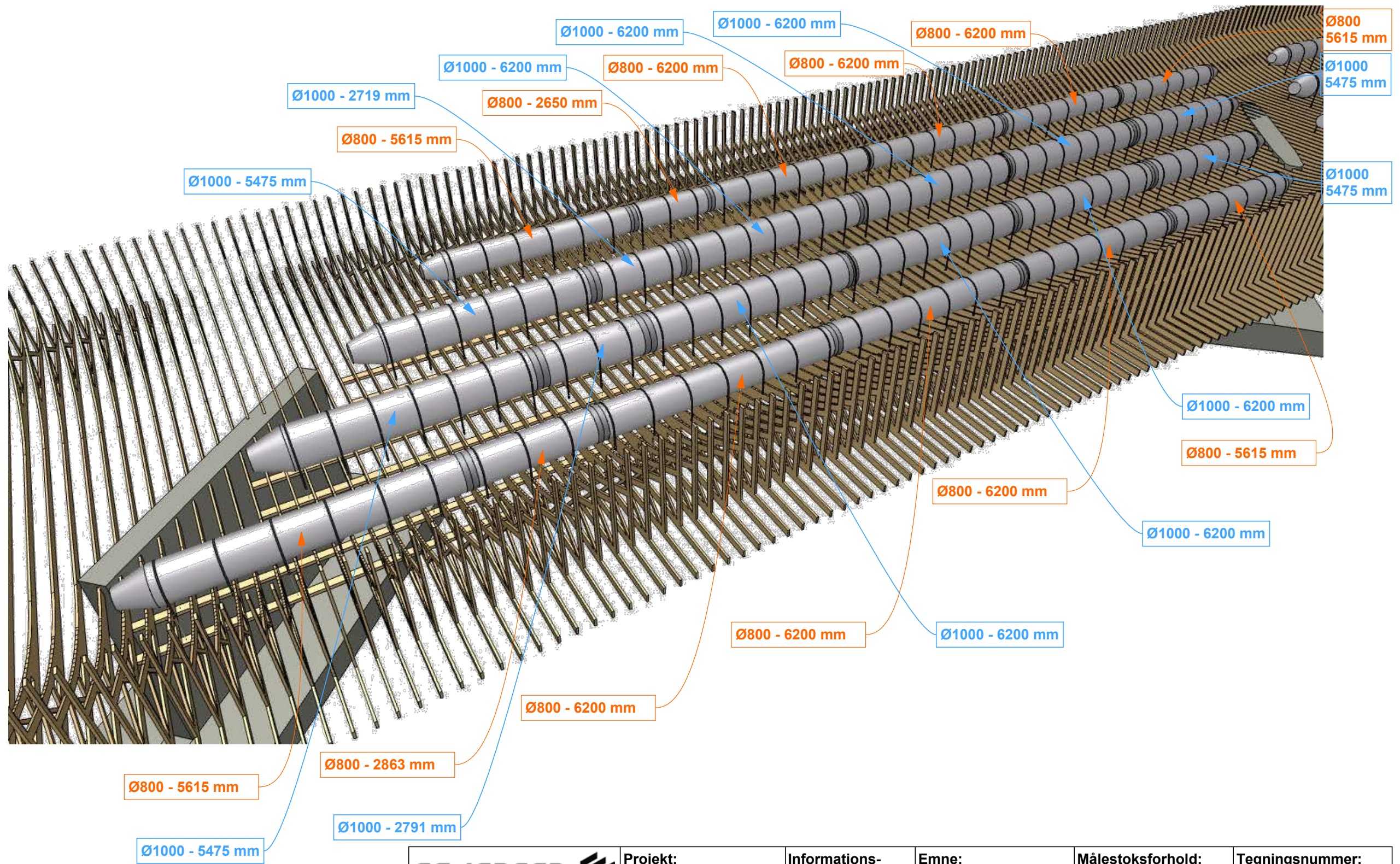
Max afstand på øvrige forankringsbøjler på 950 mm c/c på Ø800-rør

SV

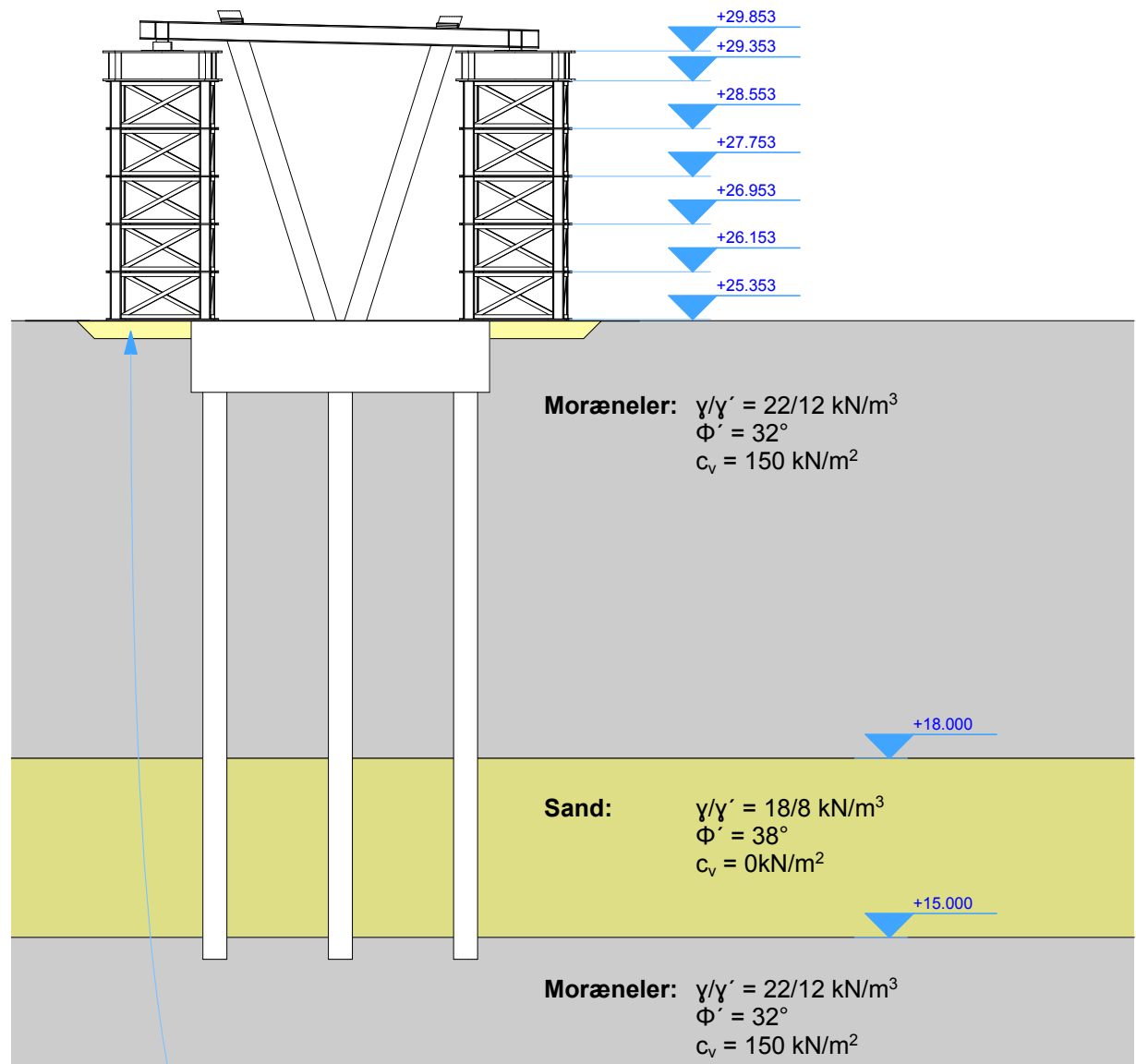
Der vil blive nogle enkelte steder hvor sparrørsbjælkerne kolliderer med GASS aludragerne. Her må sparrørsbjælkerne trækkes lidt til siden, således at de går fri af GASS-dragerne...



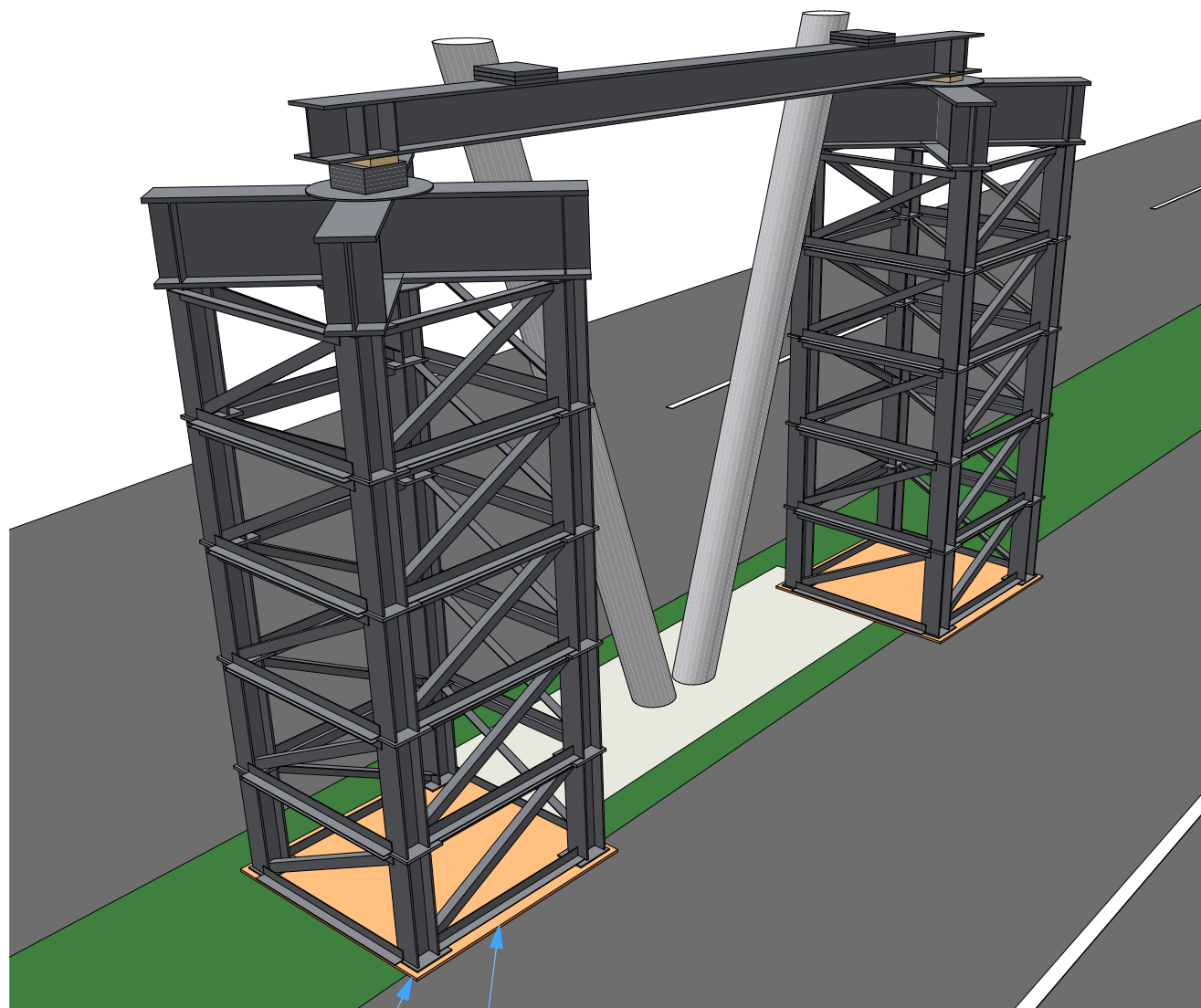
CG JENSEN <small>CG Jensen A/S Rokhøj 8 8520 Lystrup Danmark Tlf: 43448000 Fax: 43446802</small>	Projekt: 130156 - Fem broer - Hårup-Låsby	Informations-nivea: 	Emne: Bro 081 Detaljer sparrør 2	Målestoksforhold: Ikke målfast	Tegningsnummer: 007
			Dato: 12.02.2013	Tegnet af: HEG Kontrolleret af: JJP;TGR	



CG JENSEN CG Jensen A/S Rokhøj 8 8520 Lystrup Denmark Tlf: 43448000 Fax: 43446802	Projekt: 130156 - Fem broer - Hårup-Låsby	Informations- nivea: 5	Emne: Bro 081 Sparrør - syd	Målestoksforhold: Ikke målfast	Tegningsnummer: 005
			Dato: 12.02.2013	Tegnet af: HEG Kontrolleret af: JJP;TGR	BIPS filnavn:



S-03 Geologisk profil - Snit vinkelret på nyt midterfundament 1:100



3D-01 3D opstalt 1:127,82

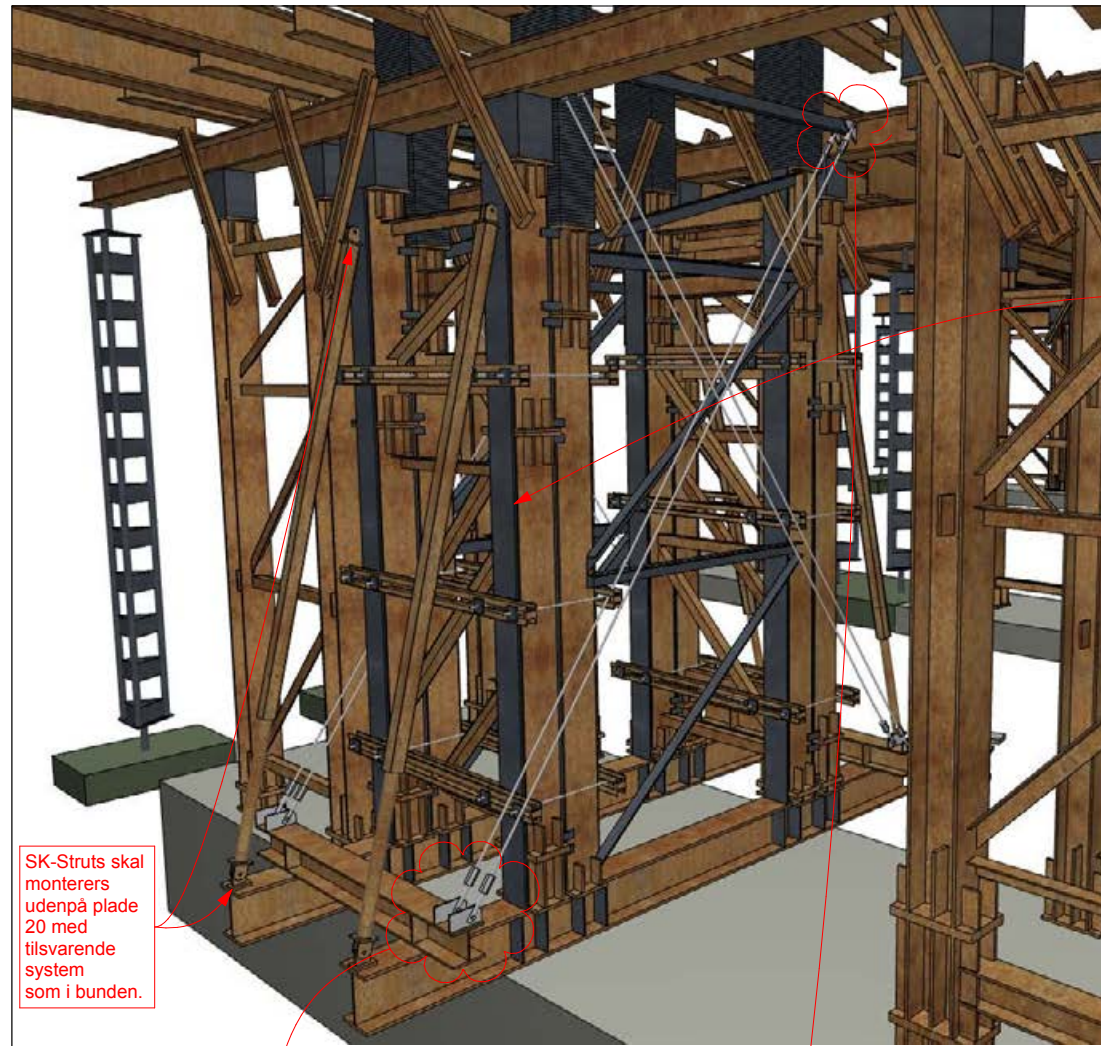
Indbygget gruspude, h = 300 mm. Må ikke bygges højere end omkringliggende TK.

Hvordan med pladsforhold og autoværn? Rabatten er ca. 2 m bred, og en del af tårnkonstruktionen vil komme til at stå oven i autoværn / belægning?

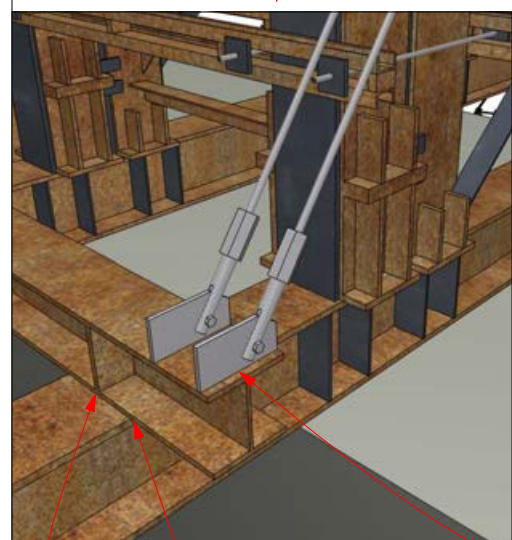
Effektiv fundamentsstørrelse på stålplade forudsat til 1720x1720 mm.



CG JENSEN <small>CG Jensen A/S Rokhøj 8 8520 Lystrup Danmark Tlf: 43448000 Fax: 43446802</small>	Projekt: 130170 - Stibro Jægeresborg station	Informations-nivea: 3	Emne: 3D opstalt af interrimstærne og geologisk profil.	Målestoksforhold: 1:100 og 1:127,82	Tegningsnummer: 001
			Dato: 18-02-2013	Tegnet af: HEG Kontrolleret af:	BIPS filnavn:



SK-Struts skal monteres udenpå plade 20 med tilsvarende system som i bunden.



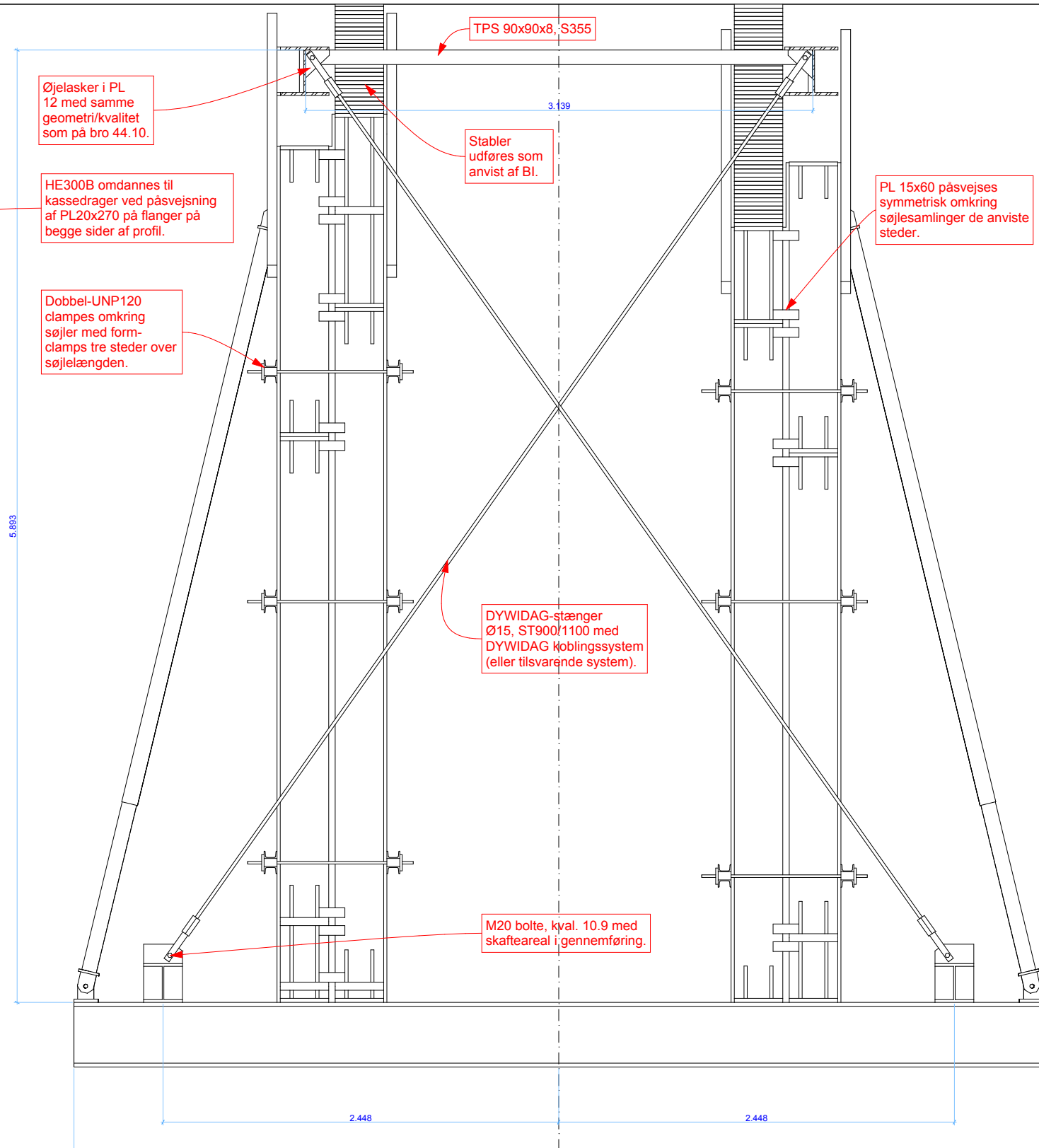
Samling ml. HE400B og HE240B fuldsvejses med a4 over tværsamling (kun på anvist side) på OS HE400B.

Tværsamling ml. HE400B og HE240B fuldsvejses med a3 på begge sider på US HE240B.



PL fuldsvejses med kantsøm a3 på begge sider til HE-profil

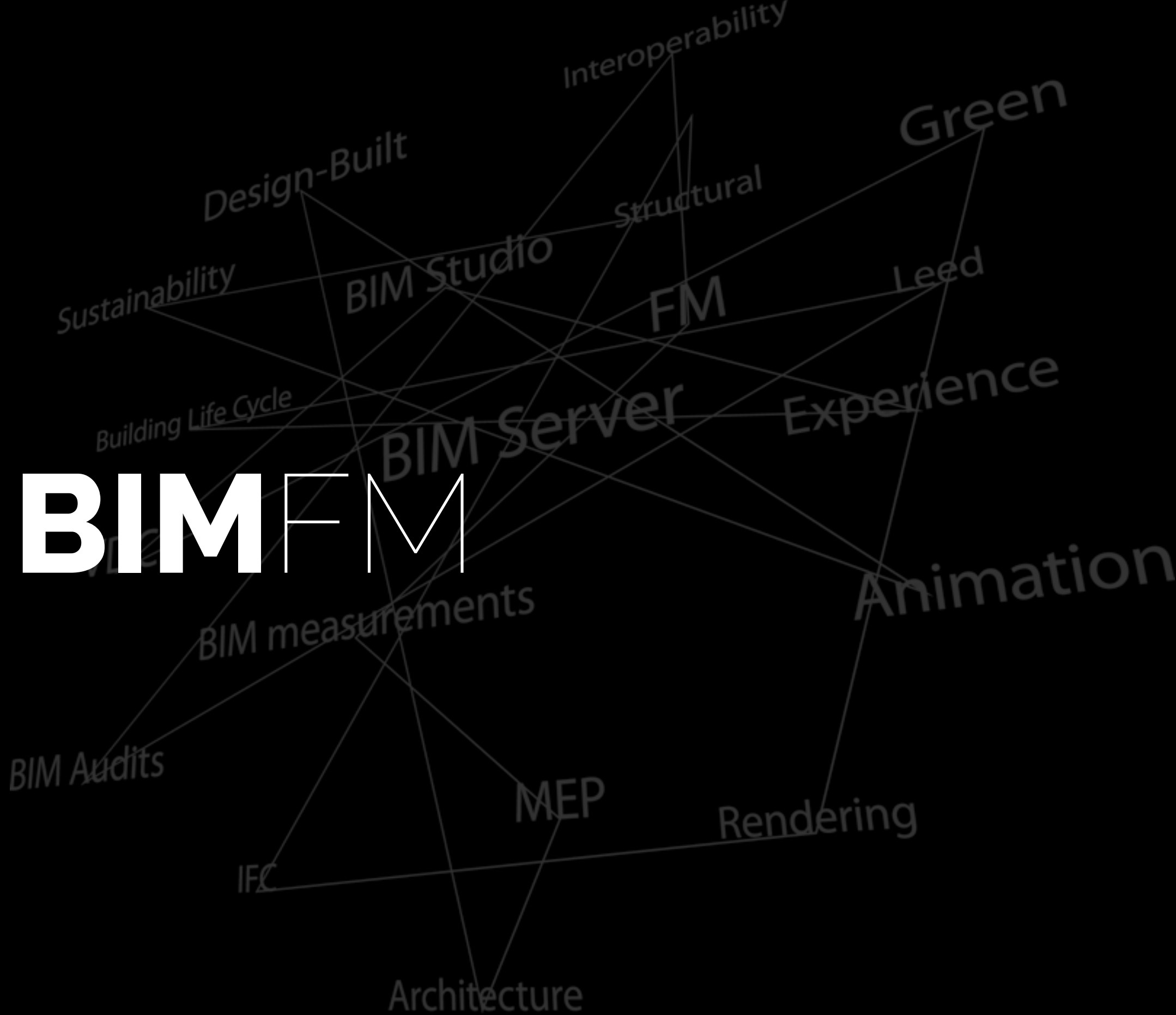
PL fuldsvejses med kantsøm a3 på begge sider til HE-profil



CG JENSEN <small>CG Jensen A/S Rokaj 9 8520 Lystrup Danmark Tlf: 43446000 Fax: 43446802</small>	Projekt: 130199 - Udv. af HMV	Informations-niveau:	Emne: Bro 41.10 - Afsværtning for seismisk last ved axis 20.	Målestoksforhold: Diverse	Tegningsnummer: 004
	Tegningstype: Ingeniørtegning		Dato: 15-05-2014	Tegnet af: HEG, CGJ Kontrolleret af: BI, ISC	BIPS filnavn:



BIM FFM





BIMequality

BIM · BASERET
FACILITY MANAGEMENT

FOR BEGYNDERE



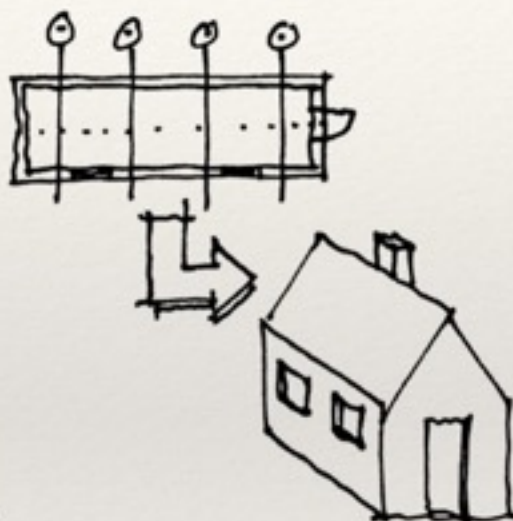


DIGITALISERING

Ⓐ BIM-PROJEKT
FRA RÅDGIVERE



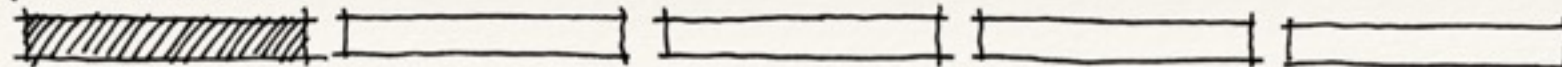
Ⓑ 2D TIL BIM



Ⓒ OPMÅLING

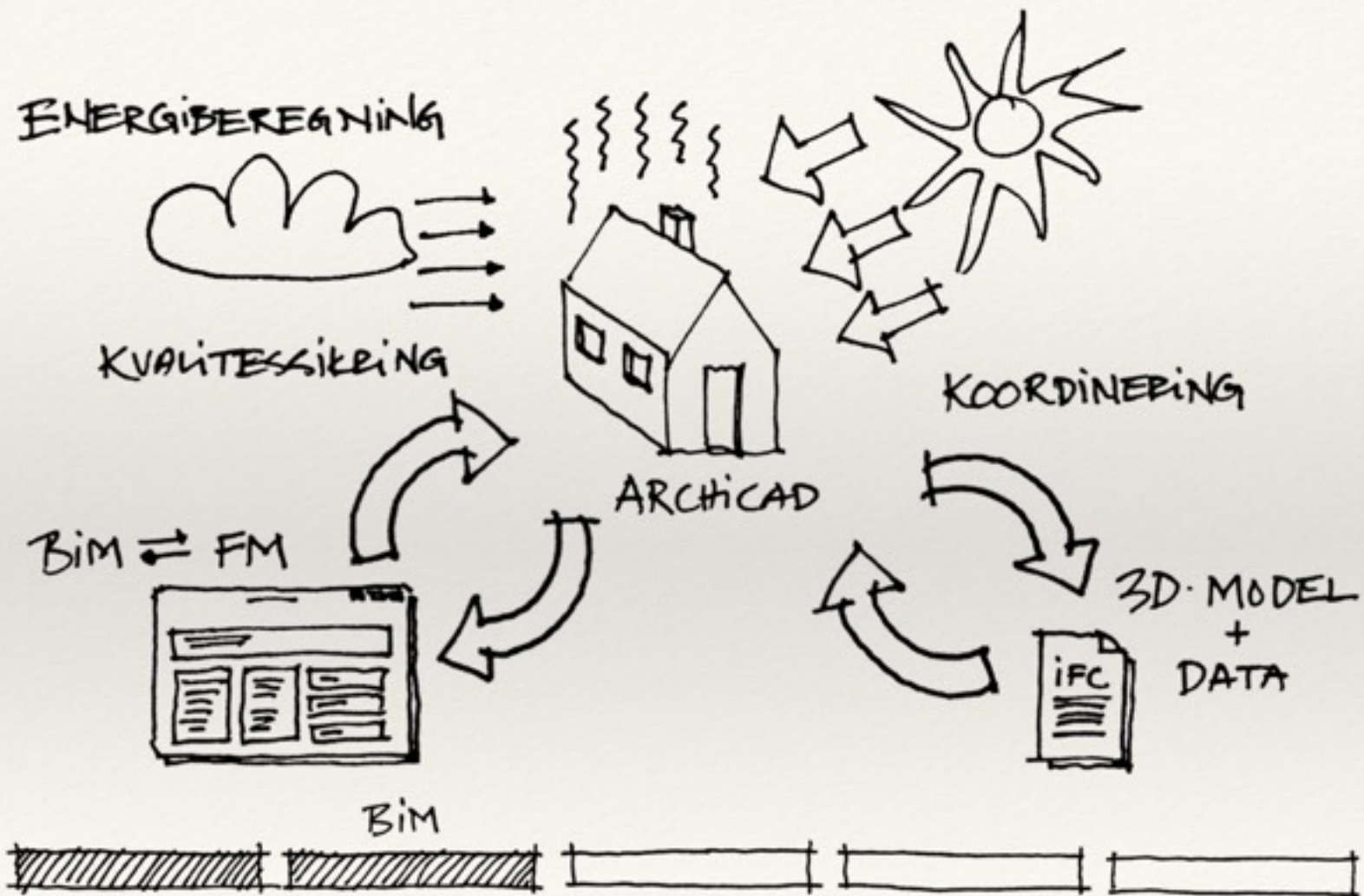


DIGITALISERING



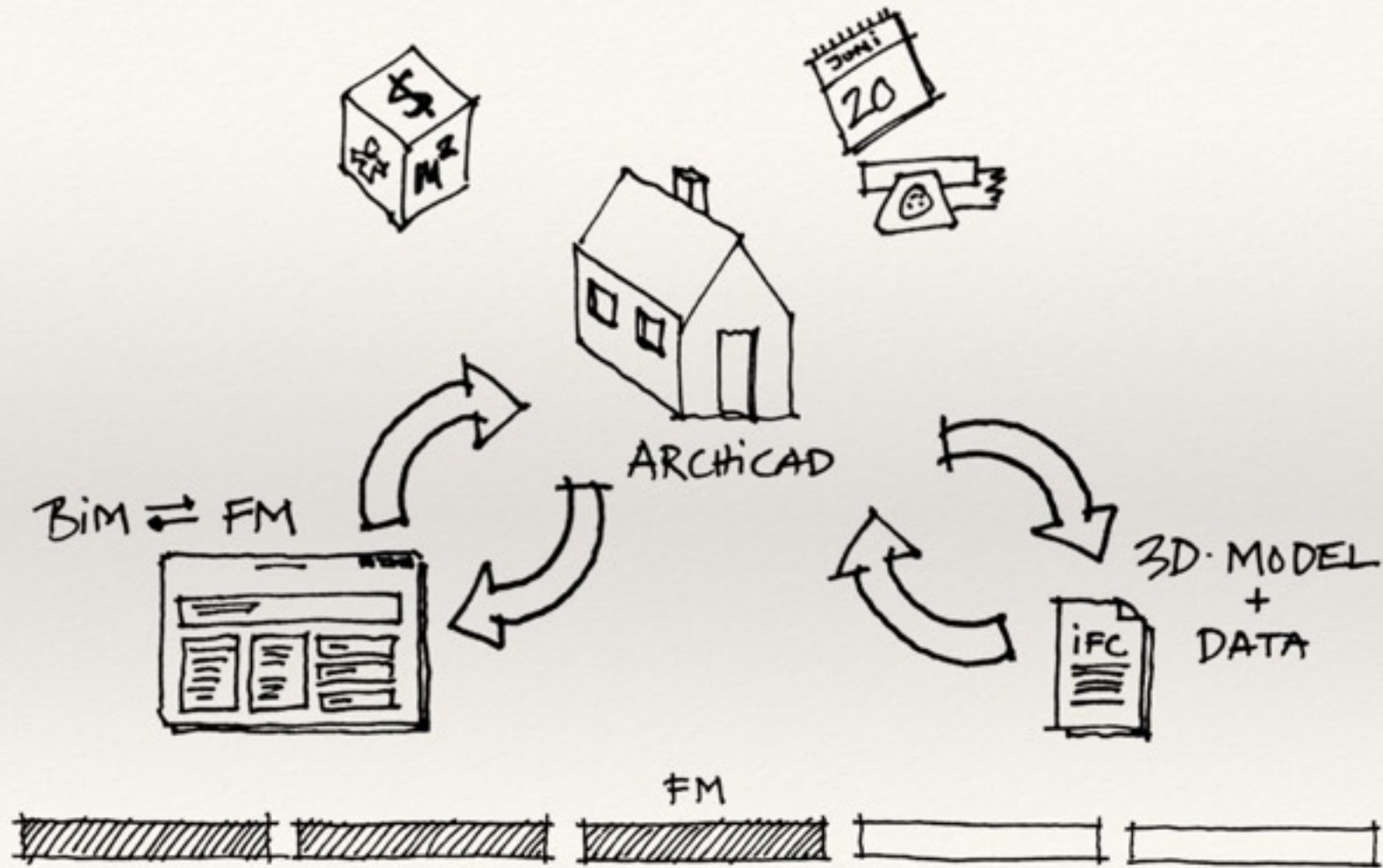


OPDATERET BIM





ARCHIFM





ARCHIFM

A ASSET PLANNING

- NØGLETAL
- BYGNINGS DATA
- DATA-UDTRÆK



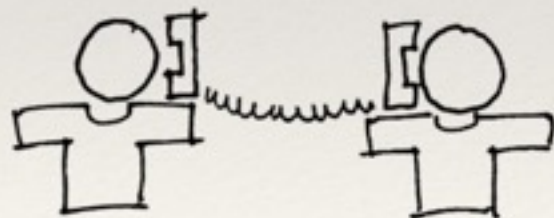
B MAINTENANCE

- TILSYN/RENGØRING
- UDSKIFTNING/REPARATION
- UDFØRENDE



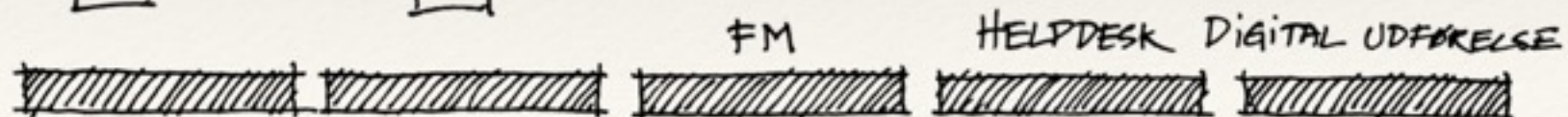
C HELPDESK

- BRUGERE ANMELDER
- KOMMUNIKATION
- HISTORIK



D MOBILE WORKORDERS

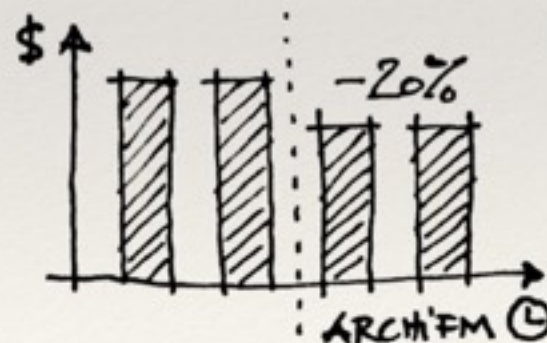
- SEND ORDRE
- STYR PÅ PROCESSEN





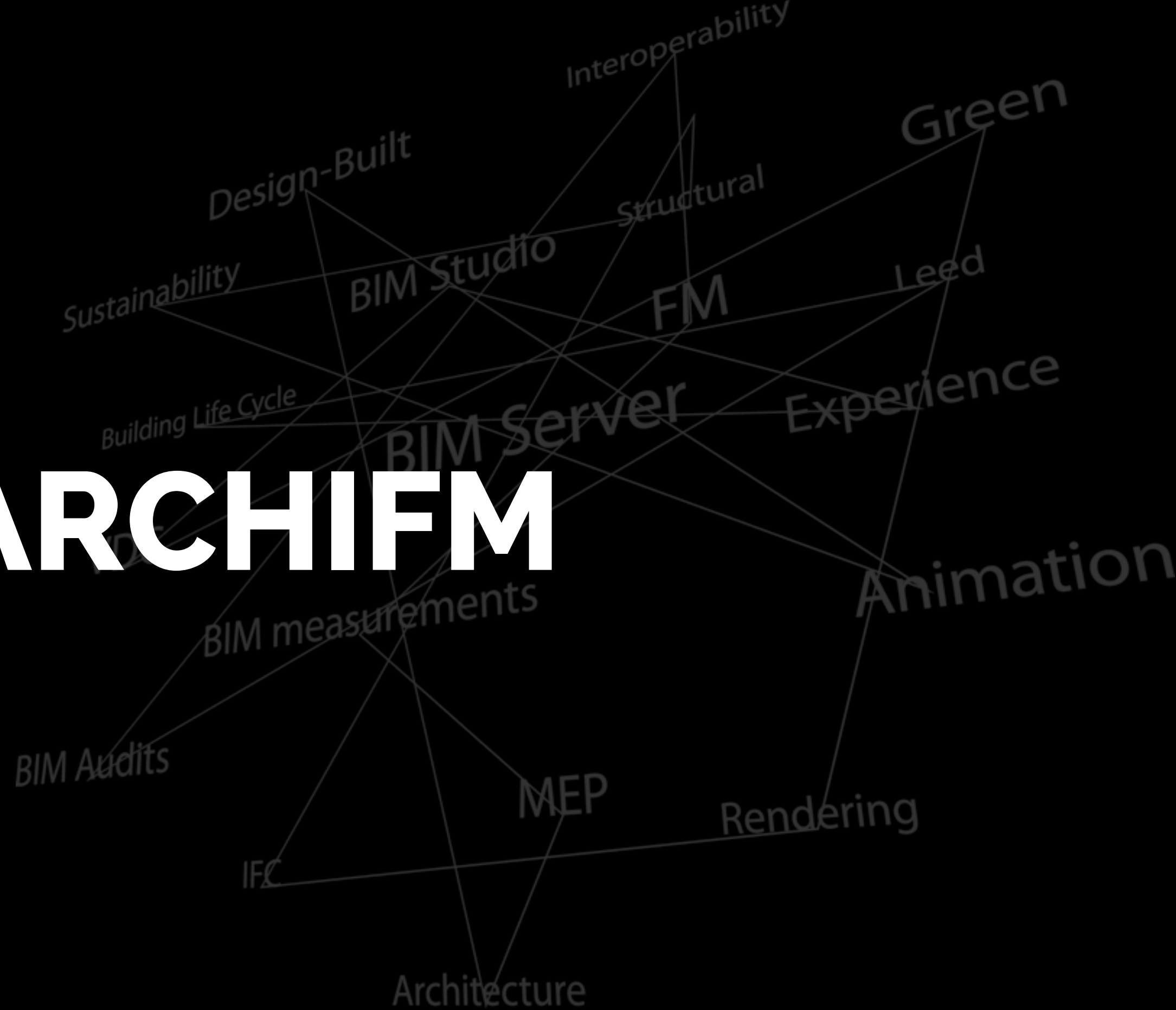
BIM-BASERET FM

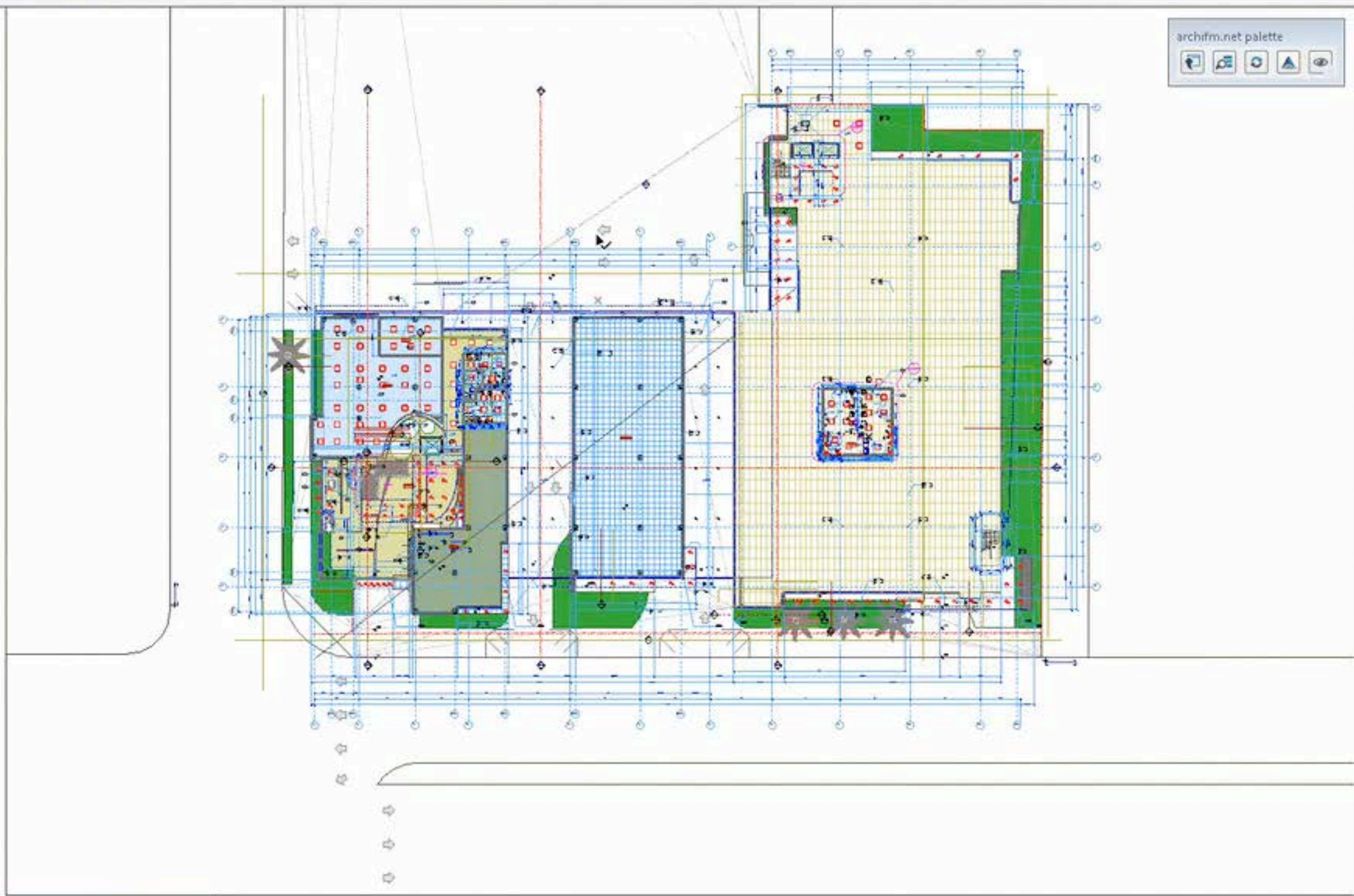
- ✓ OVERBLIK OVER OPGAVER
- ✓ BEDRE VEDLIGEHOLDTE BYGNINGER
- ✓ MERE TILFREDSE BRUGERE
- ✓ UDBUD SPARER 20%
- ✓ BEDRE STYR PÅ UDFØRENDE





ARCHIFM





archifm.net palette

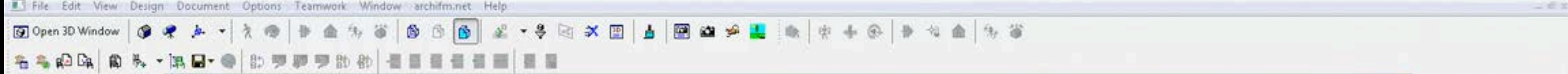
[Icons]

- NHS OFFICE COMPLEX
 - Stories
 - 3. roof
 - 2. 3 floor
 - 1. 2 floor
 - 0. 1 floor**
 - 1. foundation
 - Sections
 - 01 A_A Section (Auto-rebuild Mod)
 - 02 B_B Section (Auto-rebuild Mod)
 - 03 C_C Section (Auto-rebuild Mod)
 - 04 D_D Section (Auto-rebuild Mod)
 - 09 Curtain Wall Details (Drawing)
 - 10 Curtain Wall Section (Auto-rel)
 - 11 Curtain Wall Section (Auto-rel)
 - 12 Curtain Wall Section (Auto-rel)
 - 13 Curtain Wall Section (Auto-rel)
 - 14 Curtain Wall Section (Auto-rel)
 - 15 Lobby Skylight Elevation (Auto)
 - 16 Lobby Skylight Section (Auto)
 - 17 Lobby Stair (Auto-rebuild Mod)
 - 18 Shade (Drawing)
 - Elevations
 - Interior Elevations
 - Worksheets
 - Details
 - 01 A1.14 - Vertical Unit (Drawing)
 - 02 A2.01 - Principal Elevator (Dra
 - 03 A2.02 - Corner (Drawing)
 - 04 A4.08 - Roof Acces (Drawing)
 - 05 A3.01 - Skylight (Drawing)
 - 06 A4.20 - Column (Drawing)
 - 07 A4.20 - Column (Drawing)
 - 08 A1.01 - Stair 1 (Drawing)
 - 09 A1.12 - Toilete Unit (Independ
 - 3D Documents
 - 3D
 - Generic Perspective
 - Generic Axonometry
 - 00 Untitled Path
 - 01 Untitled Path
 - Schedules
 - Project Indexes

Properties

0. 1 floor

Settings...



- ToolBox
- Select
- Arrow
- Marquee
- Design
- Wall
- Door
- Window
- Column
- Beam
- Slab
- Stair
- Roof
- Shell
- Skylight
- Curtain...
- Morph
- Object
- Zone
- Mesh
- Document
- Dimension
- Level Di...
- Text
- Label
- Fill
- Line
- Arc/Cirde
- Polyline
- Drawing
- Section
- Elevation
- Interior...
- Worksh...
- Detail
- More

vintoCON - archifm.net

archifm.net - compactView

Spatial Type Utility meter

Area Management

New Delete Edit Show in Model Refresh

Export to

Full Name	Gross Area	ERP Code	Asset Count
NHS_Office_12			291

Refresh

New Delete Edit Show in Model Refresh View Asset Objects Export to

Drag a column header here to group by that column

Asset Type	Asset Group	Code	Name	Bar Code	ERPCode	Inventory Number	Location
No data to display							

Page 1 of 0 (0 items)

Create Filter

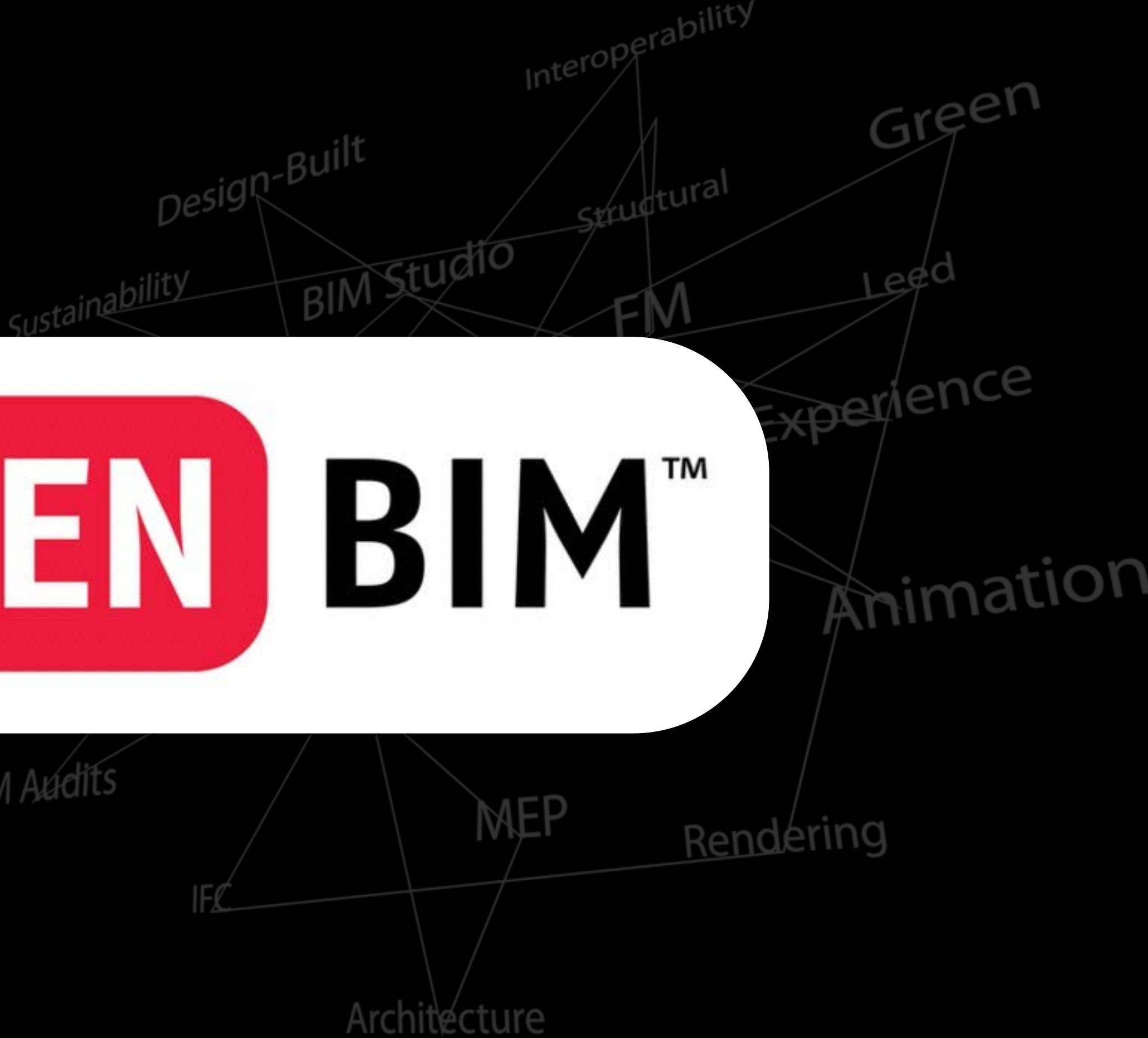
Items per page: 20

- Level Map
- CE COMPLEX
 - roof
 - 3 floor
 - 2 floor
 - 1 floor**
 - Foundation
 - ns
 - A_A Section (Auto-rebuild Mod
 - B_B Section (Auto-rebuild Mod
 - C_C Section (Auto-rebuild Mod
 - D_D Section (Auto-rebuild Mod
 - Curtain Wall Details (Drawing)
 - Curtain Wall Section (Auto-rel
 - Curtain Wall Section (Auto-rel
 - Curtain Wall Section (Auto-rel
 - Curtain Wall Section (Auto-rel
 - Curtain Wall Section (Auto-rel
 - Curtain Wall Section (Auto-rel
 - Lobby Skylight Elevation (Auto
 - Lobby Skylight Section (Auto-
 - Lobby Stair (Auto-rebuild Mod
 - Shade (Drawing)
 - ions
 - or Elevations
 - heets
 -
 - A1.14 - Vertical Unit (Drawing)
 - A2.01 - Principal Elevator (Dra
 - A2.02 - Corner (Drawing)
 - A4.08 - Roof Acces (Drawing)
 - A3.01 - Skylight (Drawing)
 - A4.20 - Column (Drawing)
 - A4.20 - Column (Drawing)
 - A1.01 - Stair 1 (Drawing)
 - A1.12 - Toilete Unit (Independ
 - cuments
 - eneric Perspective
 - eneric Axonometry
 - Untitled Path
 - Untitled Path
 - ules
 - t Indexes





OPEN BIM™





vintoCON
ARCHIFM13

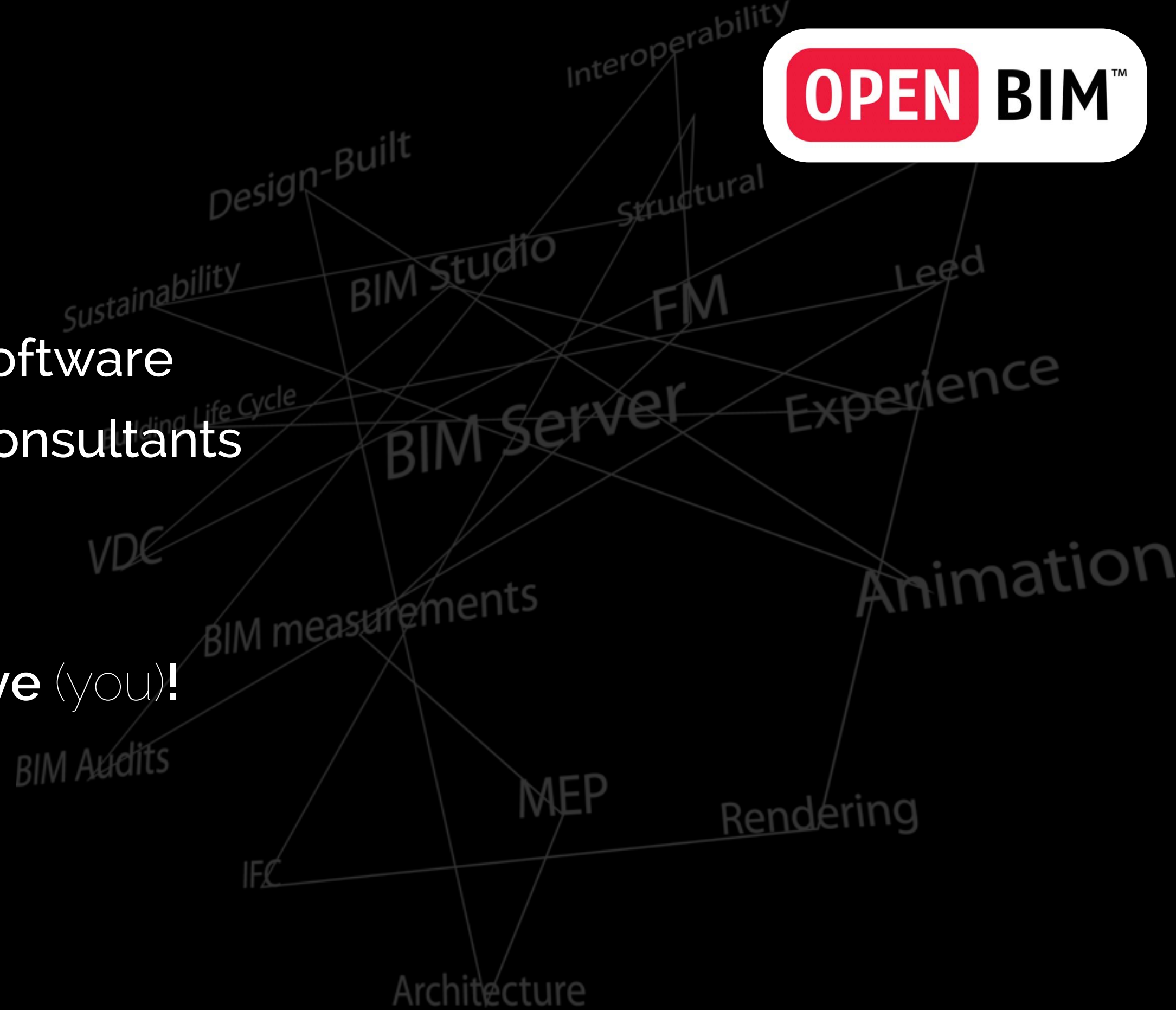




OPEN STANDARDS



- > Choose your own software
- > Choose your own consultants
- > Reuse data
- > Ownership of data
- = **Your data will survive** (you)!

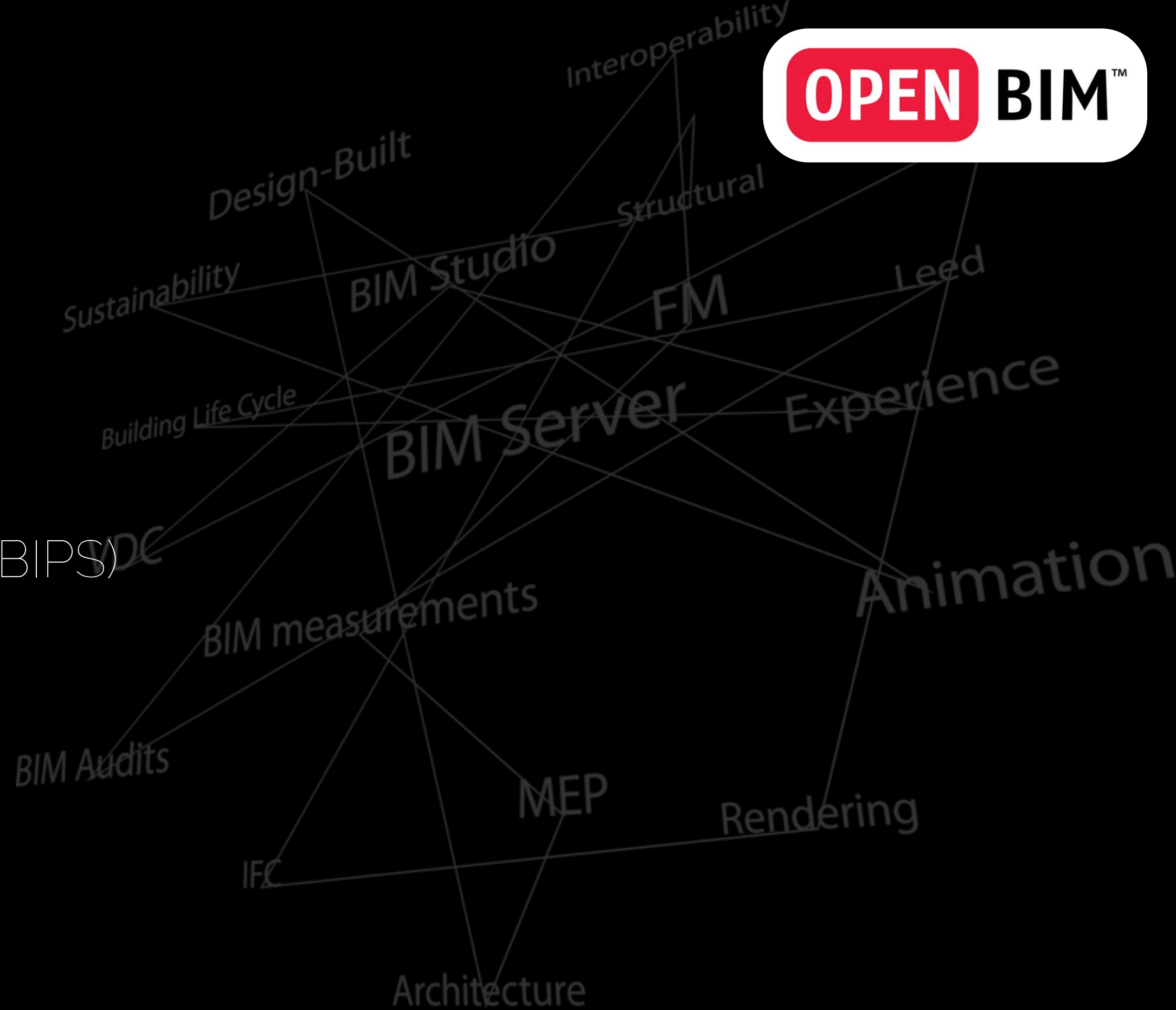




OPEN STANDARDS



BIM: IFC 2.x.3 > 2.x.4
(buildingSMART: IAI / BIPS)

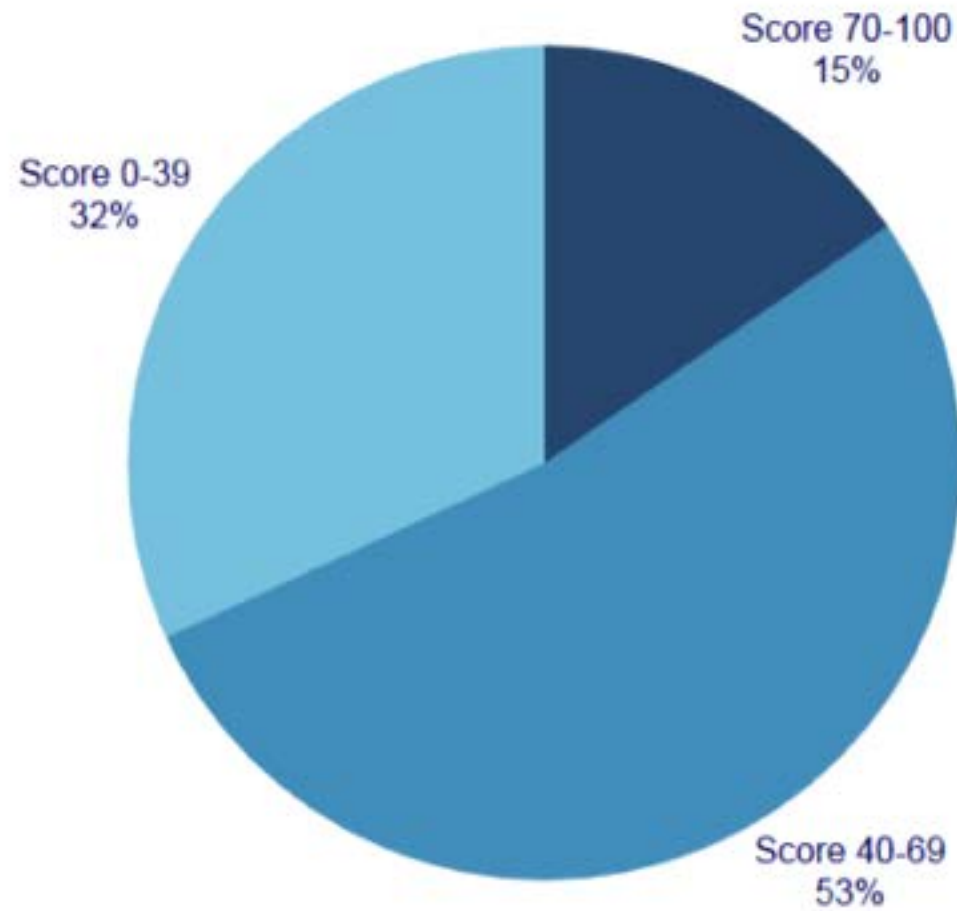


“IFC reduces errors in general! The open standard makes it possible to collect all models very easy. Especially with the 2014 export from Revit to IFC we have used this possibility.”

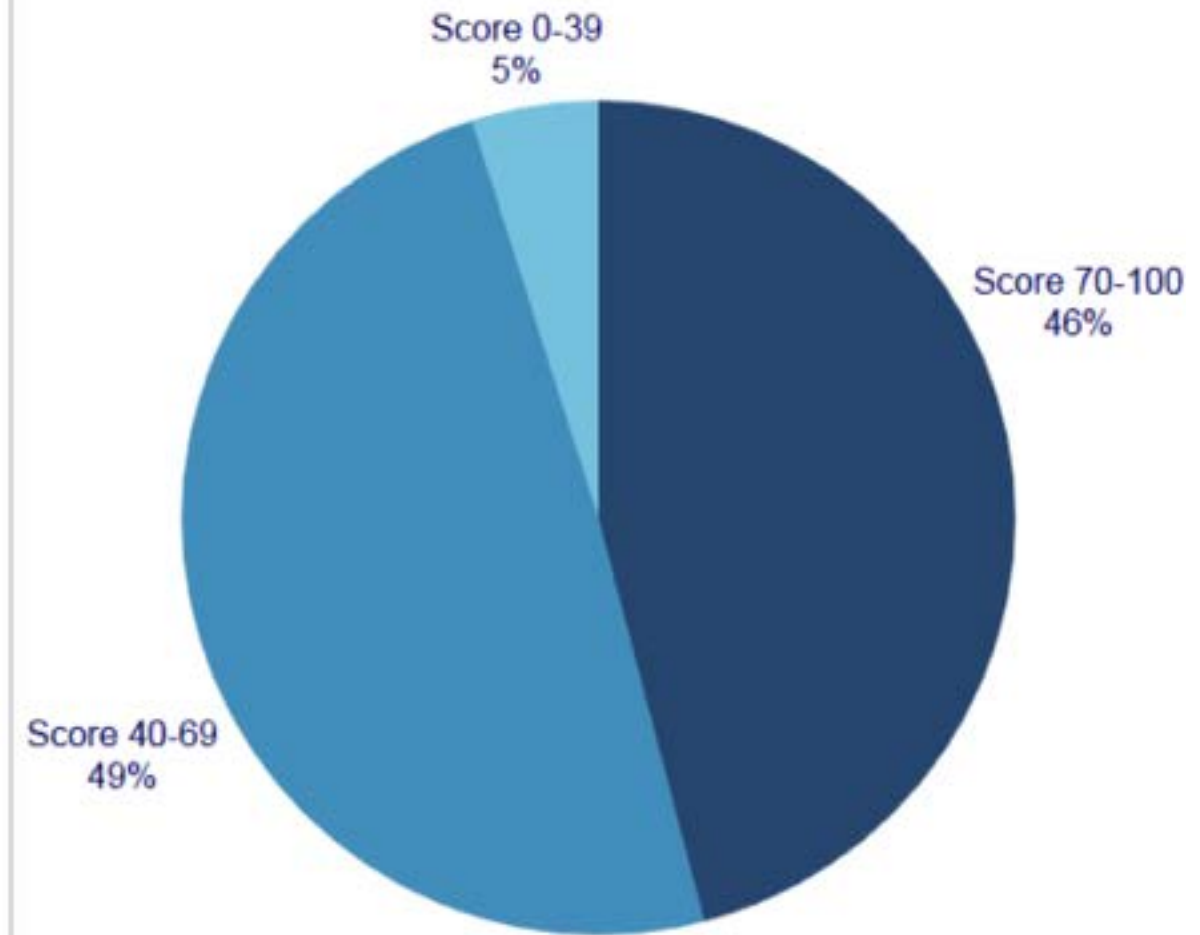
MTHøjgaard Whitepaper – August 2014:

“IFC – A driver for design quality in the AEC industry”

NON IFC

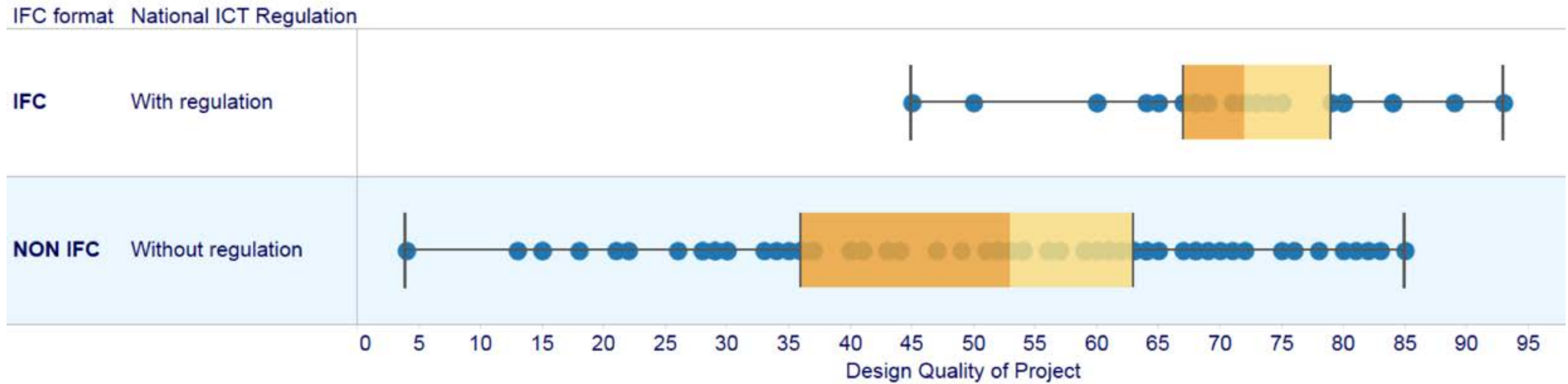


IFC



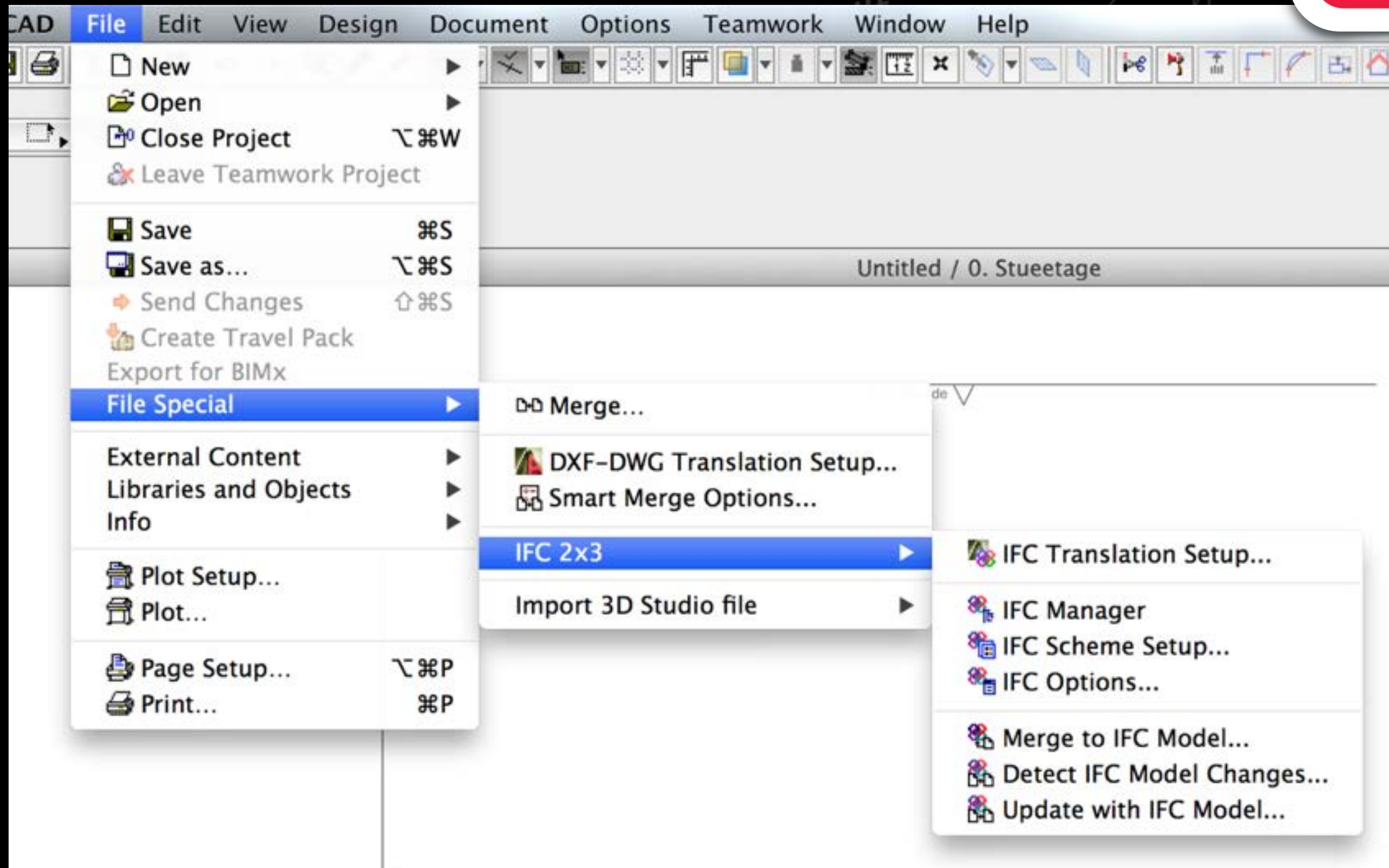
MTHøjgaard Whitepaper – August 2014:

“IFC – A driver for design quality in the AEC industry”



MTHøjgaard Whitepaper – August 2014:

"IFC – A driver for design quality in the AEC industry"





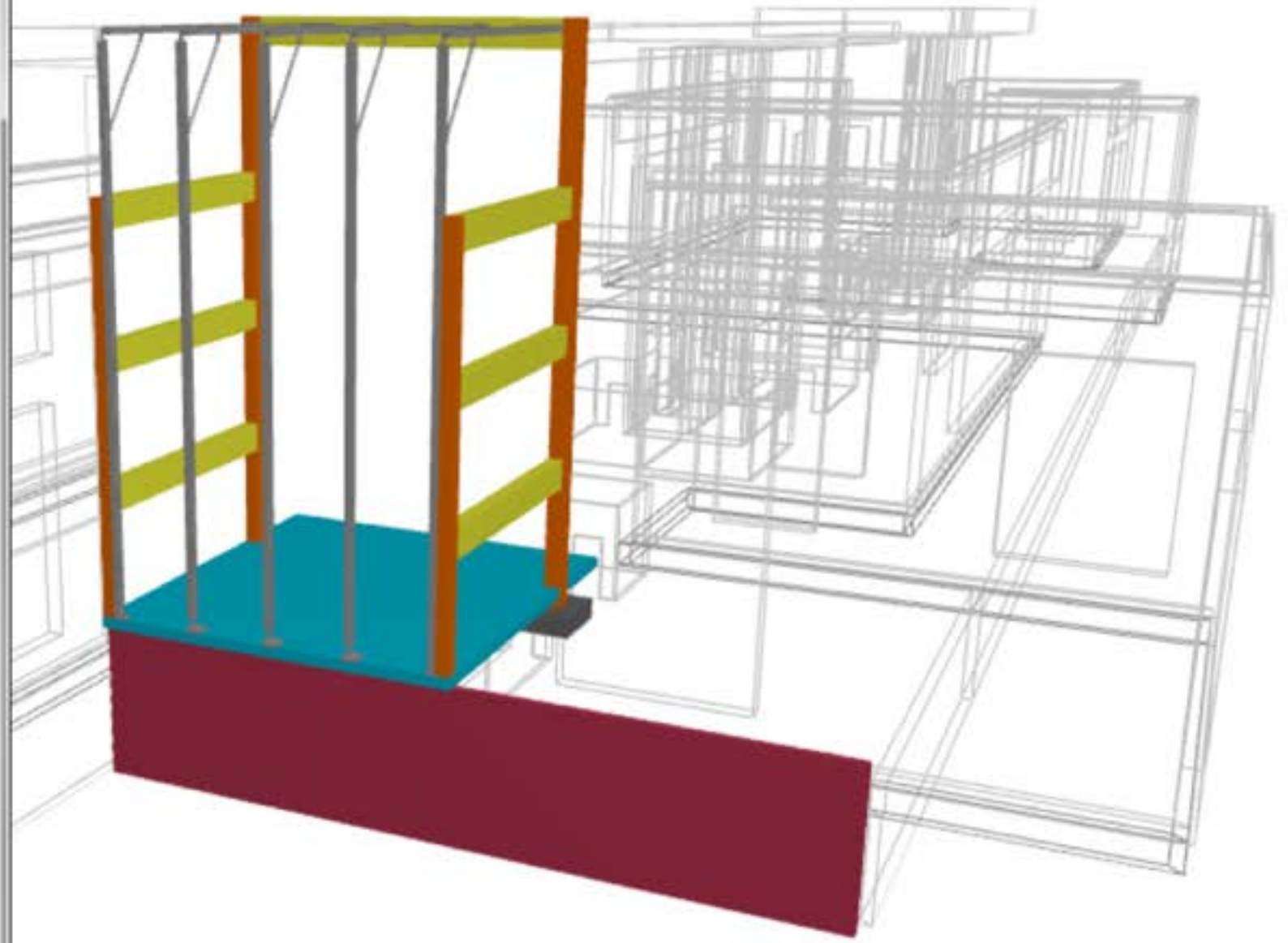
IFC Manager

Tekla Corporation

- Undefined
 - structural model
 - 0. Undefined
 - IfcElementAssembly (15)
 - IfcBeam (33)
 - IfcColumn (13)
 - IfcFooting (2)
 - IfcPlate (3)
 - IfcWallStandardCase (1)
 - IfcSlab (1)
 - SLAB

Assignments

- IFC Groups
- IFC Zones
- Actors
- Space Occupants

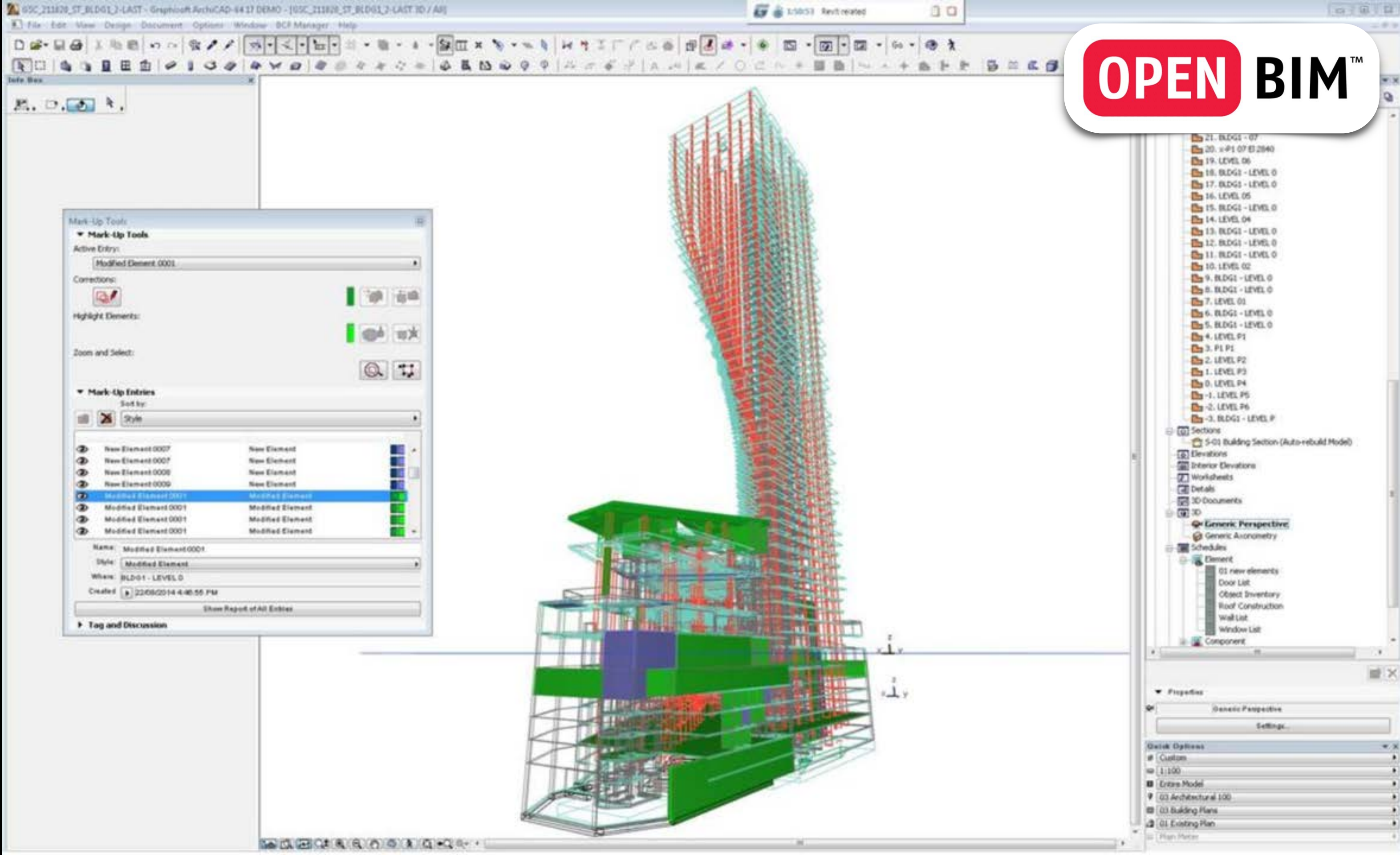


BIG

OPEN BIM™



493' TOWER
FROM PACIFIC ST. AND HOWE ST. LOOKING SOUTH



Mark-Up Tools

▼ Mark-Up Tools

Active Entry:

Modified Element 0001

Corrections:

Highlight Elements:

Zoom and Select:

▼ Mark-Up Entries

Sort by:

Style

New Element 0007	New Element	
New Element 0007	New Element	
New Element 0008	New Element	
New Element 0009	New Element	
Modified Element 0001	Modified Element	
Modified Element 0001	Modified Element	
Modified Element 0001	Modified Element	

Name: Modified Element 0001

Style: Modified Element

Where: BLD-01 - LEVEL 0

Created: 22/09/2014 4:48:55 PM

Show Report of All Entries

► Tag and Discussion

- 21. BLDG1 - 07
- 20. s-P1 07 B2840
- 19. LEVEL 06
- 18. BLDG1 - LEVEL 0
- 17. BLDG1 - LEVEL 0
- 16. LEVEL 05
- 15. BLDG1 - LEVEL 0
- 14. LEVEL 04
- 13. BLDG1 - LEVEL 0
- 12. BLDG1 - LEVEL 0
- 11. BLDG1 - LEVEL 0
- 10. LEVEL 02
- 9. BLDG1 - LEVEL 0
- 8. BLDG1 - LEVEL 0
- 7. LEVEL 01
- 6. BLDG1 - LEVEL 0
- 5. BLDG1 - LEVEL 0
- 4. LEVEL P1
- 3. P1 P1
- 2. LEVEL P2
- 1. LEVEL P3
- 0. LEVEL P4
- 1. LEVEL P5
- 2. LEVEL P6
- 3. BLDG1 - LEVEL P

Sections

- 5-01 Building Section (Auto-rebuild Mode)

Elevations

Interior Elevations

Workbooks

Details

3D Documents

3D

- Generic Perspective
- Generic Acrometry

Schedules

- Element
 - 01 new elements
 - Door List
 - Object Inventory
 - Roof Construction
 - Wall List
 - Window List
- Component

▼ Properties

Generic Perspective

Settings...

Quick Options

- Custom
- 1:100
- Entire Model
- 03 Architectural 100
- 03 Building Plans
- 01 Existing Plan
- Plan Mirror



OPEN BIM™





VIEWERS

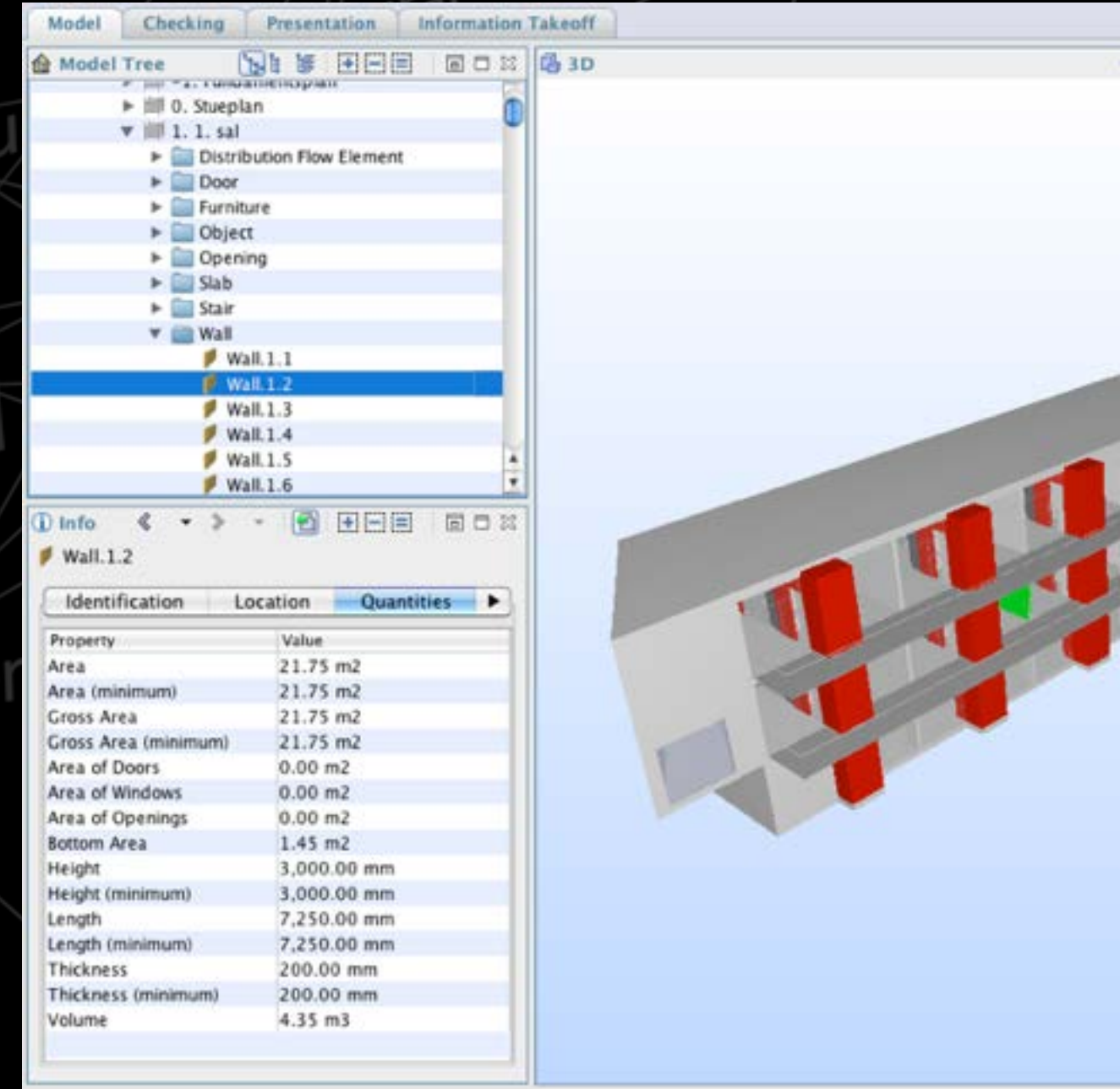
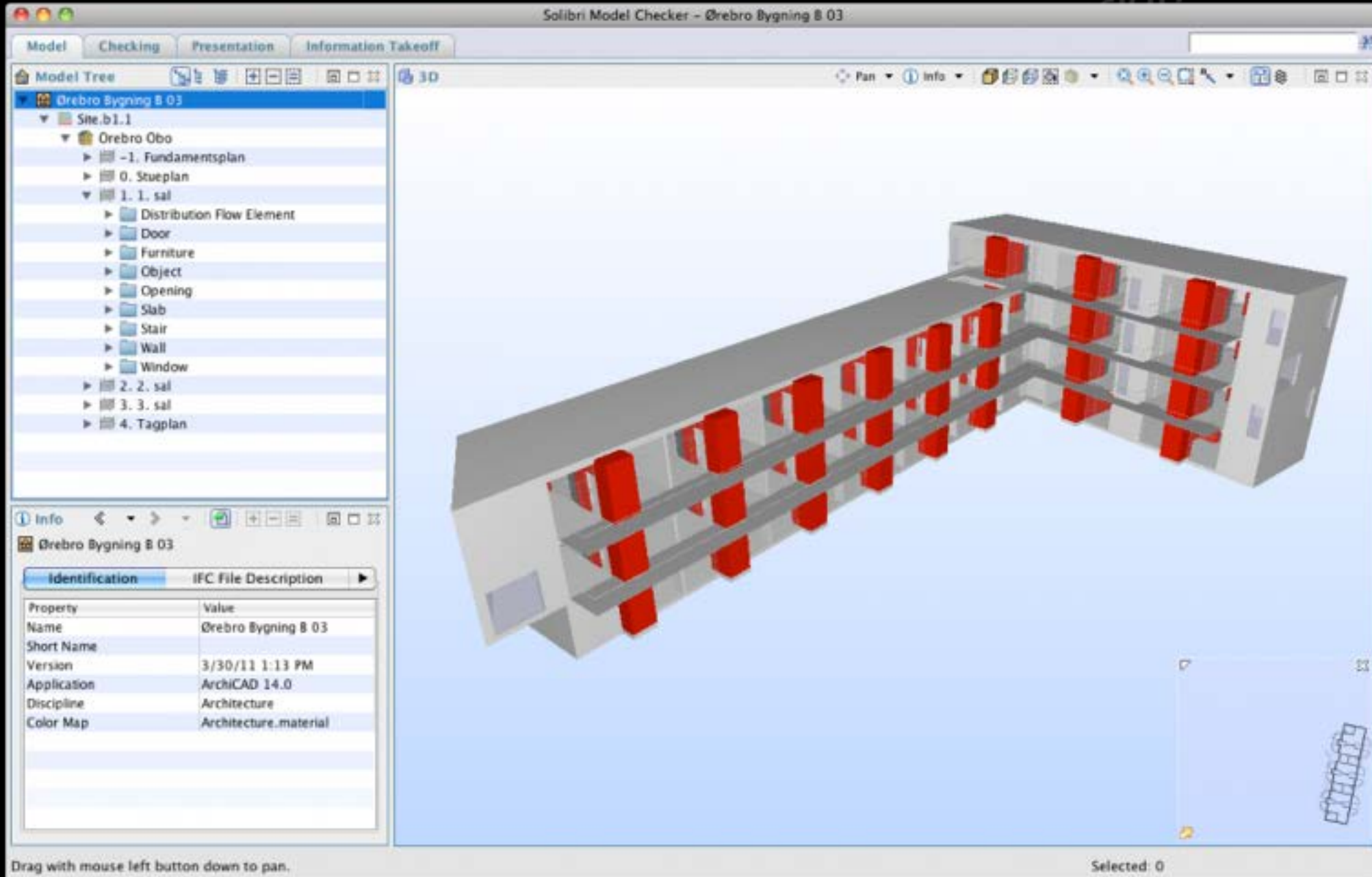


- > Free software.
- > 3rd party development
- = Always test your own models before handover

[Eg. Solibri Model Viewer for Mac / Windows: www.solibri.com]



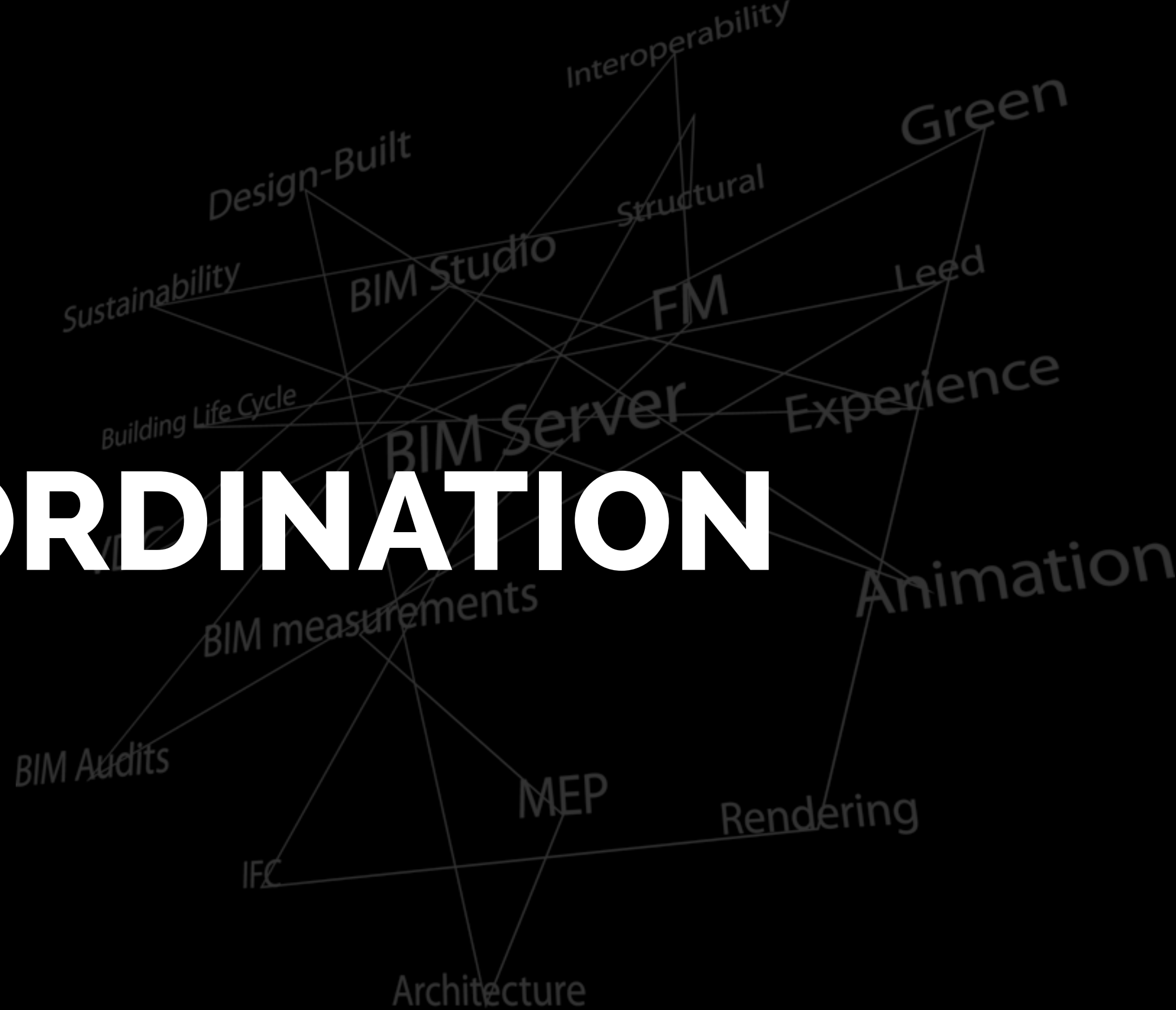
VIEWERS



[Eg. Solibri Model Viewer for Mac / Windows: www.solibri.com]



COORDINATION





CASE

ÖREBRO UNIVERSITY

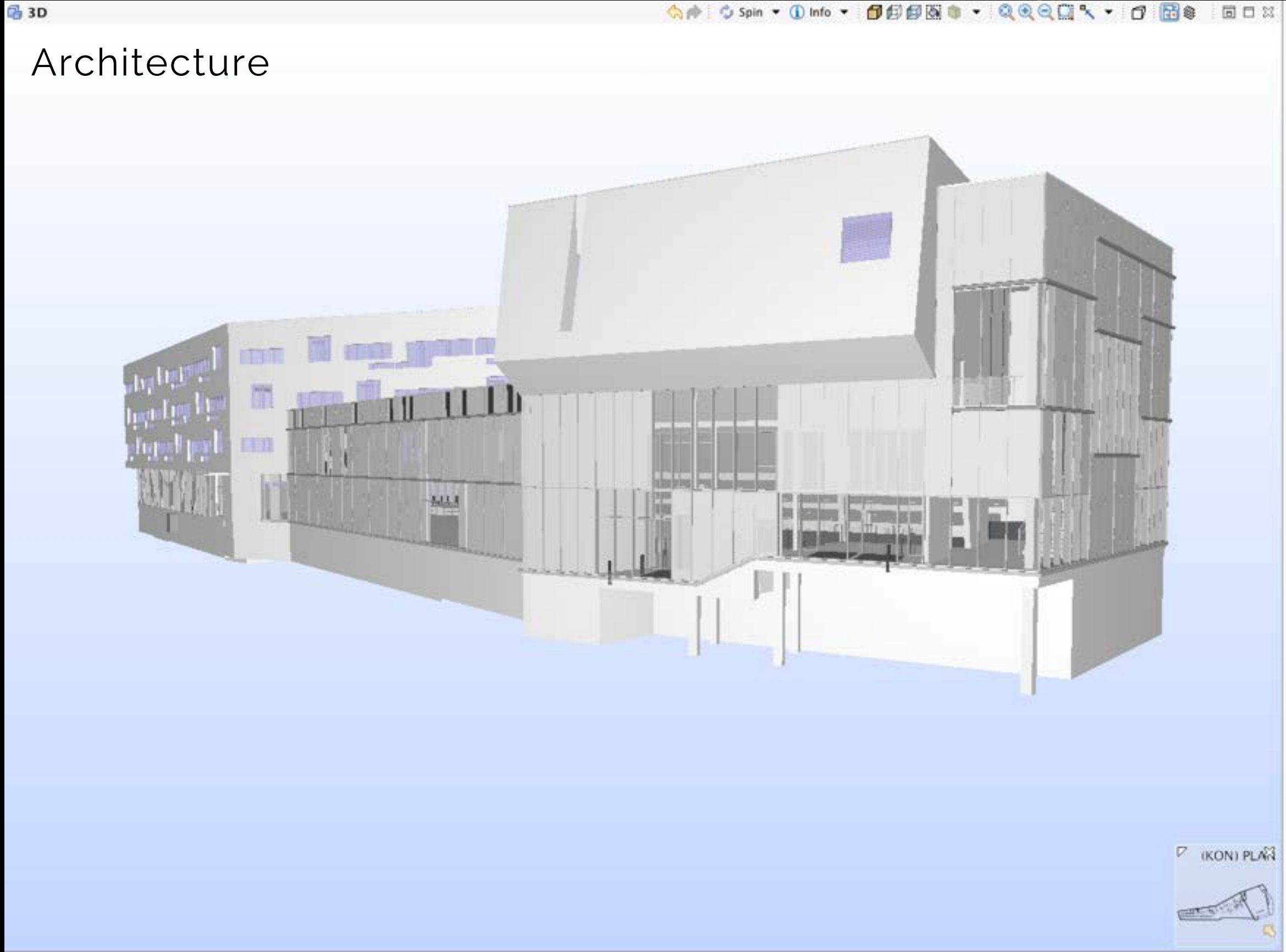
BY JUUL | FROST ARCHITECTS

Örebro University by JUUL | FROST architects









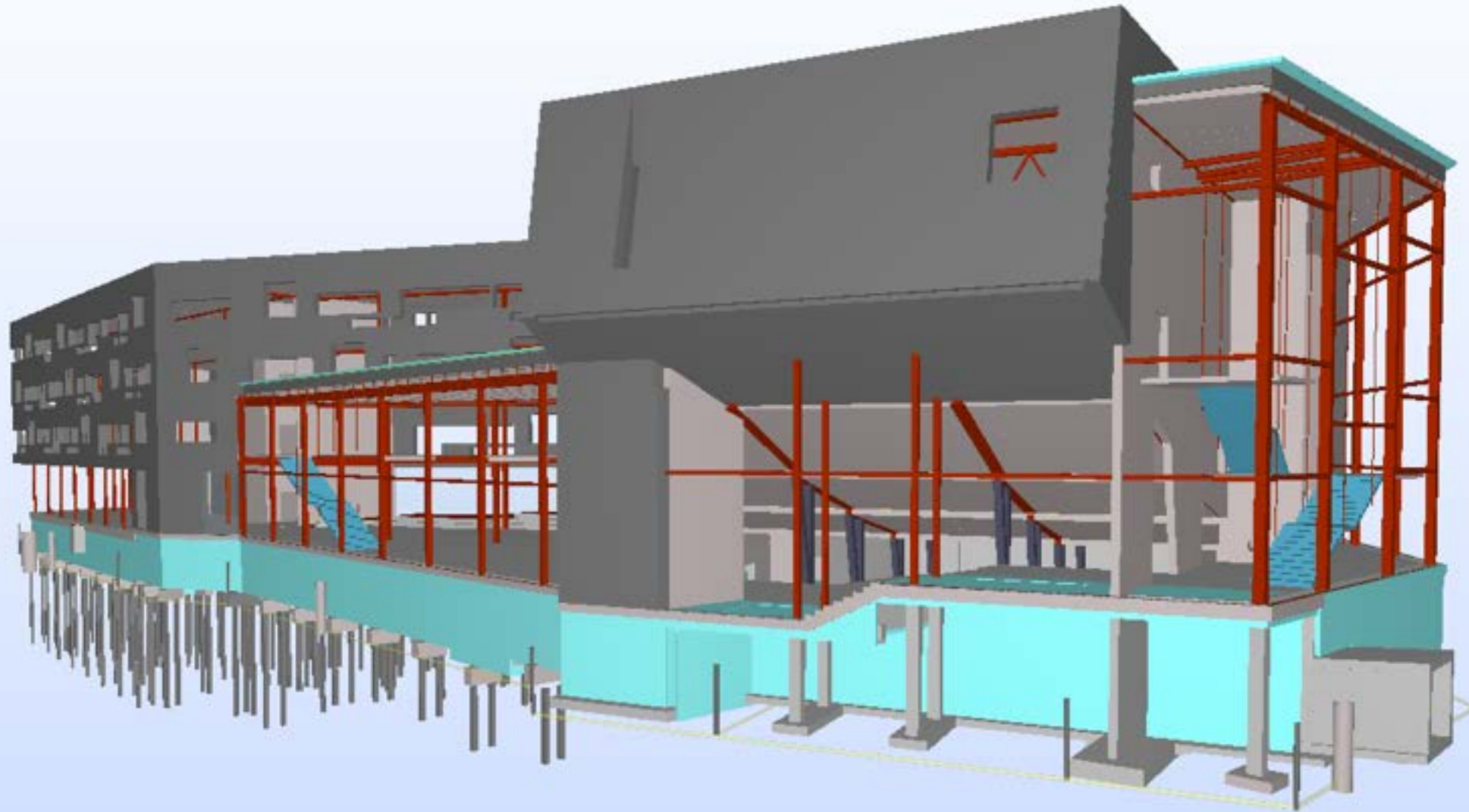
Green
Leed
Experience
Animation



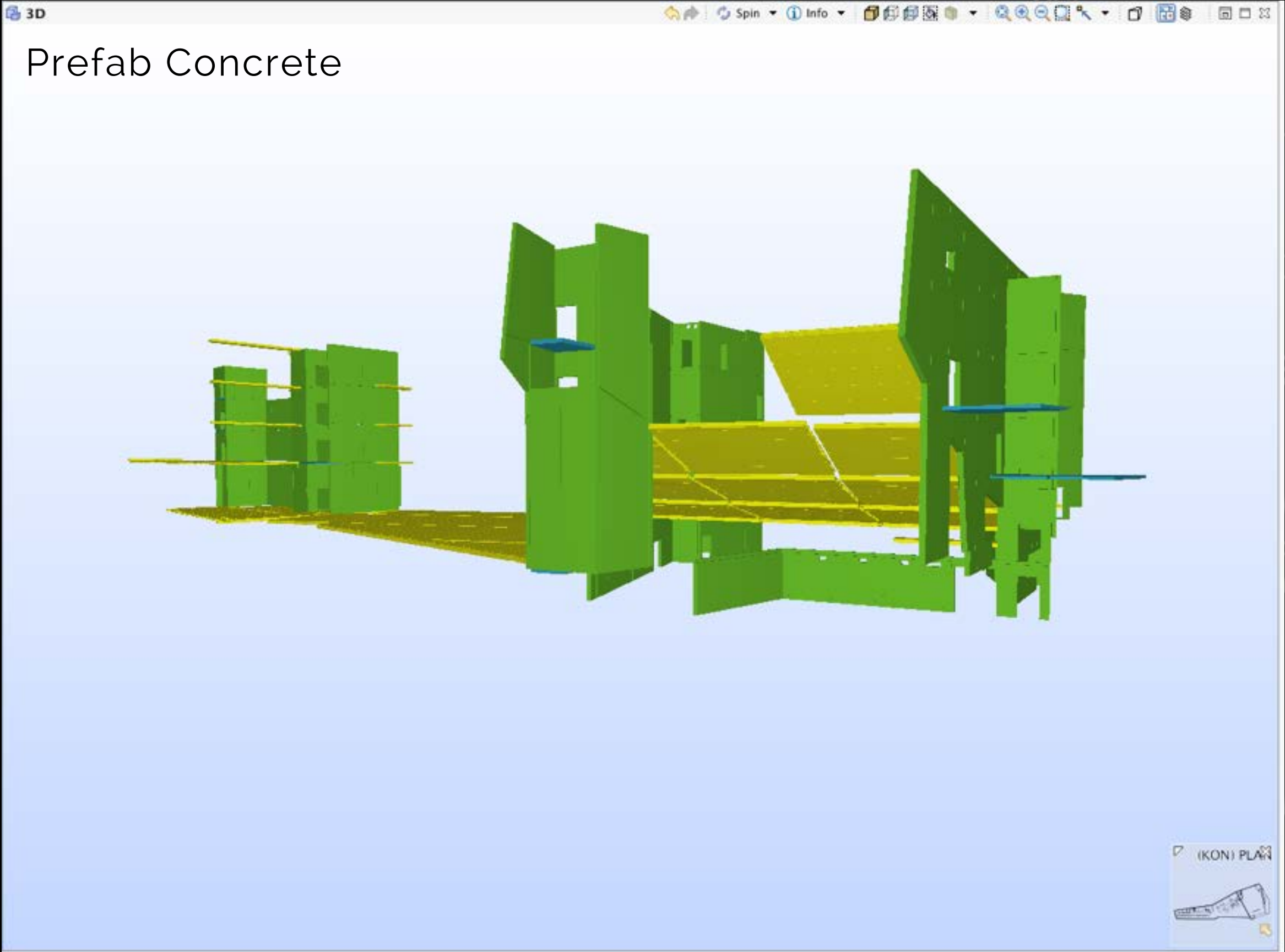
3D

Spin Info [various icons]

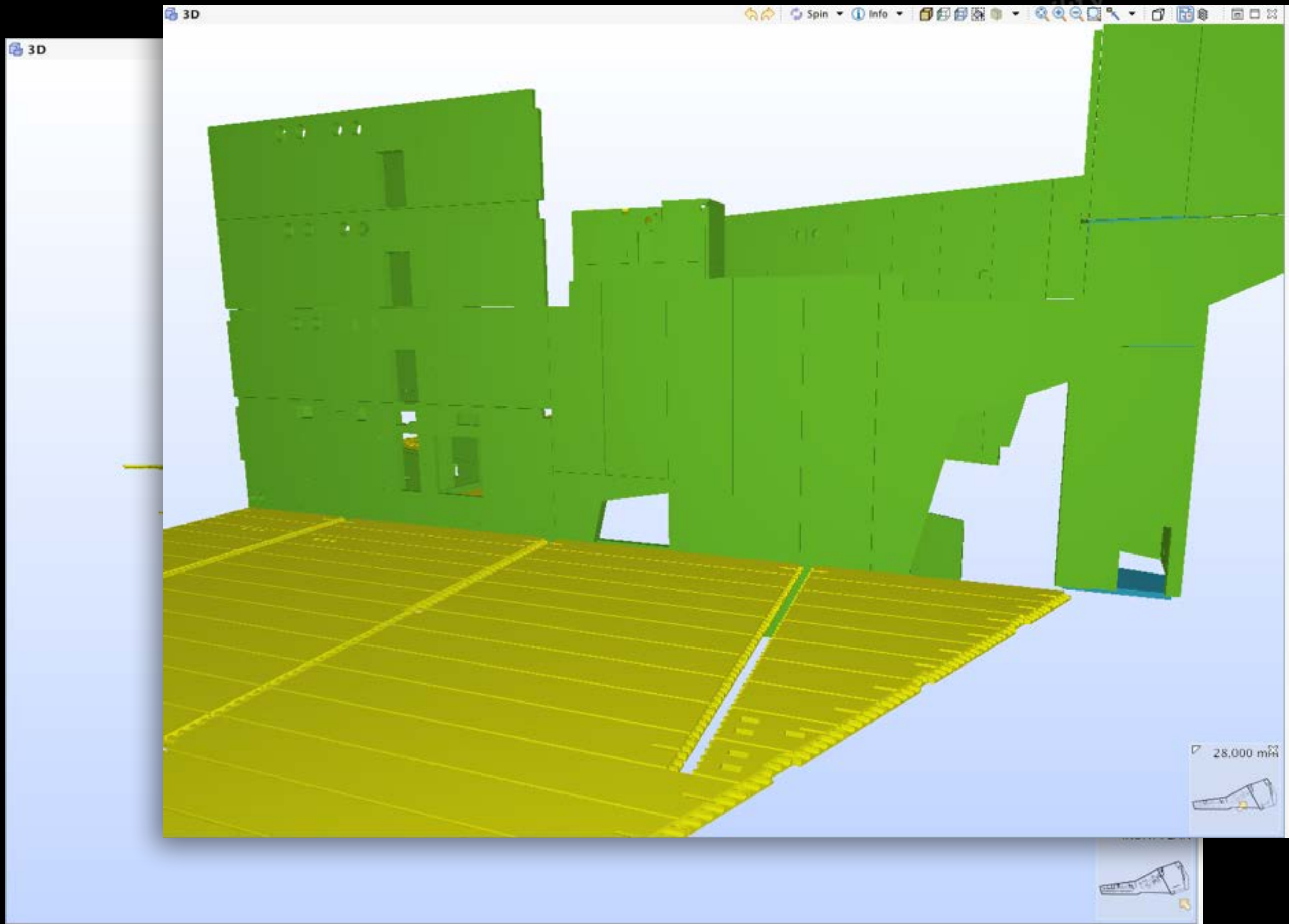
Structure

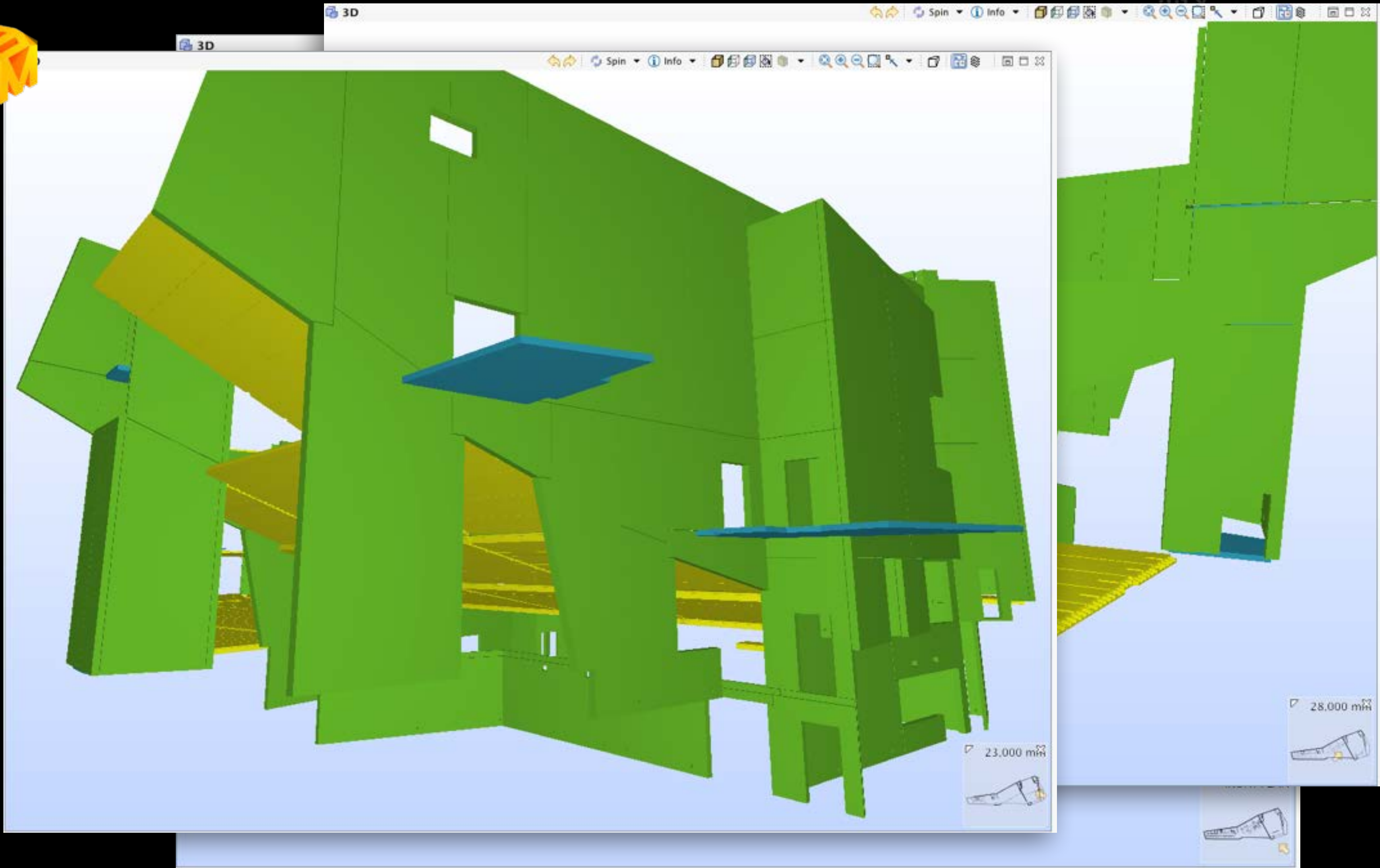


Green
Leed
Experience
Animation



Green
Lead
Experience
Animation
g



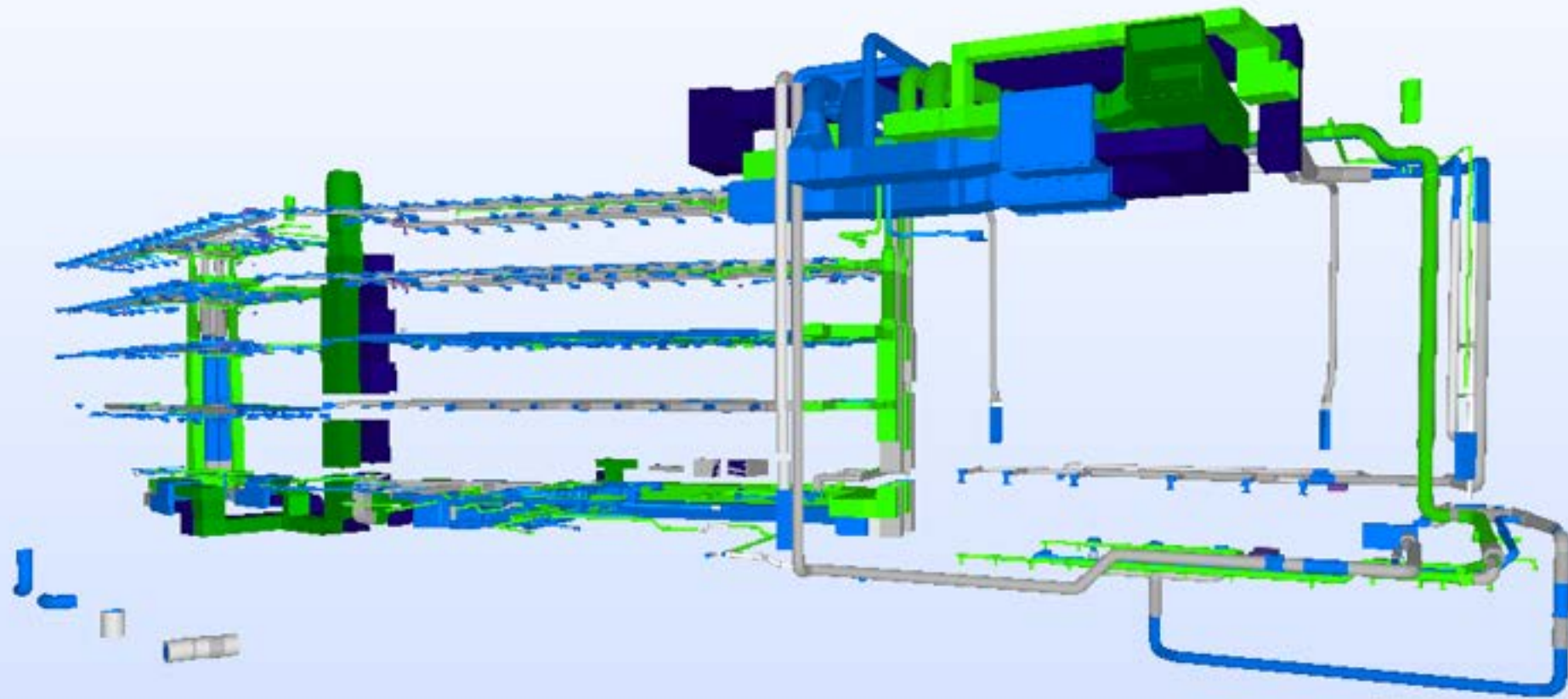




3D

Spin Info [various icons]

Ventilation



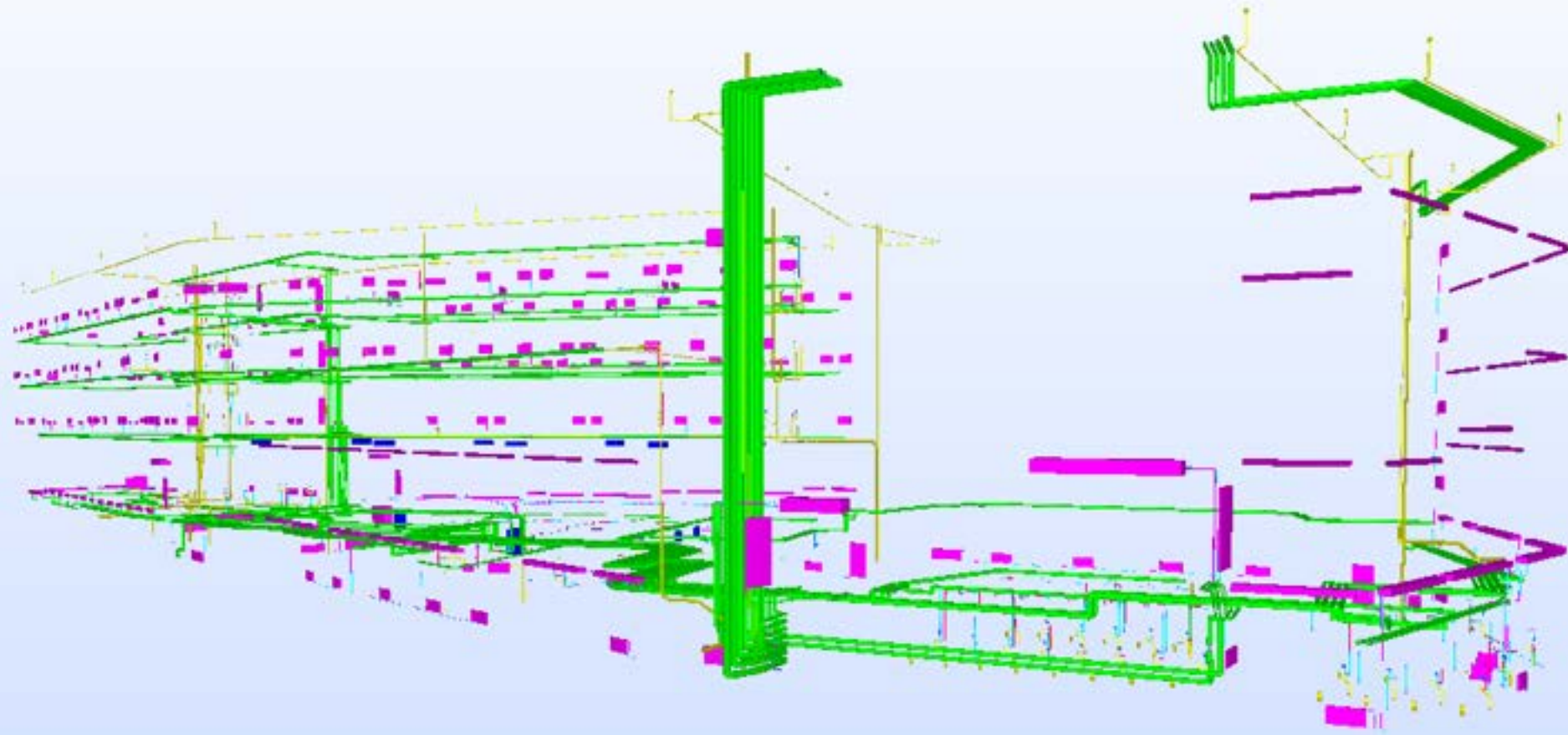
Green
Lead
Experience
Animation



3D

Spin Info [various icons]

Plumbing



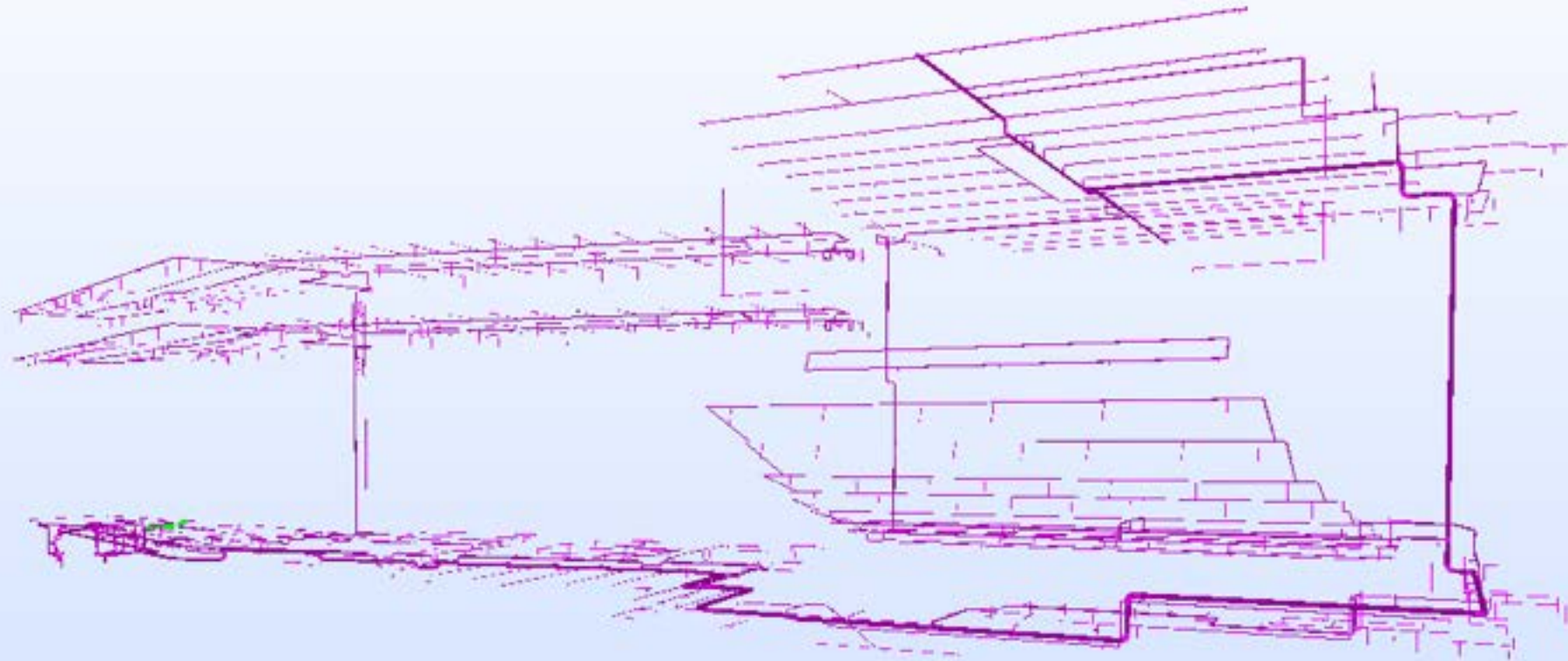
Green
Lead
Experience
Animation



3D

Spin Info [various icons]

Firesprintlers



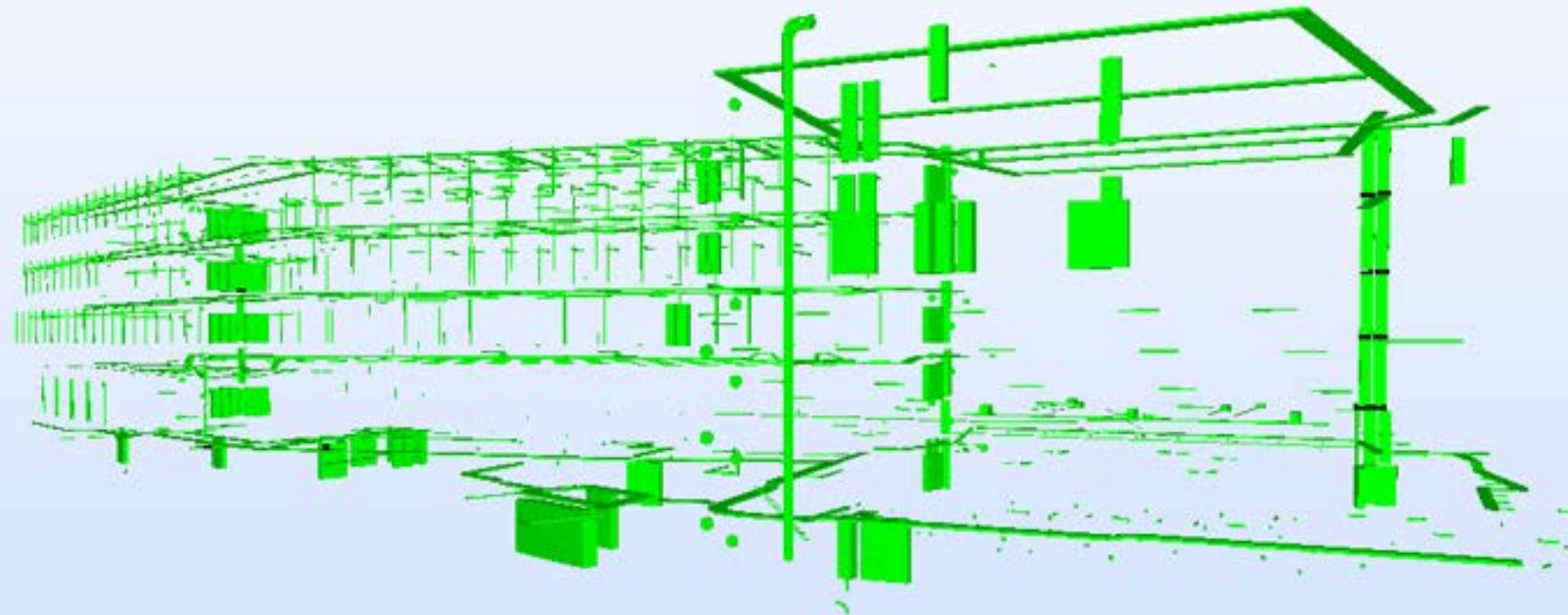
perability
Green
Lead
erience
Animation
g



3D



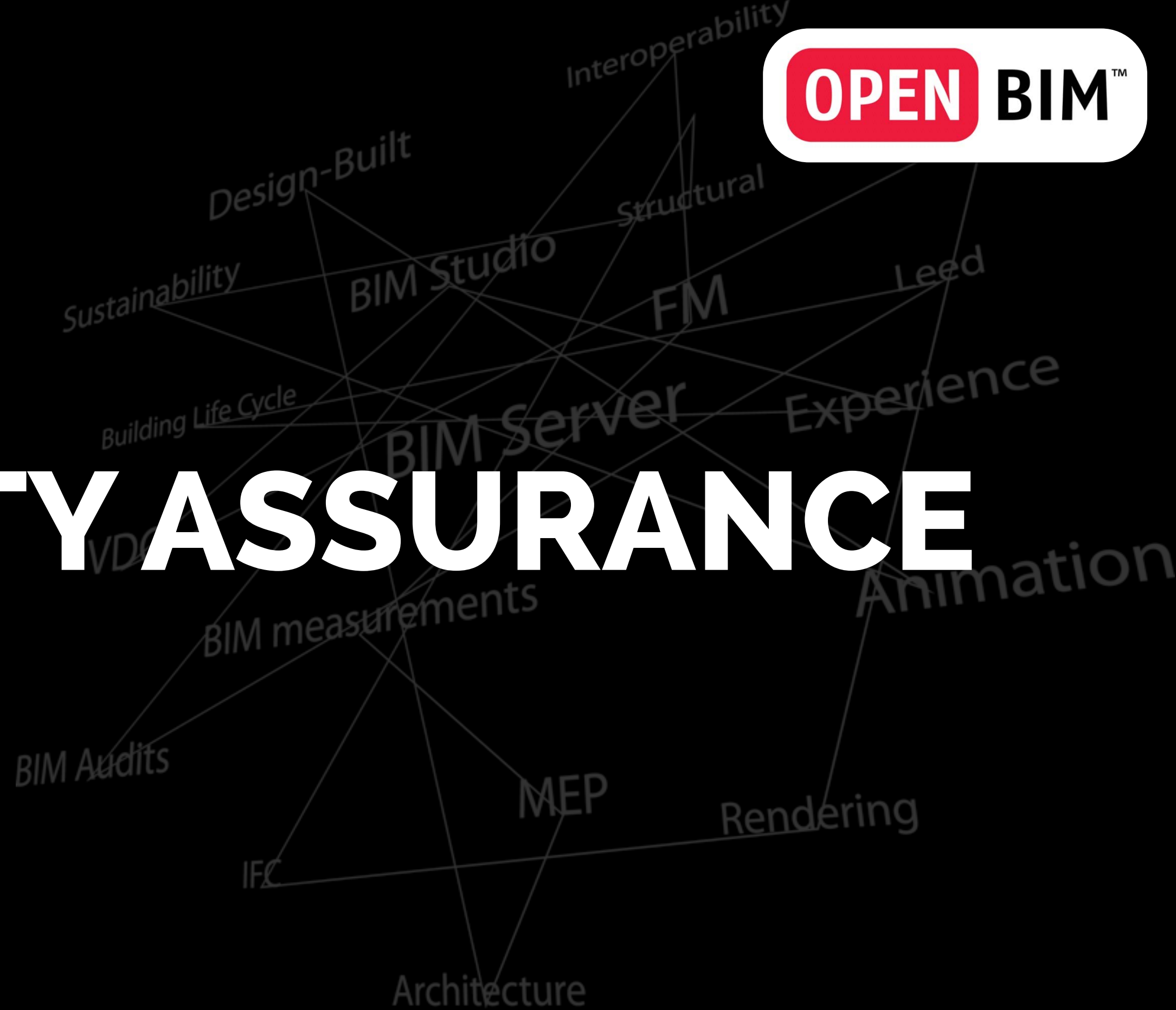
Electrical



Green
Lead
Experience
Animation



QUALITY ASSURANCE



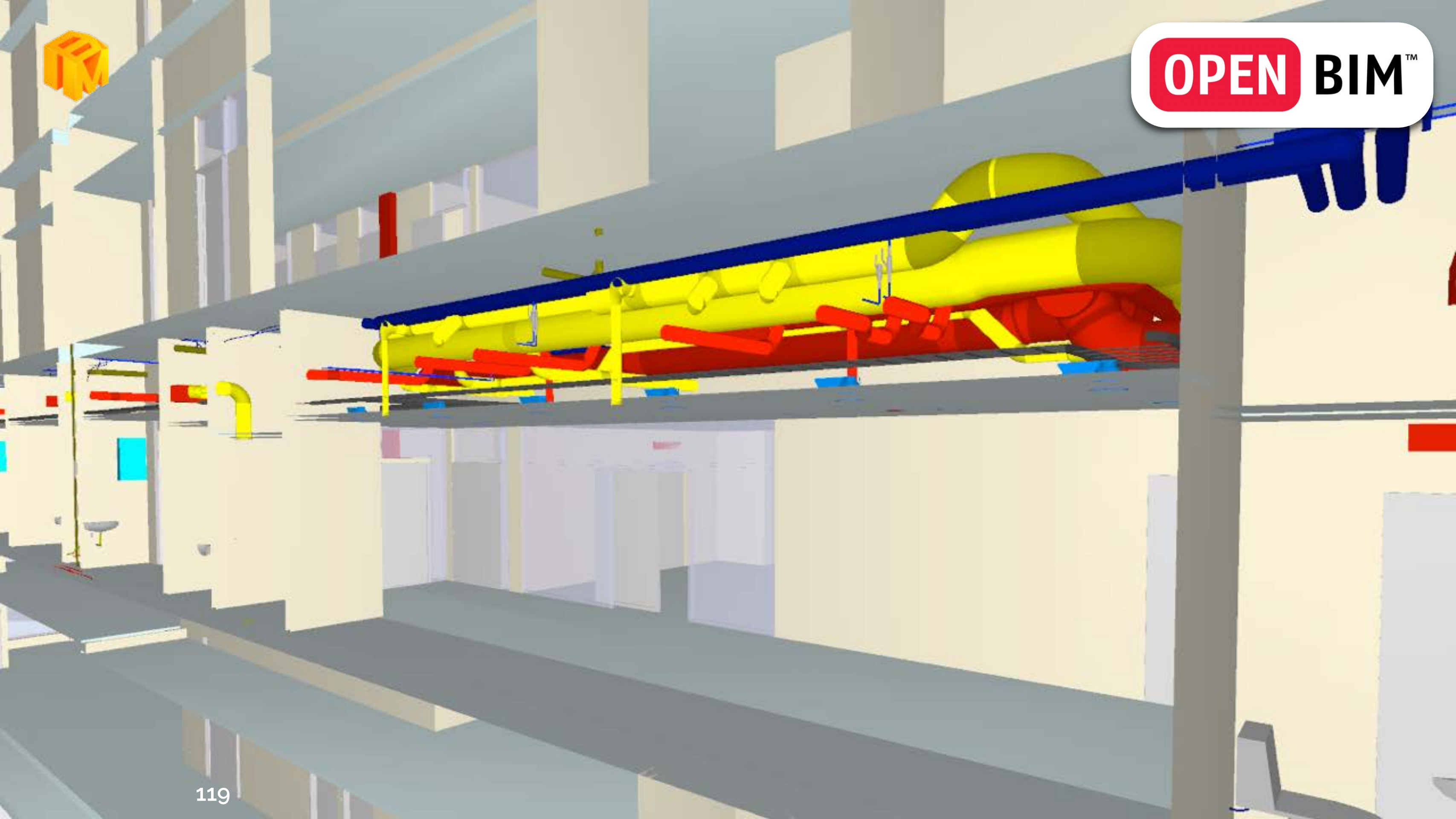


SOLIBRI MODEL CHECKER



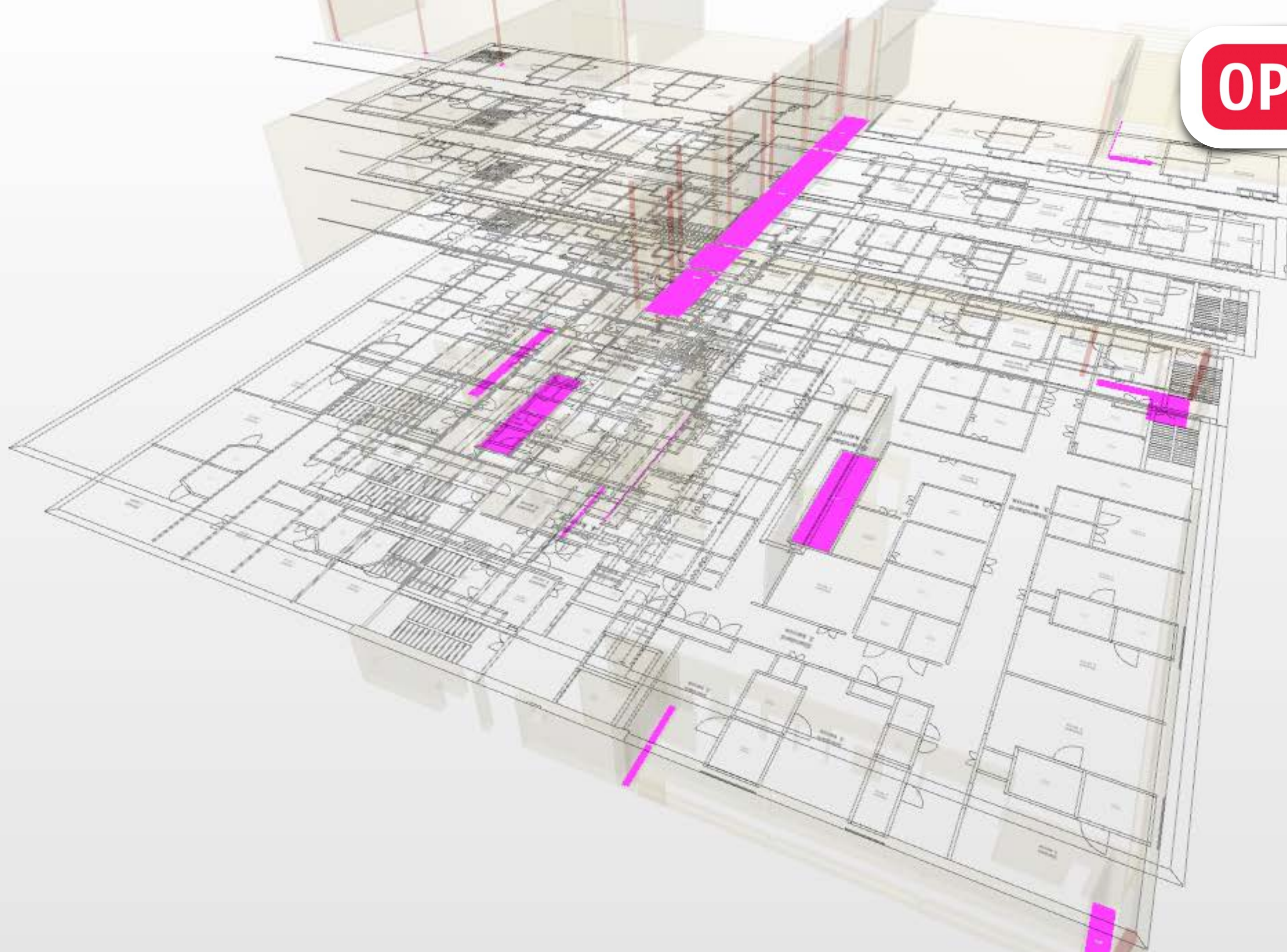
Deploying Solibri Model Checker as a Quality Assurance Tool has as an effect that at least 80 % of the design errors and omissions, which earlier were discovered as errors on site during construction, now are identified and solved in the design "process."

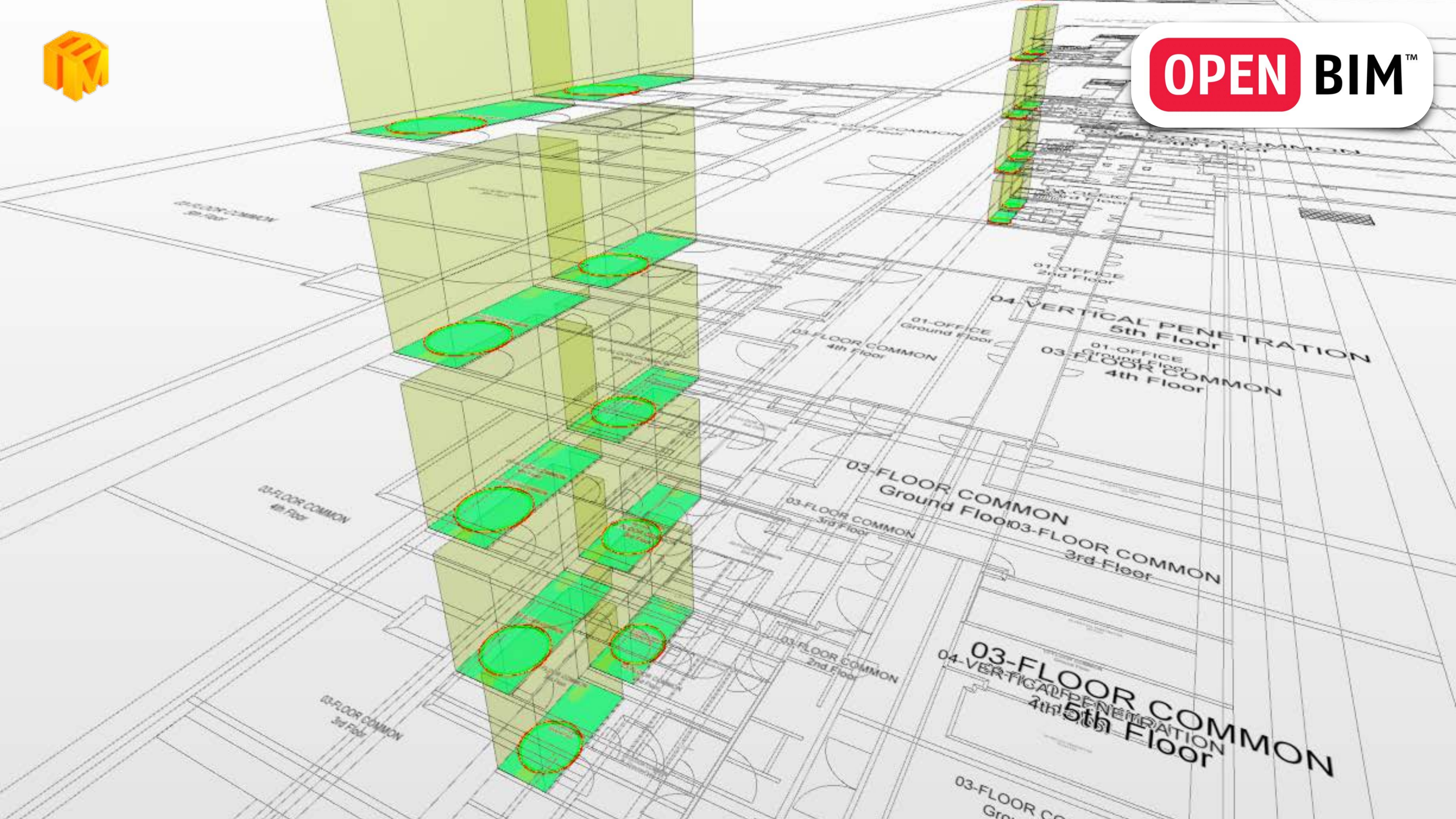
HENT Construction Company (Norway)





OPEN BIM™





Model Tree

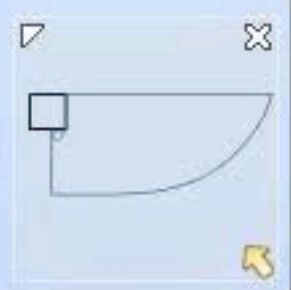
SMC Building



Info

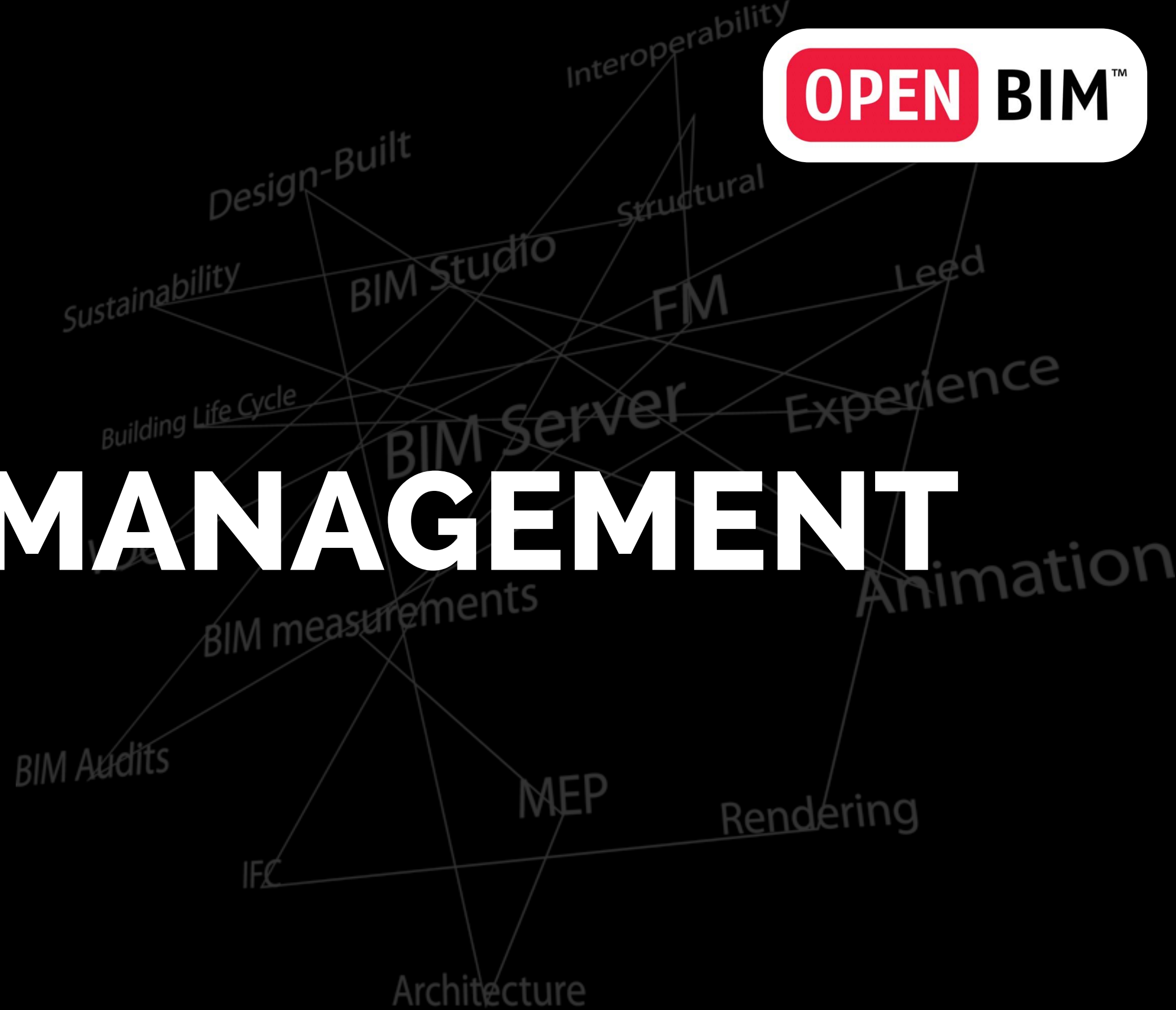
Roof.0.1

AC_Pset_RenovationAndPhasing		BaseQuantities		Pset_SlabCommon	
Classification		Hyperlinks		AC_Pset Name	
Identification	Location	Quantities	Material	Relations	
Property	Value				
Model	SMC Building				
Discipline	Architectural				
Name	Roof-03				
Type	RS-2				
Material	Solid Fill				
Layer	Roofs				
Geometry	Boundary Representation				
GUID	1sNzeVQAT3yhBzHlce4NOn				
BATID	765FDA1F-68A7-43F2-B2FD-46F9A8...				



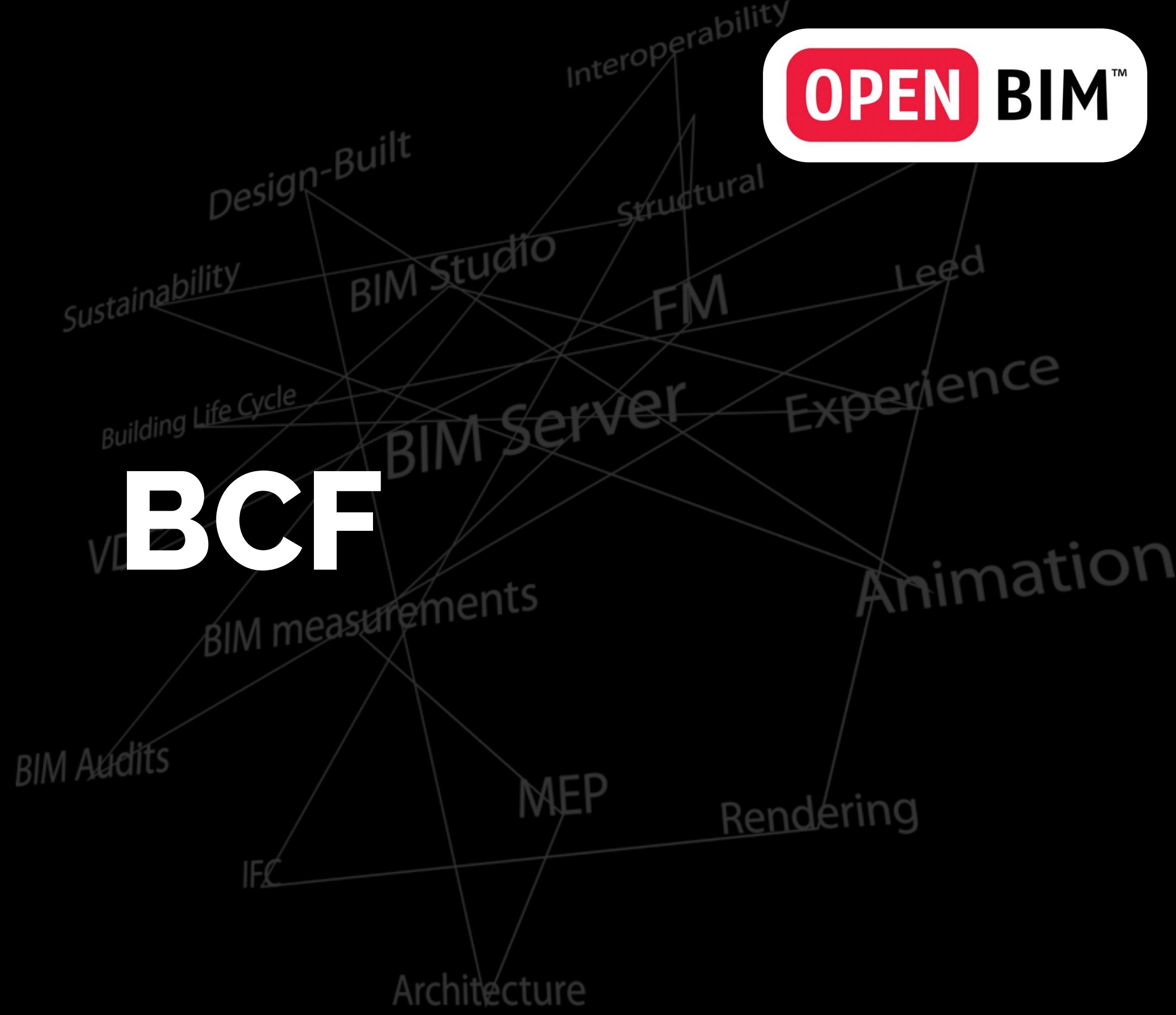


ISSUE MANAGEMENT



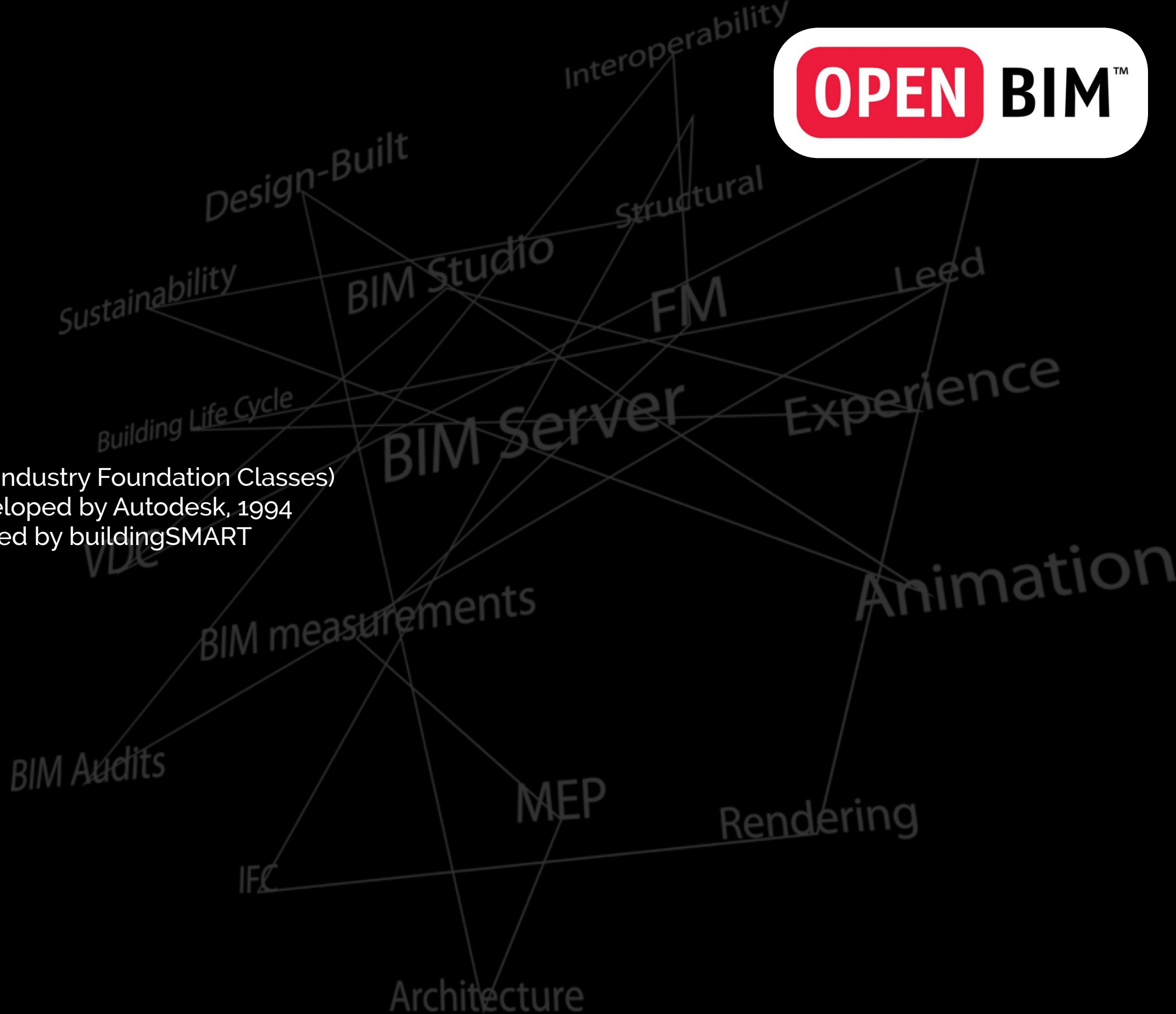


BCF



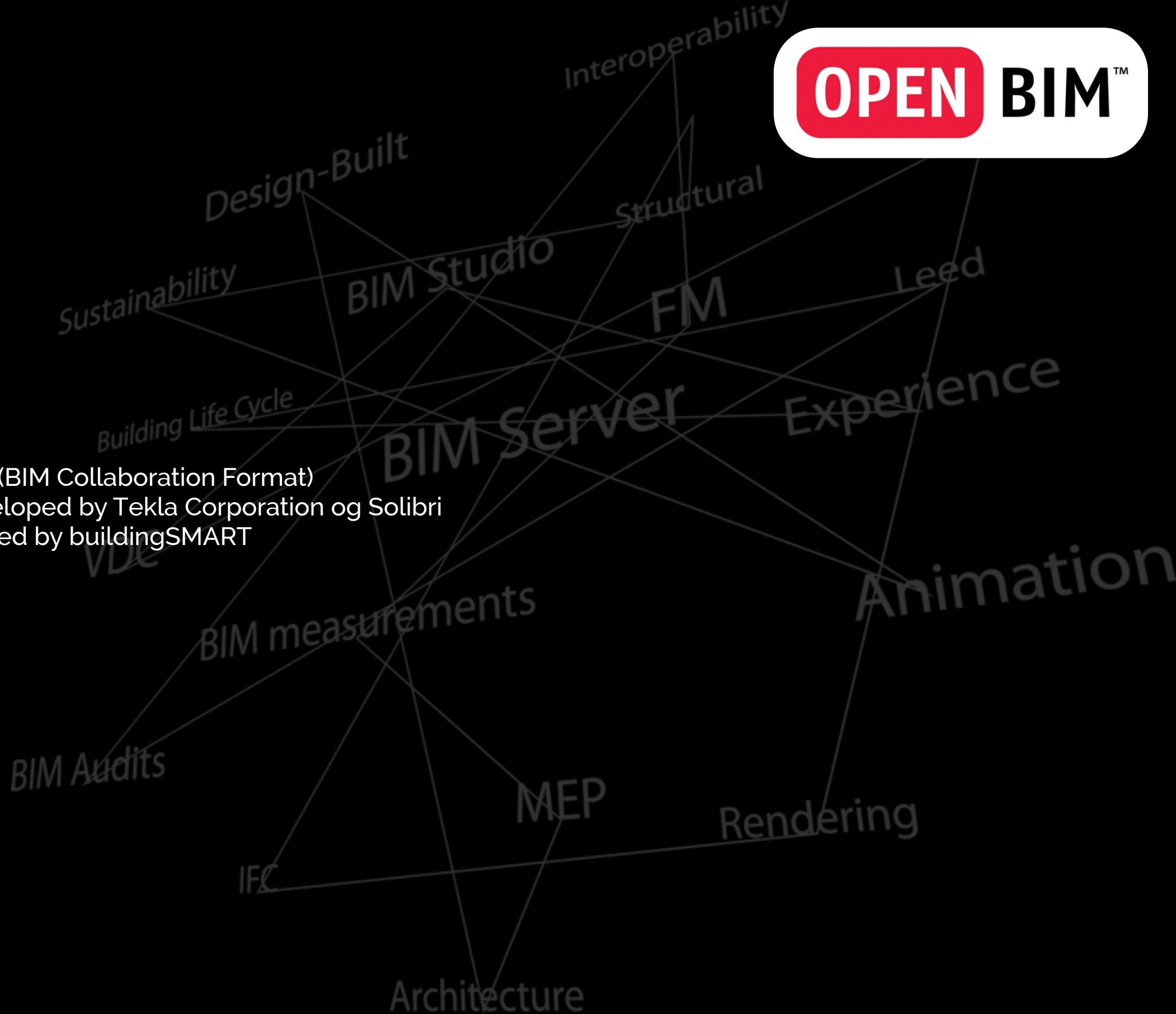


IFC (Industry Foundation Classes)
Developed by Autodesk, 1994
Owned by buildingSMART



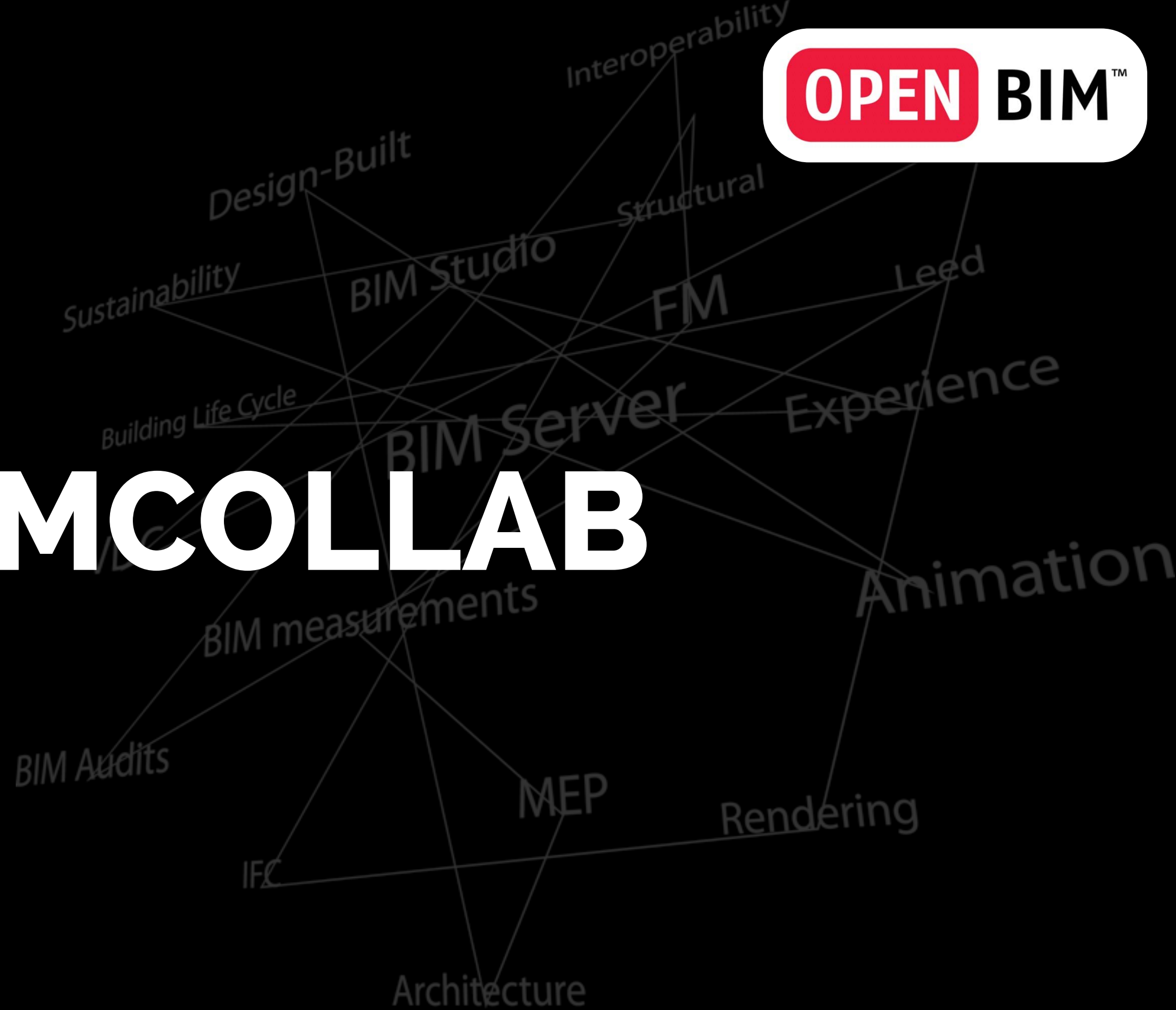


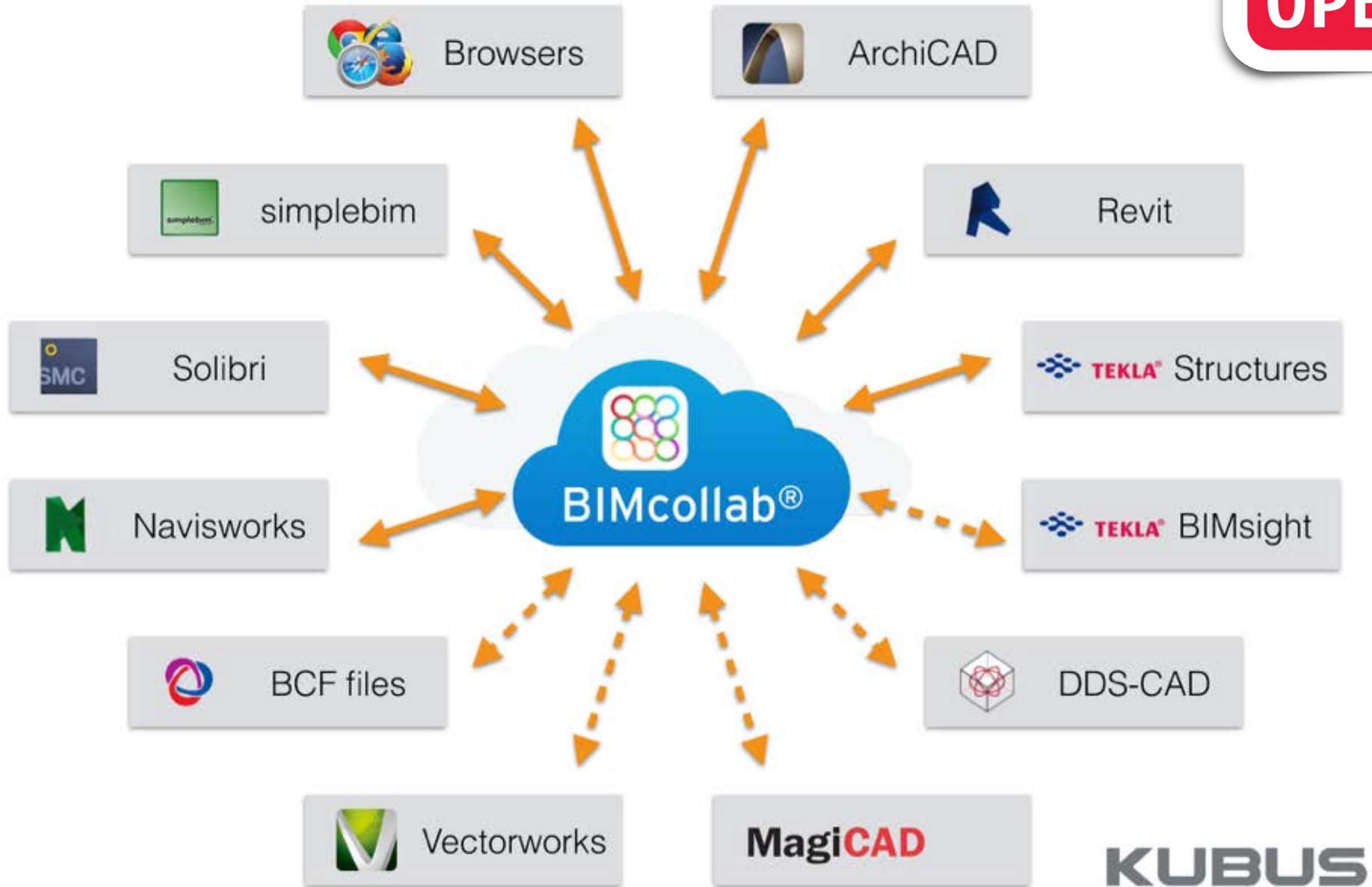
BCF (BIM Collaboration Format)
Developed by Tekla Corporation og Solibri
Owned by buildingSMART





BIMCOLLAB







Login

Create account

ba@bimeqt.com

.....

Log In

[Forgot your password?](#)

Don't let any issue slip away

Campus Vejle

Start date: 17-09-2014
 End date: -
 Team members: 1
 All issues: 1
 Last 7 days: 0



02342_2014_BIM Validering

[more info](#) Project leader

Start date: 01-09-2014
 End date: -
 Team members: 1
 All issues: 2
 Last 7 days: 0



02312_2014_BIM Validering

[more info](#) Project leader

Start date: 01-08-2014
 End date: 31-12-2014
 Team members: 3
 All issues: 0
 Last 7 days: 0



KSCM

[more info](#) Project leader

Start date: 16-07-2014
 End date: -
 Team members: 2
 All issues: 5
 Last 7 days: 0



NCC

[more info](#) Project leader

Start date: -
 End date: -

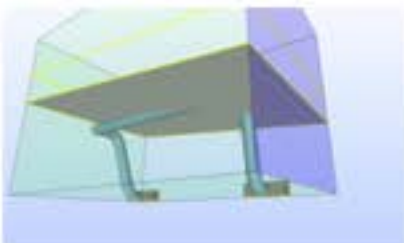


BCF Import

New issue

All 1 issues in this project

Set filter



1. (A) Roof.2.1 (Træ - Tag 398) and ...

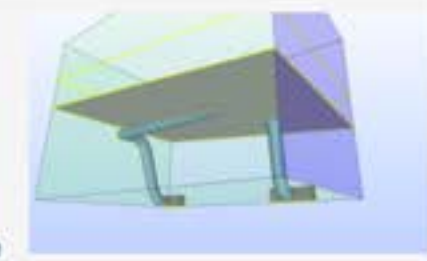
Bram Andersen
Active, Normal
Undecided

BCF Import

Edit Resolve New issue

1. (A) Roof.2.1 (Træ - Tag 398) and (B) Duct.1.53 (Duct Straight 18) are intersecting

Type: Issue	Area: -	Labels: -
Priority: Normal	Milestone: Undecided	
Assigned to: Bram Andersen	Deadline: -	



Creator: Bram Andersen

Status: Active

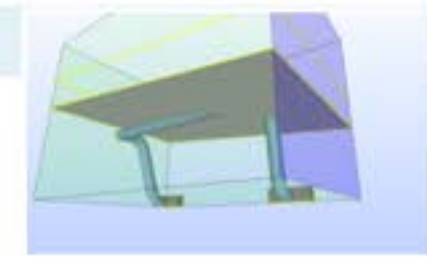
Imported by Bram Andersen 06-10-2014 13:00

Title set to "(A) Roof.2.1 (Træ - Tag 398) and (B) Duct.1.53 (Duct Straight 18) are intersecting". Assigned to "Bram Andersen". Priority set to "Normal". Type set to "Issue".

Created off-line by Bram Andersen 06-10-2014 12:57

Edit

Building Services and Other Construction Components (Insulations Not Included)
 This rule checks intersections between building services and other construction components. This rule doesn't check MEP insulations (Covering). There is a separate rule for that.
 The depth, width, height, and volume of the intersections are:
 (A) Roof.2.1, (B) Duct.1.53, 1.03 m, 156 mm, 162 mm, 11 l



BCF Import

Edit | Resolve | New issue | ← | →

Edit issue nr.1

Status: Active

Title: (A) Roof.2.1 (Træ - Tag 398) and (B) Duct.1.53 (Duct Straight 18) are intersecting

Add comment: Fix rgr

Type: Issue

Priority: Normal

Assigned to: Bram Andersen

Area: Select option | Milestone: Undecided | Deadline: | Visible for: All

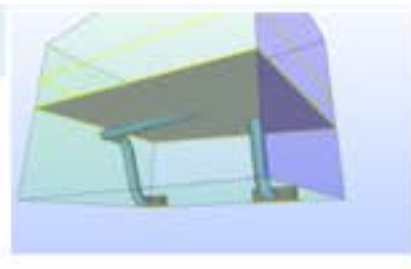
Label(s): Select label(s) | Notify more users: Select users to notify

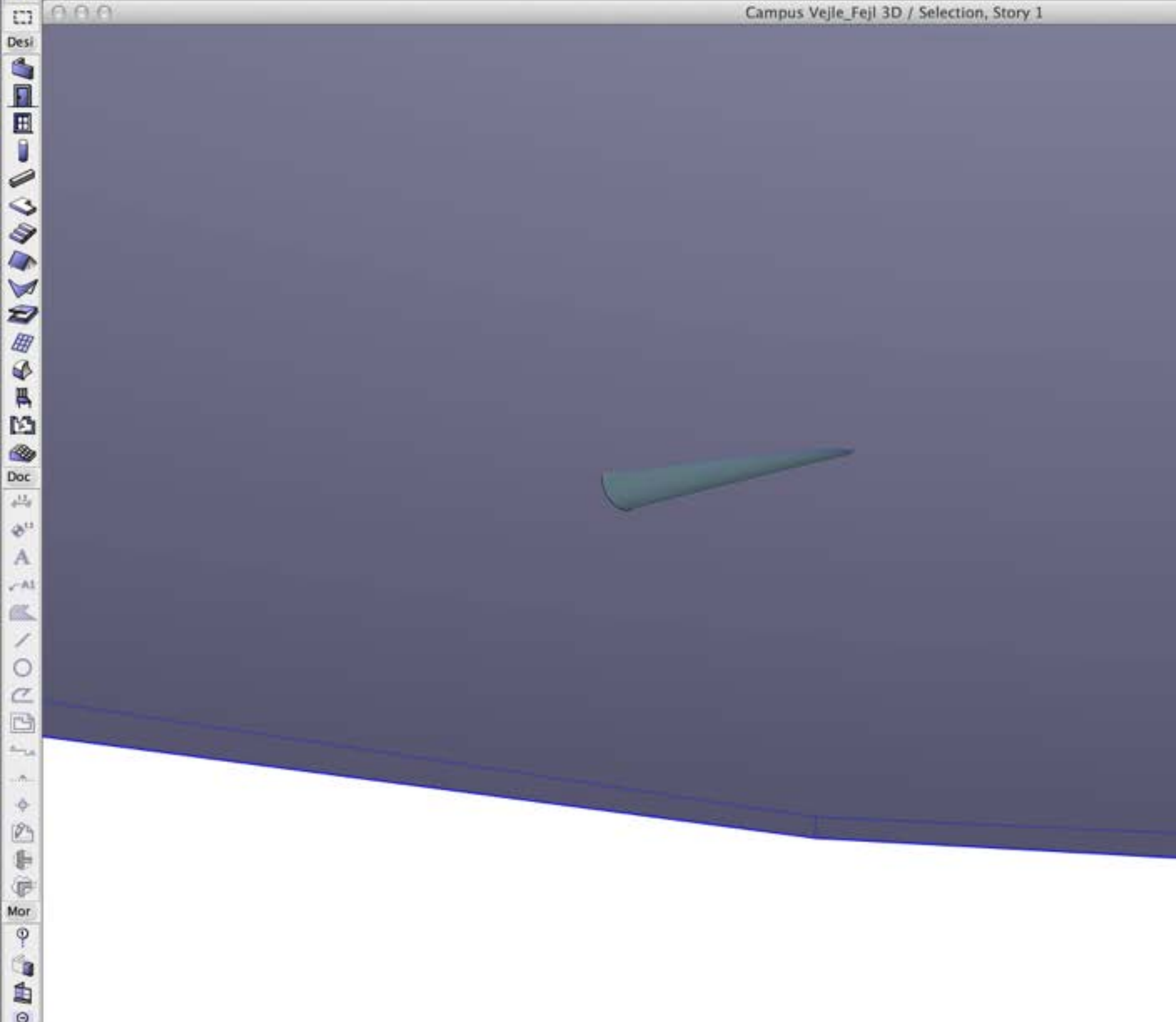
Image:

Imported by Bram Andersen 06-10-2014 13:00
Title set to "(A) Roof.2.1 (Træ - Tag 398) and (B) Duct.1.53 (Duct Straight 18) are intersecting". Assigned to "Bram Andersen". Priority set to "Normal". Type set to "Issue".

Created off-line by Bram Andersen 06-10-2014 12:57

Building Services and Other Construction Components (Insulations Not Included)
This rule checks intersections between building services and other construction components. This rule doesn't check MEP insulations (Covering). There is a separate rule for that.
The depth, width, height, and volume of the intersections are:
(A) Roof.2.1, (B) Duct.1.53, 1.03 m, 156 mm, 162 mm, 11 l





BCF_Import_2014-10-06_01.01.bcfzip - BCF Manager

New Open Save New Issue

Date	Issues	Assigned	Status	#
06-10-14	(A) Roof.2.1 (Træ - Tag 398) a...	ba@bim...	Active	2

Filter

- Hide closed issues
- Assigned to me
- For selected object(s)

New Comment

Date	Comments	Author
06-10-14	Fix rør	ba@bim...
06-10-14	Building Services and Other Construction Co...	ba@bim...

Fix rør

KUBUS

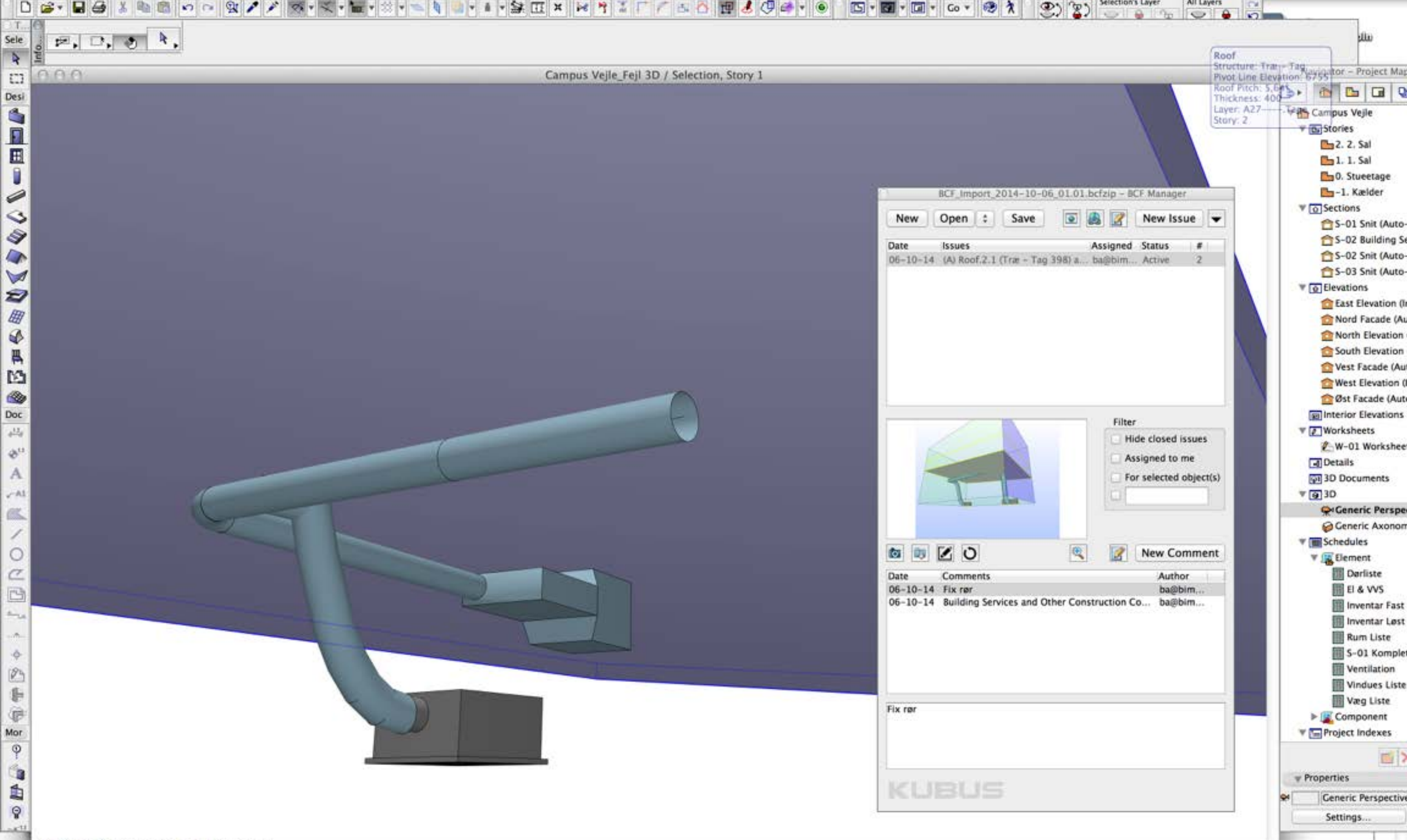
Navigator - Project Map

- Campus Vejle
 - Stories
 - 2. 2. Sal
 - 1. 1. Sal
 - 0. Stueetage
 - 1. Kælder
 - Sections
 - S-01 Snit (Auto-)
 - S-02 Building Se
 - S-02 Snit (Auto-)
 - S-03 Snit (Auto-)
 - Elevations
 - East Elevation (E
 - Nord Facade (Au
 - North Elevation
 - South Elevation
 - Vest Facade (Au
 - West Elevation (
 - Øst Facade (Aut
 - Interior Elevations
 - Worksheets
 - W-01 Workshee
 - Details
 - 3D Documents
 - 3D
 - Generic Perspe
 - Generic Axonom
 - Schedules
 - Element
 - Darliste
 - EI & VVS
 - Inventar Fast
 - Inventar Løst
 - Rum Liste
 - S-01 Komplet
 - Ventilation
 - Vindues Liste
 - Væg Liste
 - Component
 - Project Indexes

Properties

Generic Perspective

Settings...



Campus Vejle_Fejl 3D / Selection, Story 1

Roof
Structure: Træ - Tag
Pivot Line Elevation: 6755
Roof Pitch: 5,6°
Thickness: 400
Layer: A27
Story: 2

BCF_Import_2014-10-06_01.01.bcfzip - BCF Manager

New Open Save New Issue

Date	Issues	Assigned	Status	#
06-10-14	(A) Roof.2.1 (Træ - Tag 398) a...	ba@bim...	Active	2

Filter

- Hide closed issues
- Assigned to me
- For selected object(s)

New Comment

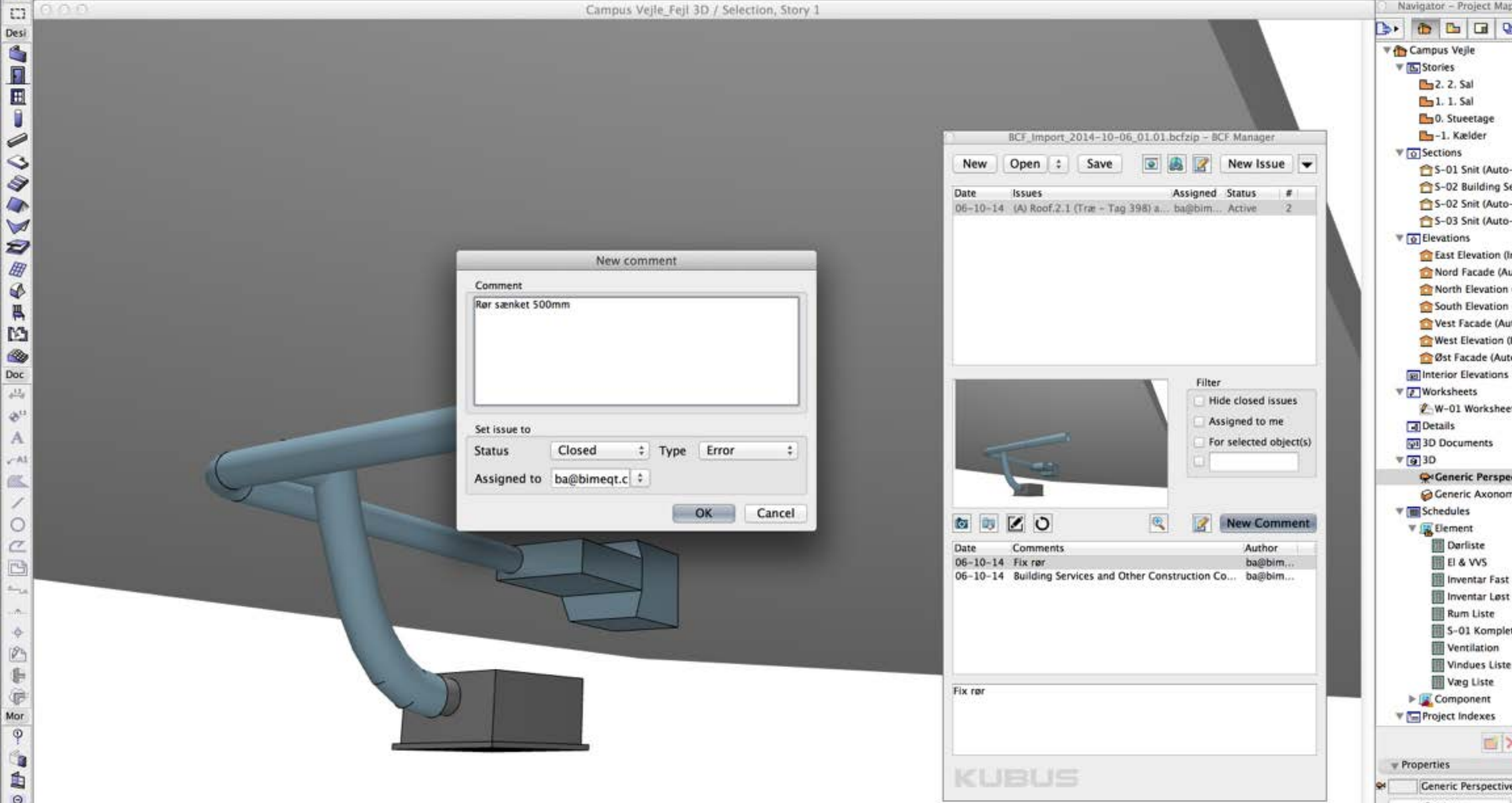
Date	Comments	Author
06-10-14	Fix rør	ba@bim...
06-10-14	Building Services and Other Construction Co...	ba@bim...

Fix rør

KUBUS

- Campus Vejle
 - Stories
 - 2. 2. Sal
 - 1. 1. Sal
 - 0. Stueetage
 - 1. Kælder
 - Sections
 - S-01 Snit (Auto-)
 - S-02 Building Se
 - S-02 Snit (Auto-)
 - S-03 Snit (Auto-)
 - Elevations
 - East Elevation (I
 - Nord Facade (Au
 - North Elevation
 - South Elevation
 - Vest Facade (Au
 - West Elevation (
 - Øst Facade (Aut
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 - Rum Liste
 - S-01 Komplet
 - Ventilation
 - Vindues Liste
 - Væg Liste
 - Component
 - Project Indexes

Properties
Generic Perspective
Settings...



New comment

Comment

Rør sænket 500mm

Set issue to

Status **Closed** Type **Error**

Assigned to **ba@bimeqt.c**

OK Cancel

BCF_Import_2014-10-06_01.01.bcfzip - BCF Manager

New Open Save New Issue

Date	Issues	Assigned	Status	#
06-10-14	(A) Roof.2.1 (Træ - Tag 398) a...	ba@bim...	Active	2

Filter

Hide closed issues

Assigned to me

For selected object(s)

New Comment

Date	Comments	Author
06-10-14	Fix rør	ba@bim...
06-10-14	Building Services and Other Construction Co...	ba@bim...

Fix rør

KUBUS

Navigator - Project Map

- Campus Vejle
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 - Inventar Løst
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 - S-01 Komplet
 - Ventilation
 - Vindues Liste
 - Væg Liste
 - Component
 - Project Indexes

Properties

Generic Perspective

Settings...

BCF Import

Edit | Resolve | New issue | ← | →

1. (A) Roof.2.1 (Træ - Tag 398) and (B) Duct.1.53 (Duct Straight 18) are intersecting

Type: Issue	Area: -	Labels: -
Priority: Normal	Milestone: Undecided	
Assigned to: Bram Andersen	Deadline: -	

Creator: Bram Andersen

Status: Active



Updated. Imported by Bram Andersen 06-10-2014 13:19
Comment added by Bram Andersen 6-10-2014 13:17:38 +02:00.

Edited by Bram Andersen 06-10-2014 13:17

Updated. Imported by Bram Andersen 06-10-2014 13:17
Comment added by Bram Andersen 6-10-2014 13:15:48 +02:00.

Edited by Bram Andersen 06-10-2014 13:15

Edit

Rør sænket 500mm

Edited by Bram Andersen 06-10-2014 13:00

Edit

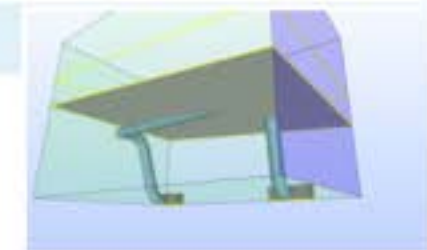
Fix rør

Imported by Bram Andersen 06-10-2014 13:00
Title set to "(A) Roof.2.1 (Træ - Tag 398) and (B) Duct.1.53 (Duct Straight 18) are intersecting". Assigned to "Bram Andersen". Priority set to "Normal". Type set to "Issue".

Created off-line by Bram Andersen 06-10-2014 12:57

Edit

Building Services and Other Construction Components (Insulations Not Included)
 This rule checks intersections between building services and other construction components. This rule doesn't check MEP insulations (Covering). There is a separate rule for that.
 The depth, width, height, and volume of the intersections are:
 (A) Roof.2.1, (B) Duct.1.53, 1.03 m, 156 mm, 162 mm, 11 l





OPENBIM LAB

Model Tree

- (A) Ø4_K01_F3_N20150220_kon2
- (B) Ø4_K07_F3_N20150213_Elfagmodel
- (C) Ø4_K08_F3_N20150220
- (D) Ø4_K09_F3_N20150220



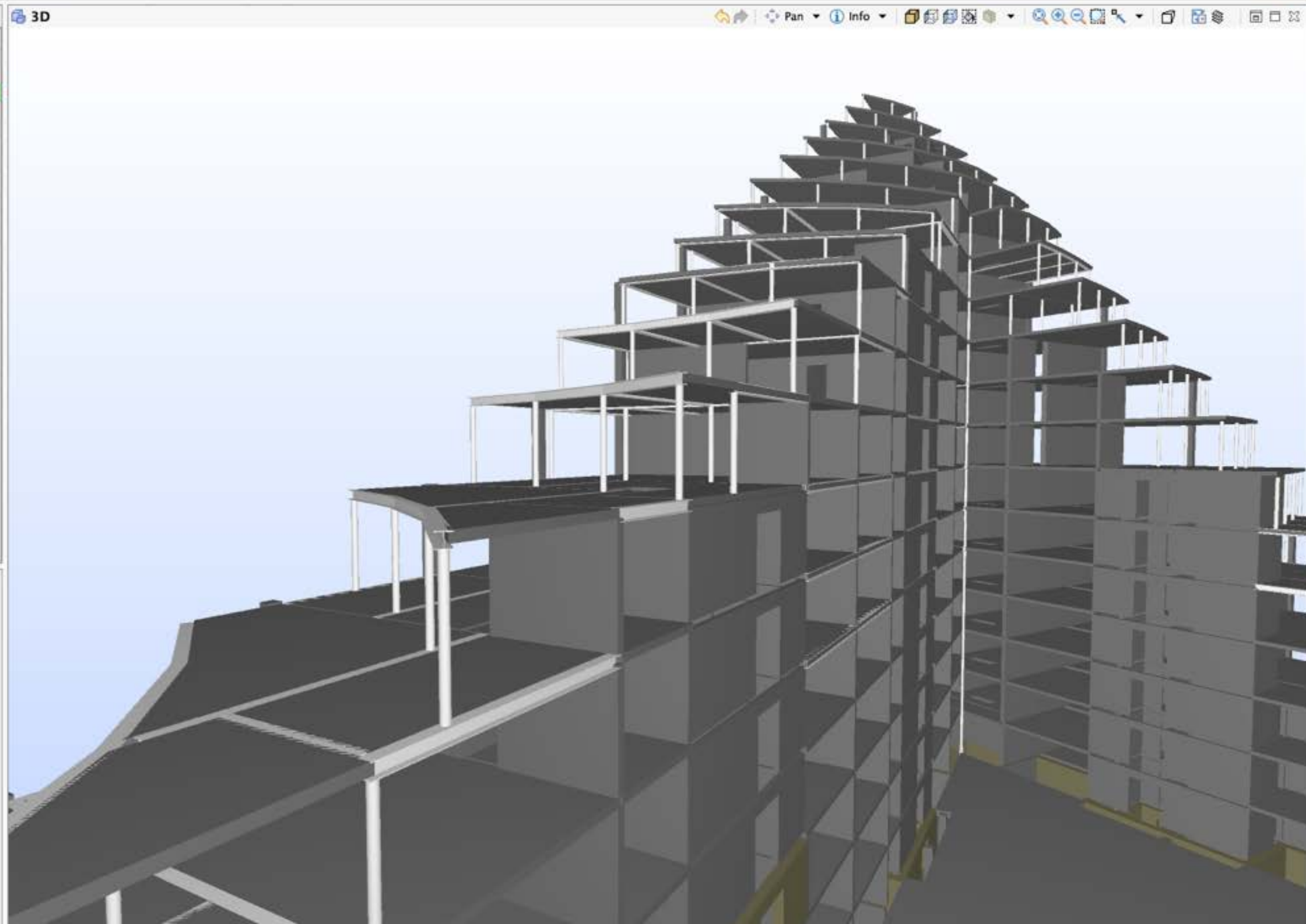
Info

(A) Ø4_K01_F3_N20150220_kon2

Identification	IFC File Description
Property	Value
Name	Ø4_K01_F3_N20150220_...
Short Name	A
Application	ArchiCAD-64
Discipline	Architectural
Color Map	Solibri
Application	ArchiCAD-64

Model Tree

- (A) Ø4_K01_F3_N20150220_kon2
- (B) Ø4_K07_F3_N20150213_Elfagmodel
- (C) Ø4_K08_F3_N20150220
- (D) Ø4_K09_F3_N20150220**



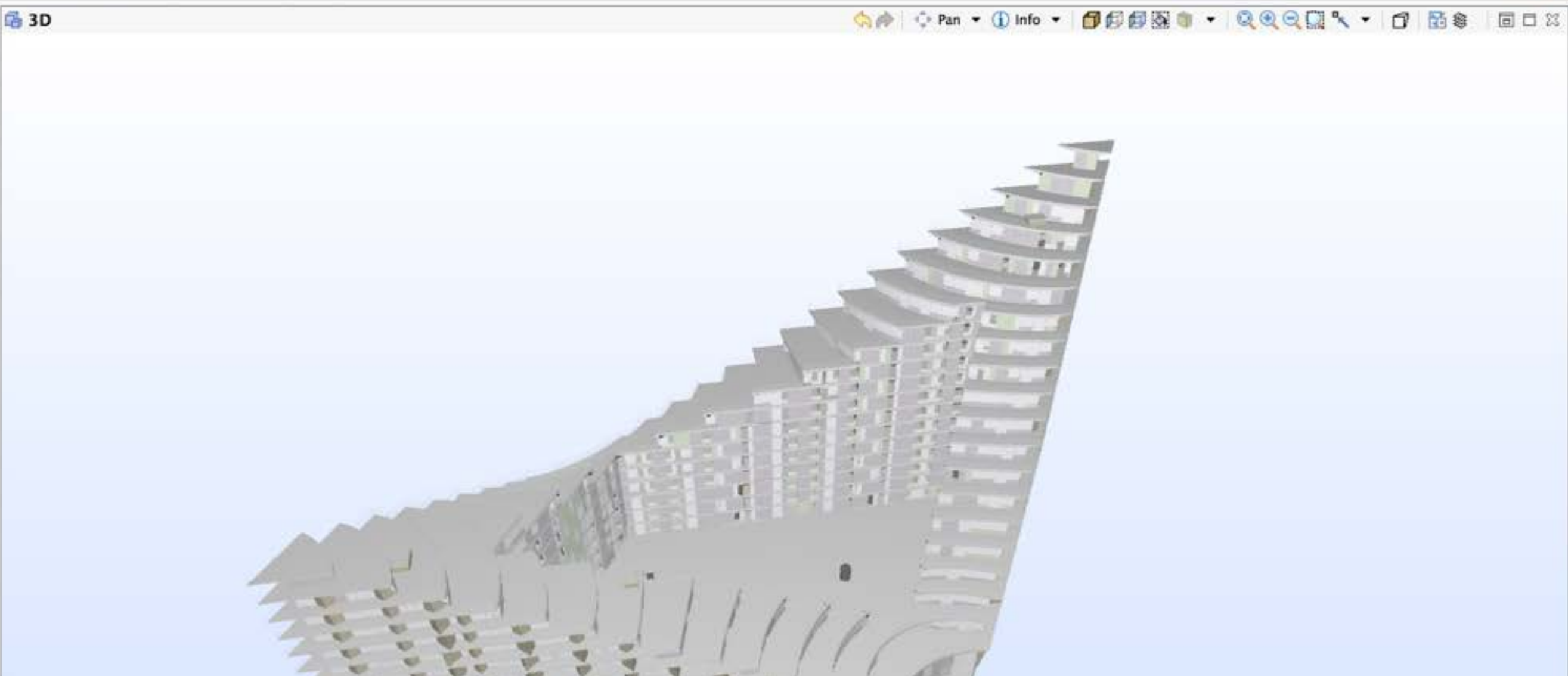
Info

(D) Ø4_K09_F3_N20150220

Identification	IFC File Description
Property	Value
Name	Ø4_K09_F3_N20150220
Short Name	D
Application	Autodesk Revit 2015 (ENU)
Discipline	Structural
Color Map	Solibri
Application	Autodesk Revit 2015 (ENU)

Model Tree

- ▶ (A) Ø4_K01_F3_N20150220_kon2
- ▶ (B) Ø4_K07_F3_N20150213_Elfagmodel
- ▶ (C) Ø4_K08_F3_N20150220
- ▶ (D) Ø4_K09_F3_N20150220



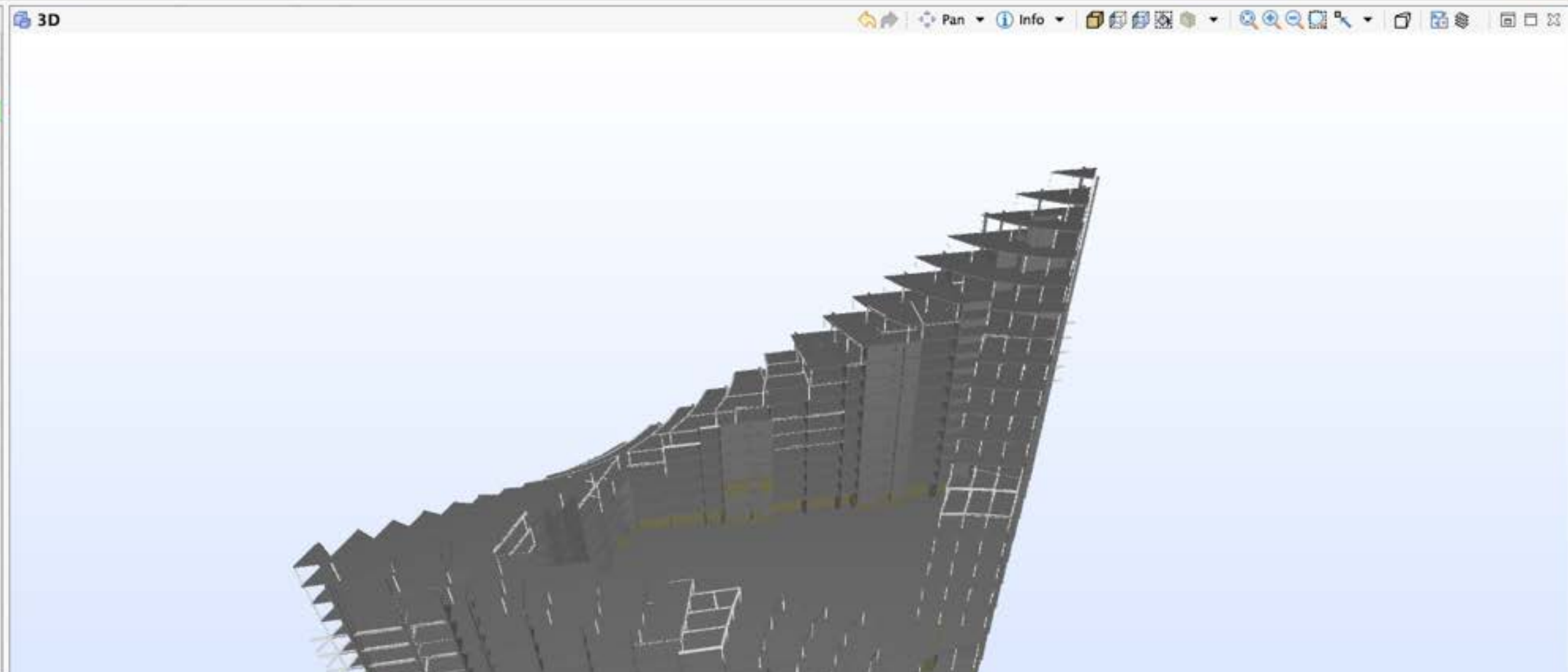
Info

Navigation and tool icons for the Info panel.

Pan Info and other navigation icons for the 3D view.

Model Tree

- (A) Ø4_K01_F3_N20150220_kon2
- (B) Ø4_K07_F3_N20150213_Elfagmodel
- (C) Ø4_K08_F3_N20150220
- (D) Ø4_K09_F3_N20150220**



Info

(D) Ø4_K09_F3_N20150220

Identification	IFC File Description
Property	Value
Name	Ø4_K09_F3_N20150220
Short Name	D
Application	Autodesk Revit 2015 (ENU)
Discipline	Structural
Color Map	Solibri
Application	Autodesk Revit 2015 (ENU)

Checking

Check Report

Ruleset

- BIM Validation - Architectural
- Intersections Between Architectural
 - Intersections - Same Kind of Component
 - Wall - Wall Intersections**
 - Slab - Slab Intersections
 - Roof - Roof Intersections
 - Beam - Beam Intersections
 - Column - Column Intersections
 - Door - Door Intersections
 - Window - Window Intersections
 - Stair - Stair Intersections
 - Suspended Ceiling - Suspended Ceiling Intersections
 - Railing - Railing Intersections

Result Summary

Report

Issue Count	348	40	658	0	0
Issue Density	1.9	0.22	3.6	0	0

Results

No Filtering Automatic

Results

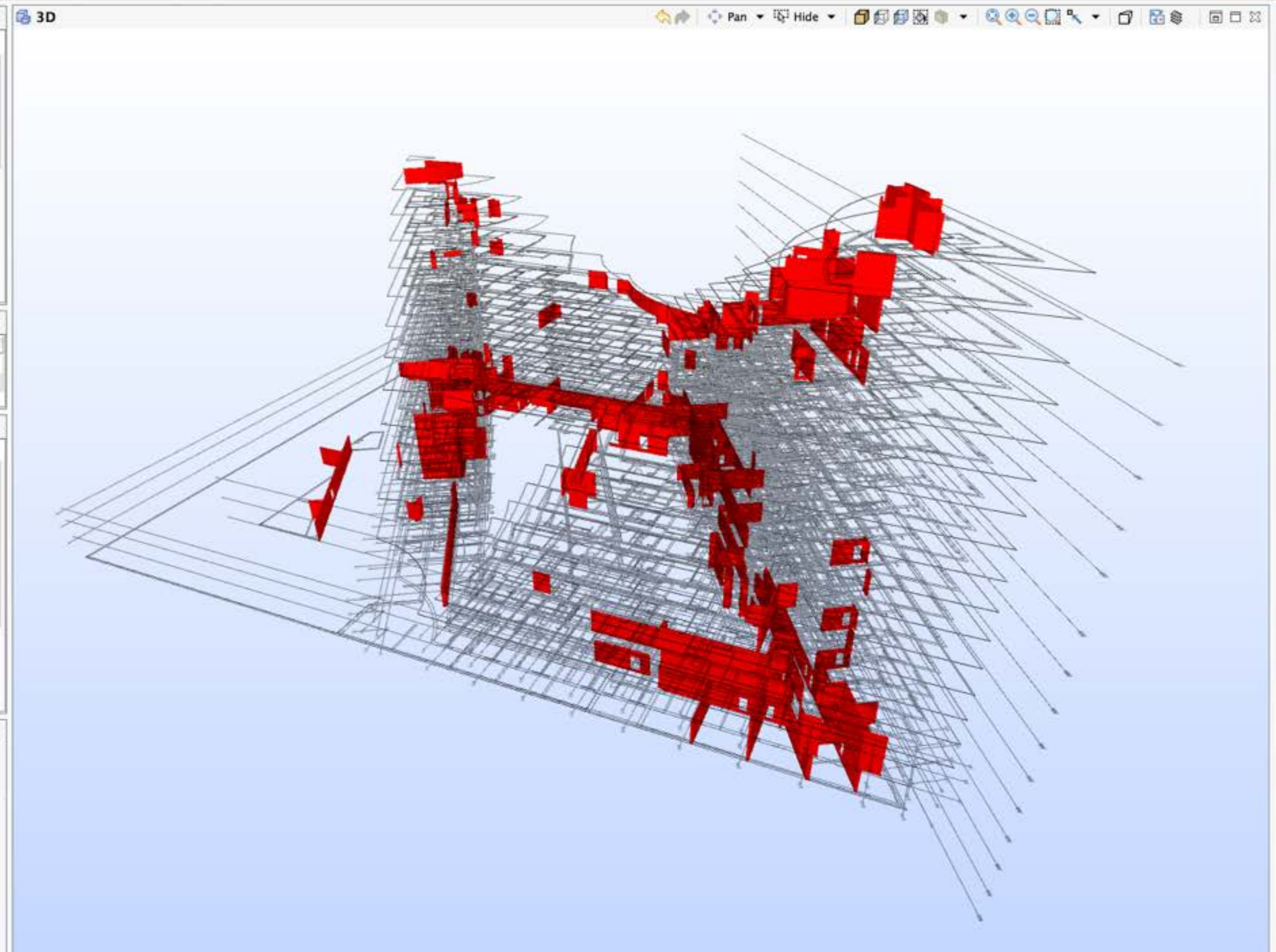
- Duplicate Components [0/15]
- Components Inside Each Other [0/174]
- Intersecting Components [0/201]**
- Intersecting Components in Different Floors [0/63]
 - Curtain Wall Type (2) [0/3]
 - Curtain Wall Type (2) [0/6]
 - Curtain Wall Type (2) [0/5]
 - N1010_BetonÉg 250 250 (2) [0/7]
 - N1014_Gips 70 mm forsatsvÉg 70, N10xx_Gips FacFo
 - Curtain Wall Type and N1010_BetonÉg 250 250 [0/1]
 - N1009_BetonÉg 200 200 and N10xx_Gips FacForsats
 - N1011_BetonÉg 300 300 and N10xx_Gips FacForsats
 - N10xx_Gips FacForsats 170 mm 170 and y4_basemer
 - N10xx_Gips FacForsats 170 mm 170 and y4_basemer

Info

Intersecting Components

Description Hyperlinks

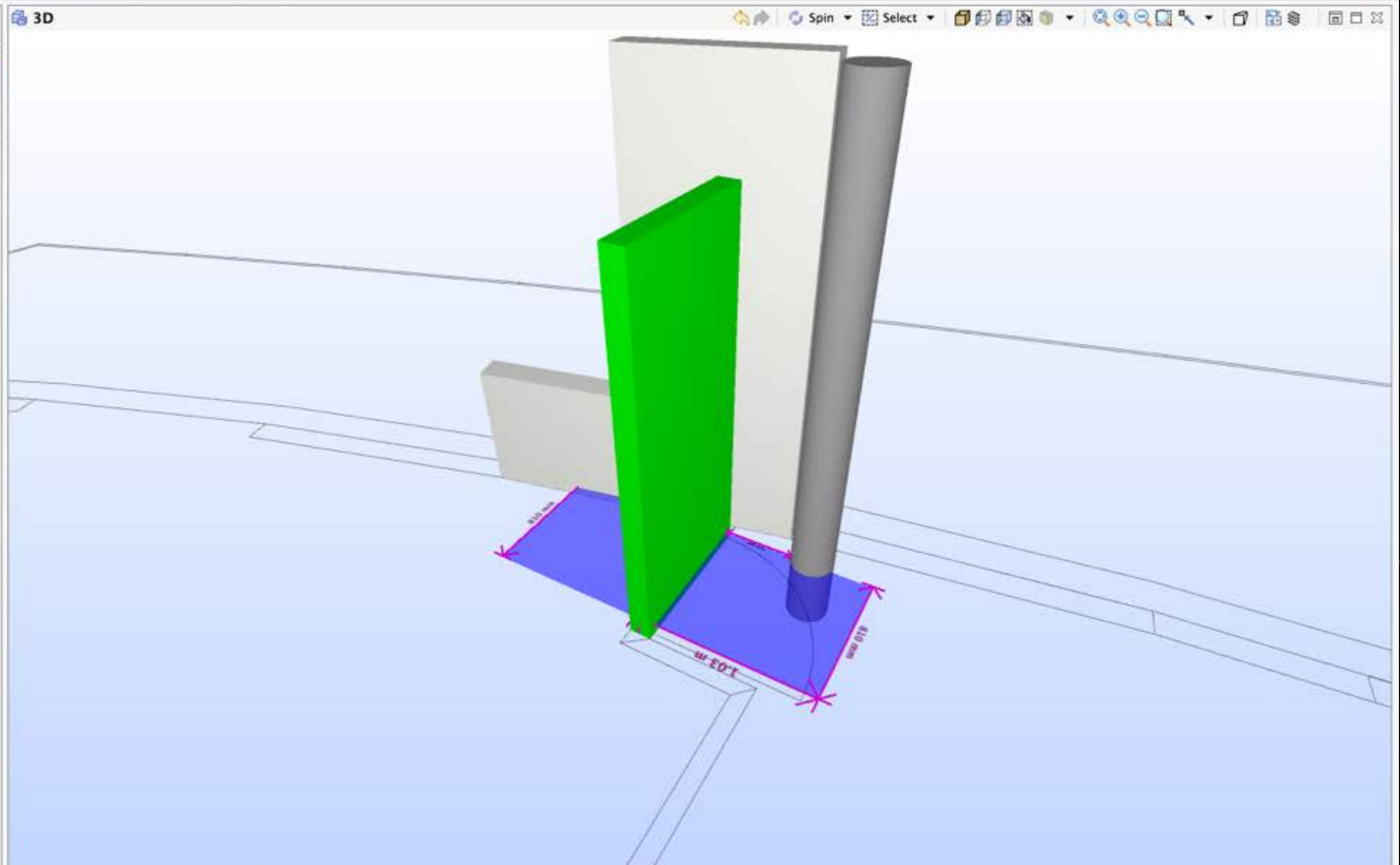
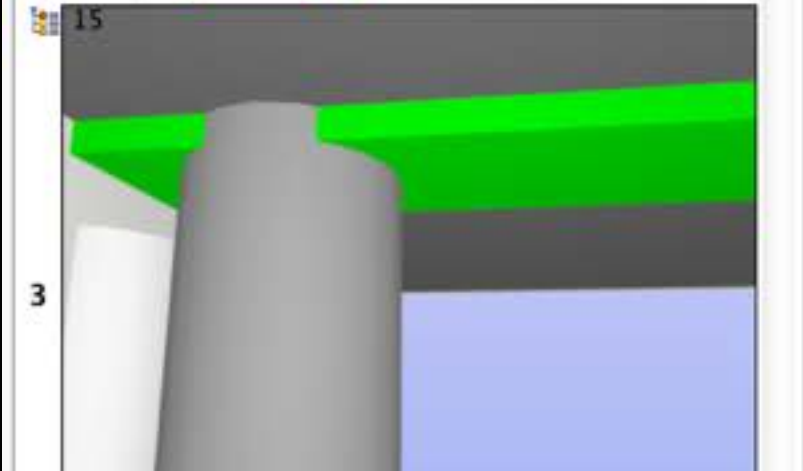
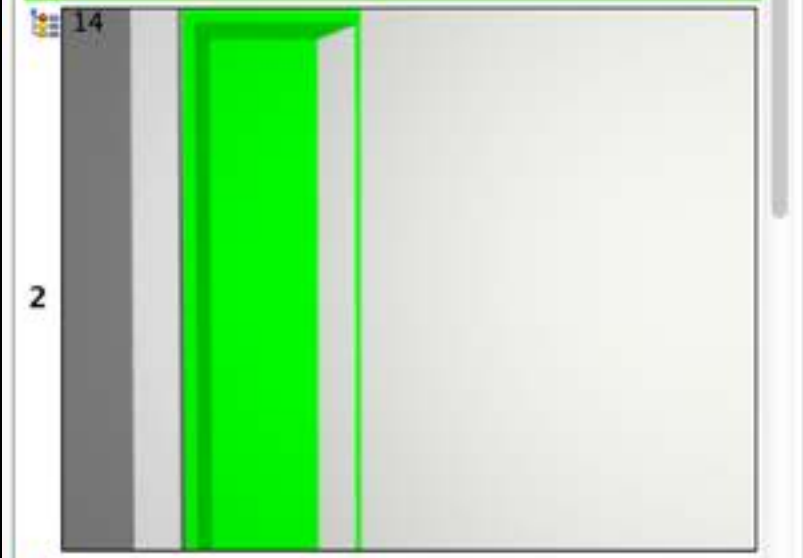
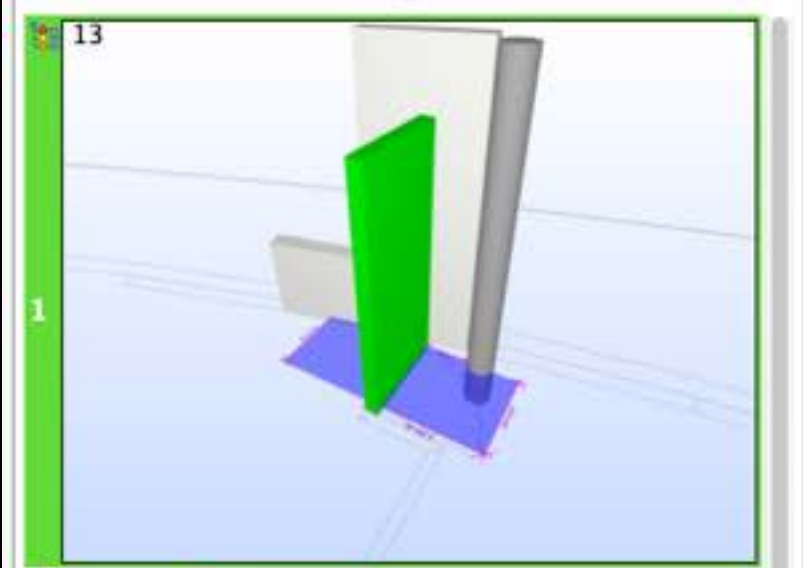
Description	Hyperlinks
-------------	------------



Presentation

New Presentation New Issue Report

Ø4 (6)



SVØ193.7X12.5, StÅl - BÊrende D250, N10xx_ Gips FacForsats 170 mm 170 too close to Door 18 component
BA, Feb 24, 2015 Clearance in Front of Doors

Checking

Check Report

Ruleset	Check	Report	Warning	Error	Pass
BIM Validation - Architectural			3	1	0
Intersections Between Architectural			3	1	0
MEP models and Architectural mo			3	0	0
MEP models and Structural model			3	0	0
BIM Validation - Structural			3	0	0
Intersections Between Structural C			3	0	0
Structural versus Architectural Mo			3	0	0
Openings in Structural Model			3	0	0
Doors and Windows Shoul			2	0	0
Curtain Walls Shouldn't Inte			2	0	0
Location of Openings Shoul			2	0	0
Components in front of Do			2	0	0
Structural Components Fit in A			2	0	0

Result Summary

Report

	Warning	Error	Pass	Fail	OK
Issue Count	55	1	0	0	0
Issue Density	0.30	0.0055	0	0	0

Results

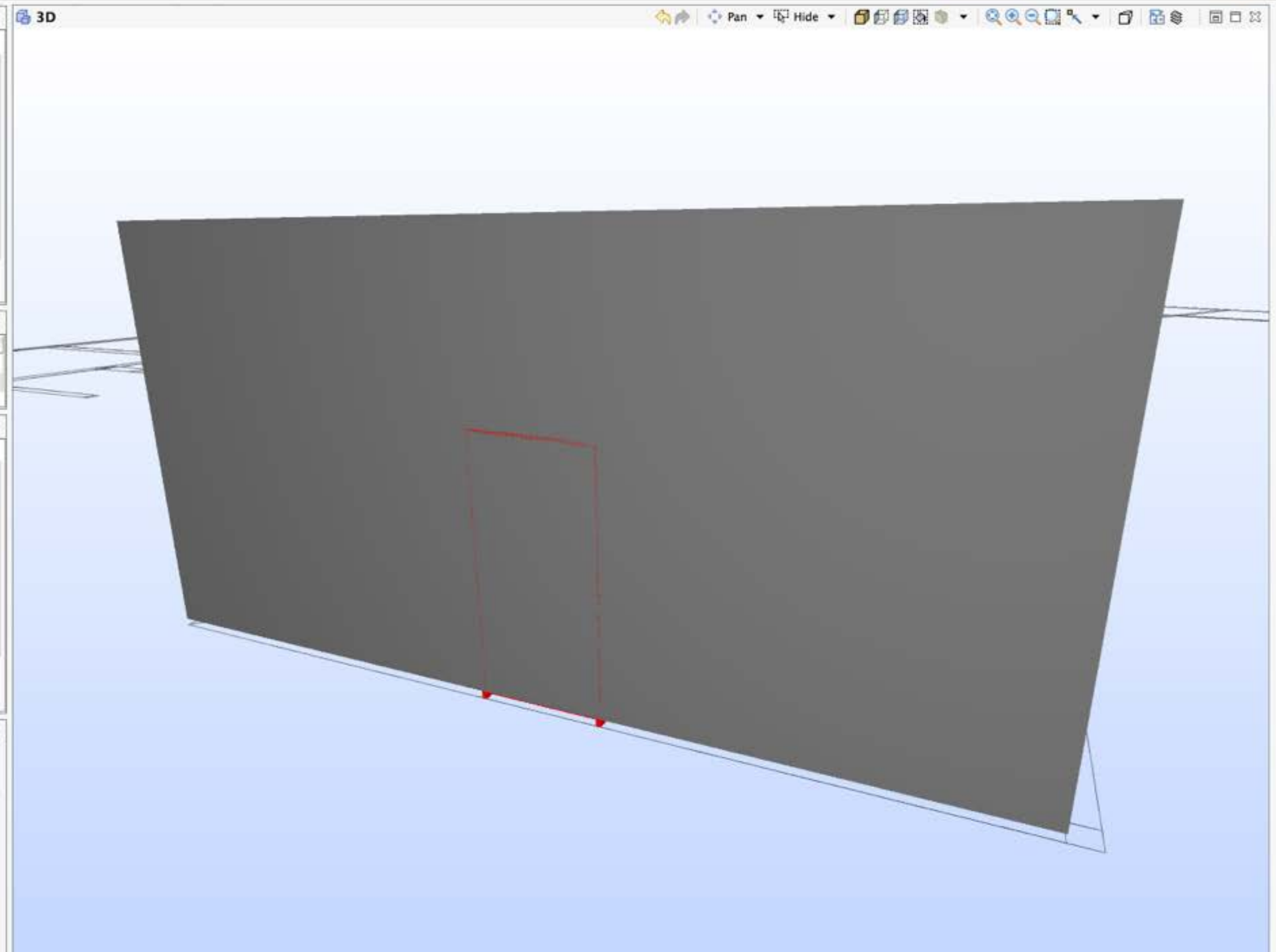
No Filtering Automatic

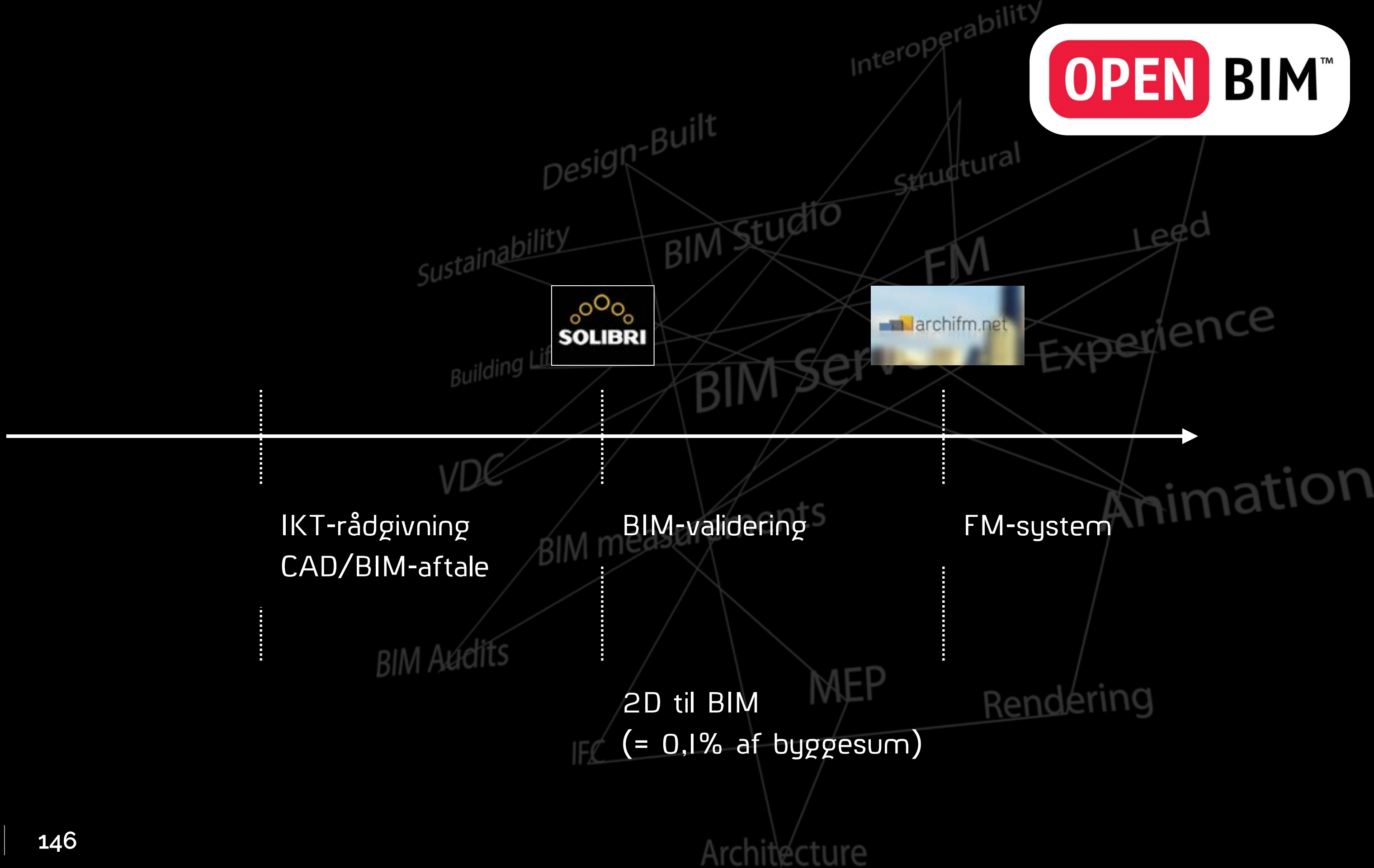
Results	Warning	Error	Pass	Fail	OK
Intersections Between Door and Wall [0/56]	0	56	0	0	0
Intersecting Components [0/11]	0	11	0	0	0
Beton vægelement - 150mm and Door 18 [0/1]	0	1	0	0	0
(A) Door.3.74 (Door 18) and (D) Wall.3.127 (Bet	0	1	0	0	0
Beton vægelement - 200mm and Door 18 [0/6]	0	6	0	0	0
(A) Door.-1.67 (Door 18) and (D) Wall.-1.147 (B	0	6	0	0	0
(A) Door.-1.67	0	1	0	0	0
(D) Wall.-1.147	0	5	0	0	0
(A) Door.4.49 (Door 18) and (D) Wall.4.88 (Betor	0	1	0	0	0
(A) Door.5.50 (Door 18) and (D) Wall.5.108 (Bet	0	1	0	0	0
(A) Door.17.5 (Door 18) and (D) Wall.17.11 (Bet	0	1	0	0	0
(A) Door.2.71 (Door 18) and (D) Wall.2.26 (Betor	0	1	0	0	0
(A) Door.2.47 (Door 18) and (D) Wall.2.65 (Betor	0	1	0	0	0
Beton vægelement - 250mm and Door 18 [0/2]	0	2	0	0	0

Info

(A) Door.-1.67

Identification	Location	Issues	Quantities
Property	Value		
Model	(A) Ø4_K01_F3_N20150220_ko...		
Discipline	Architectural		
Name			
Type	Door 18		
Description			
Operation	Single Swing Left		
Layer	A22---- Indervænge		





IKT-rådgivning
CAD/BIM-aftale

BIM-validering

FM-system

2D til BIM
(= 0,1% af byggesum)





OPENBIM STUDIO



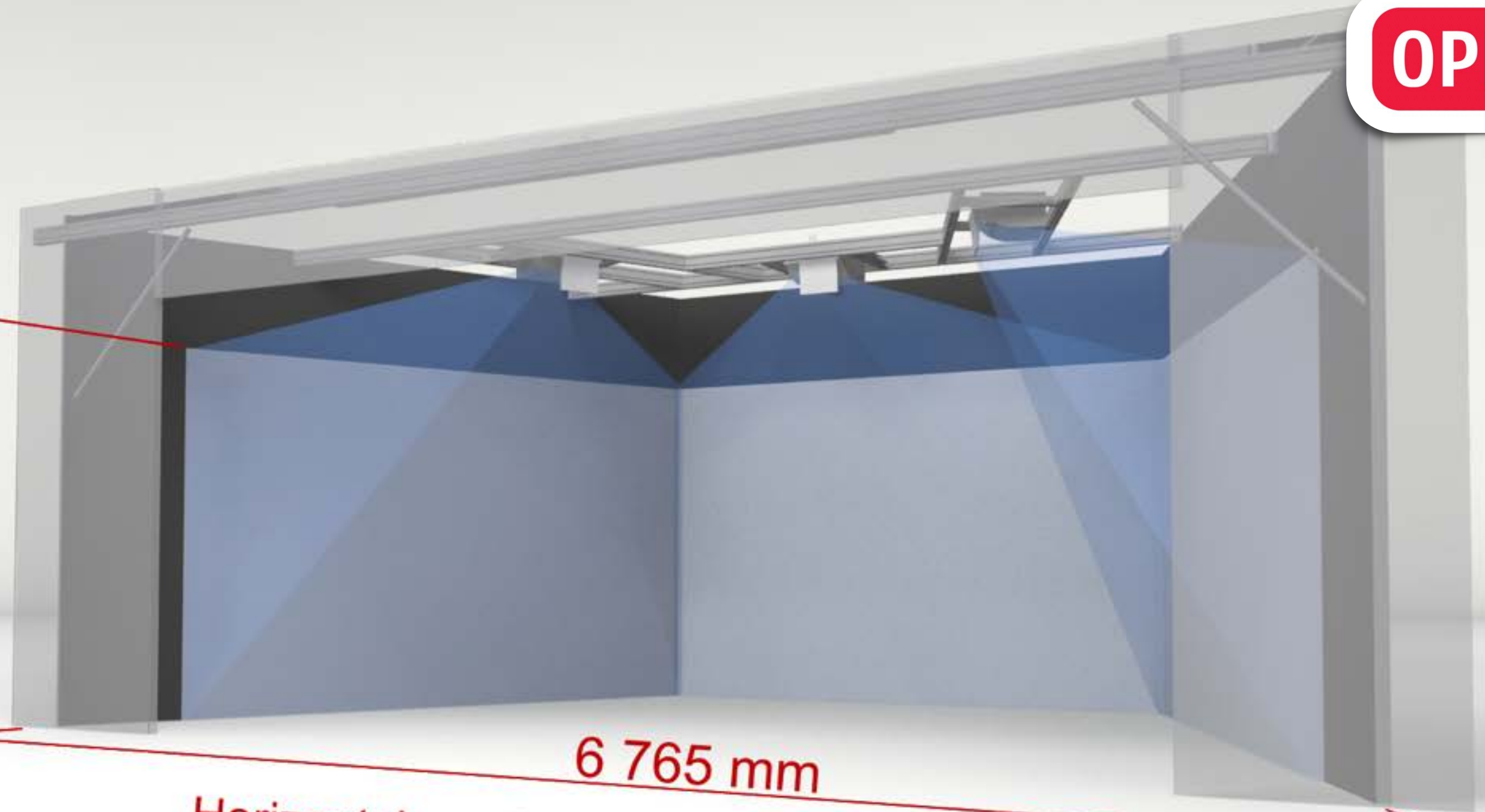
Realism and reliable
design **review** and
design **validation**



2 650 mm

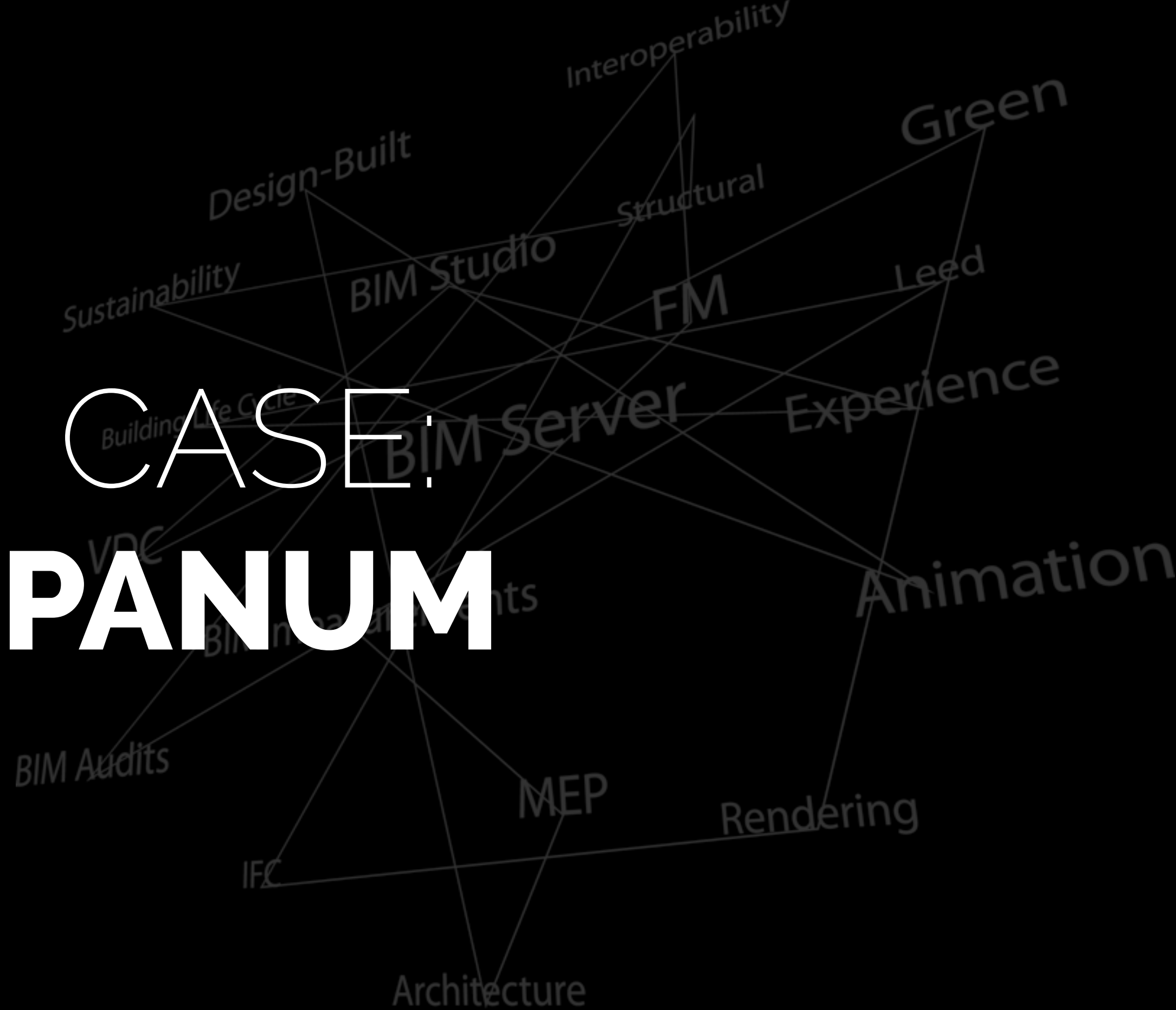
6 765 mm

Horizontal resolution 3 840 pixels > 5 760 pixels





CASE: PANUM





PANUM | USER INVOLVEMENT





PANUM | USER INVOLVEMENT





PANUM | USER INVOLVEMENT





PANUM | USER INVOLVEMENT

