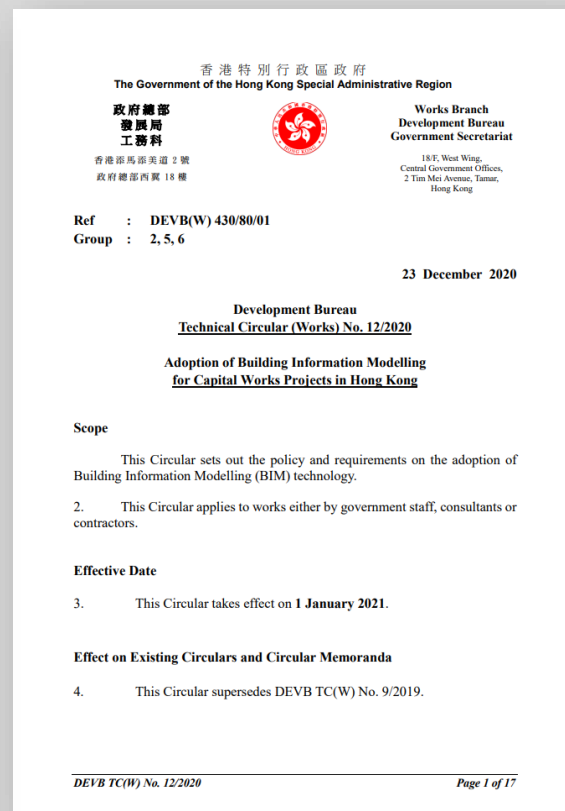
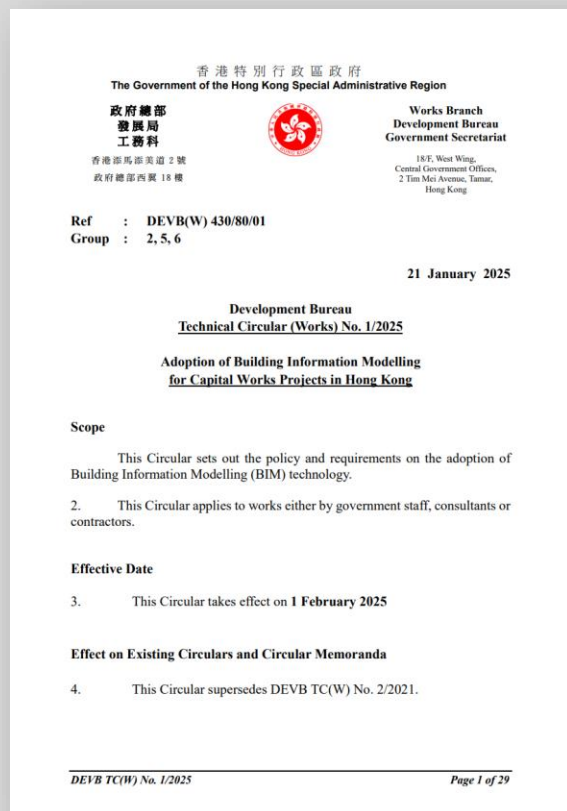


OpenBIM Application on Chinese Culture Experience Centre (CCEC)

10 March 2026

Section 1

A. Background for openBIM Pilot



Open BIM Development in Capital Works

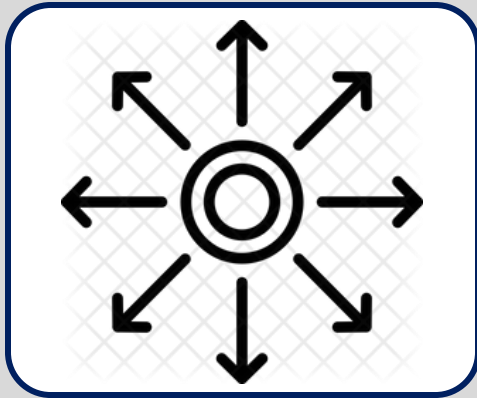
- The concept of **“software-neutral policy”** was first brought up in **DEVB TC(W) No. 12/2020 in 2021.**
- The DEVB issued a **TC(W) No. 1/2025** in January 2025, emphasizing the need for Works Departments to **prioritize the adoption of an open BIM strategy** throughout various project stages.

A. Background for openBIM Pilot

What is Open BIM ?

A **software-neutral approach** to the collaborative design, construction, and operation of buildings based on open standards and workflows. It allows different stakeholders to work together seamlessly using their preferred software tools.

Why is it important ?



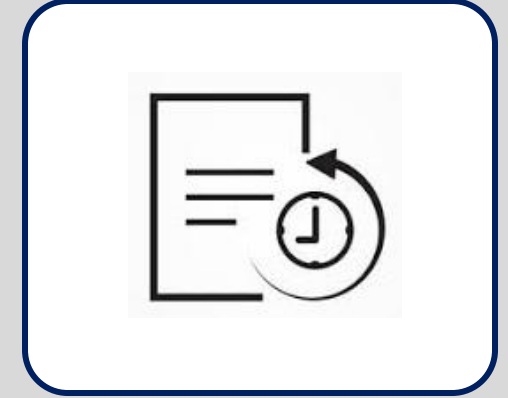
Software Diversification

No preferable software which allow freedom to choose without being forced into a single software provider's closed ecosystem.



Seamless Interoperability

It breaks down the walls between different software and allow team members to share data without the limitation of specific software.



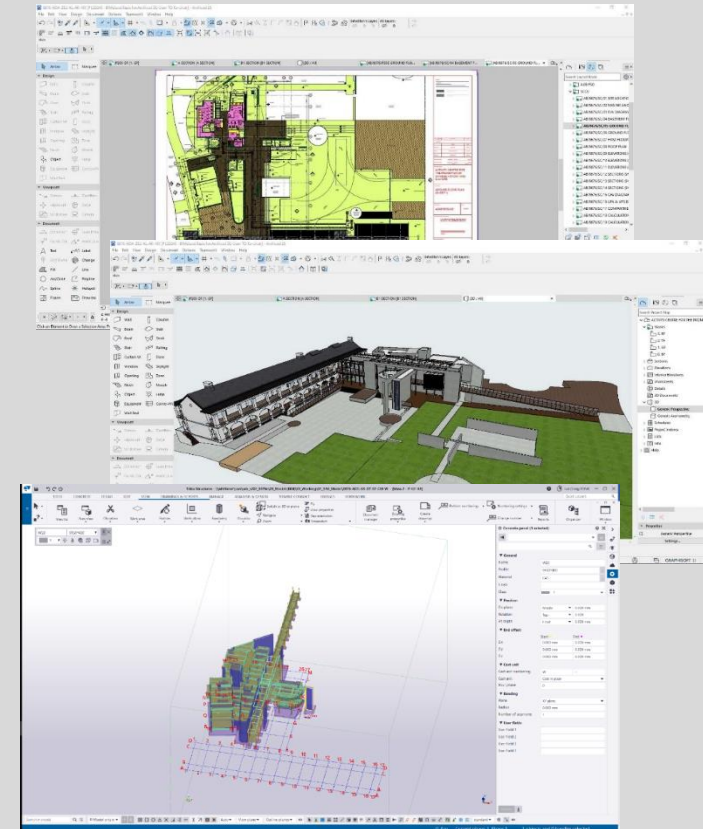
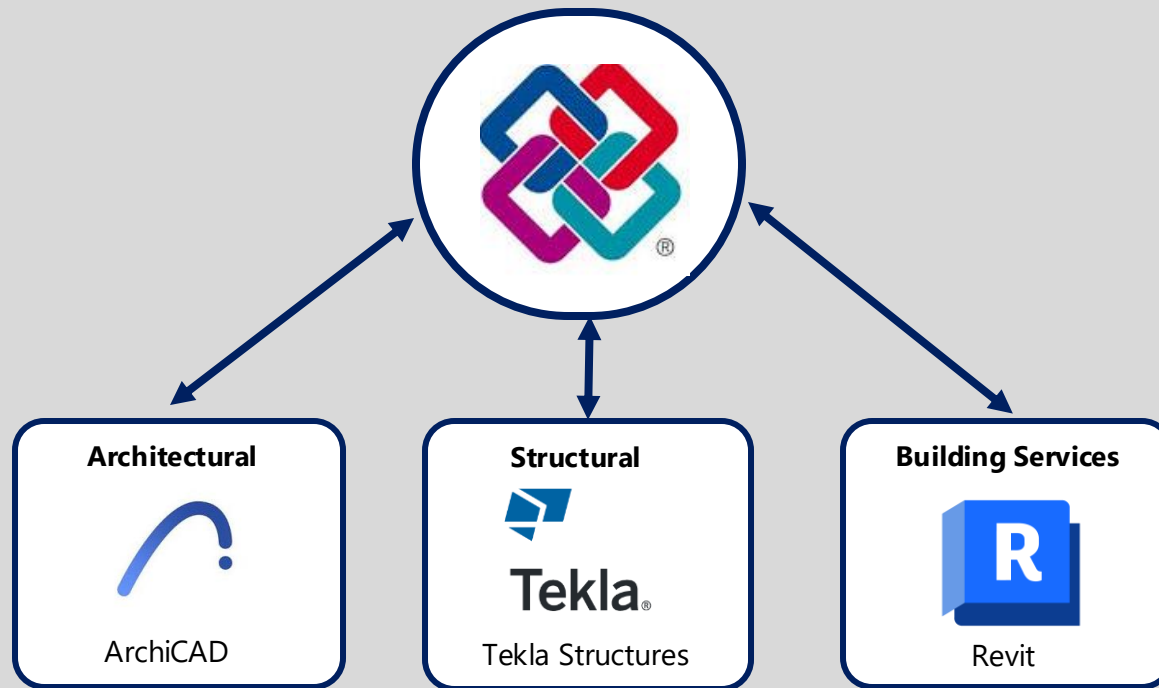
Long-term Data Accessibility

By storing information in non-proprietary formats, open BIM ensures that building data remains readable and usable for decades.

A. Background for openBIM Pilot

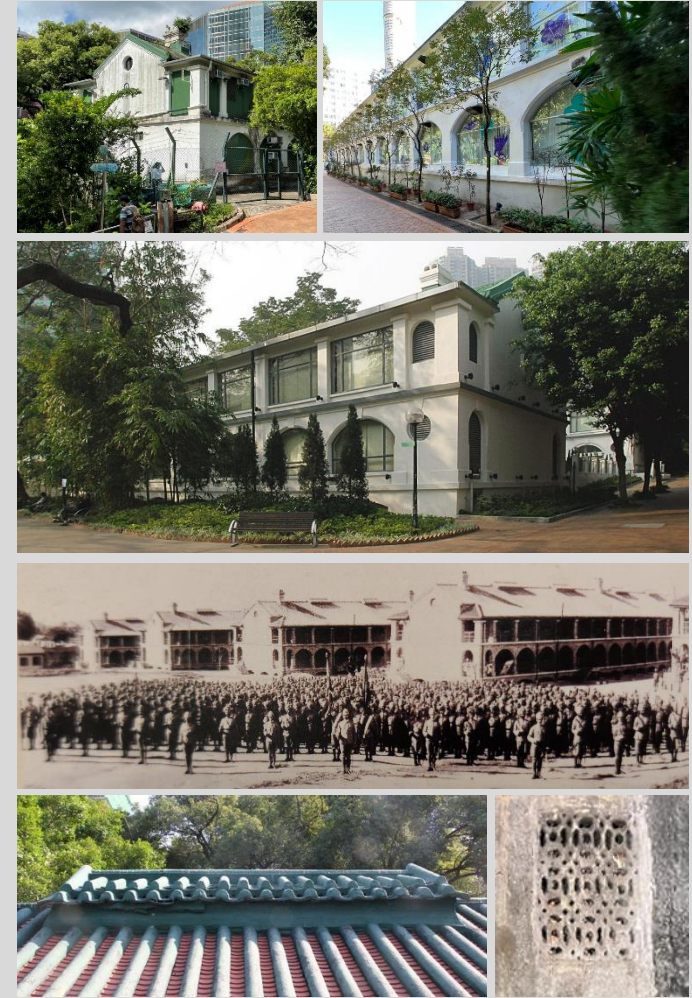
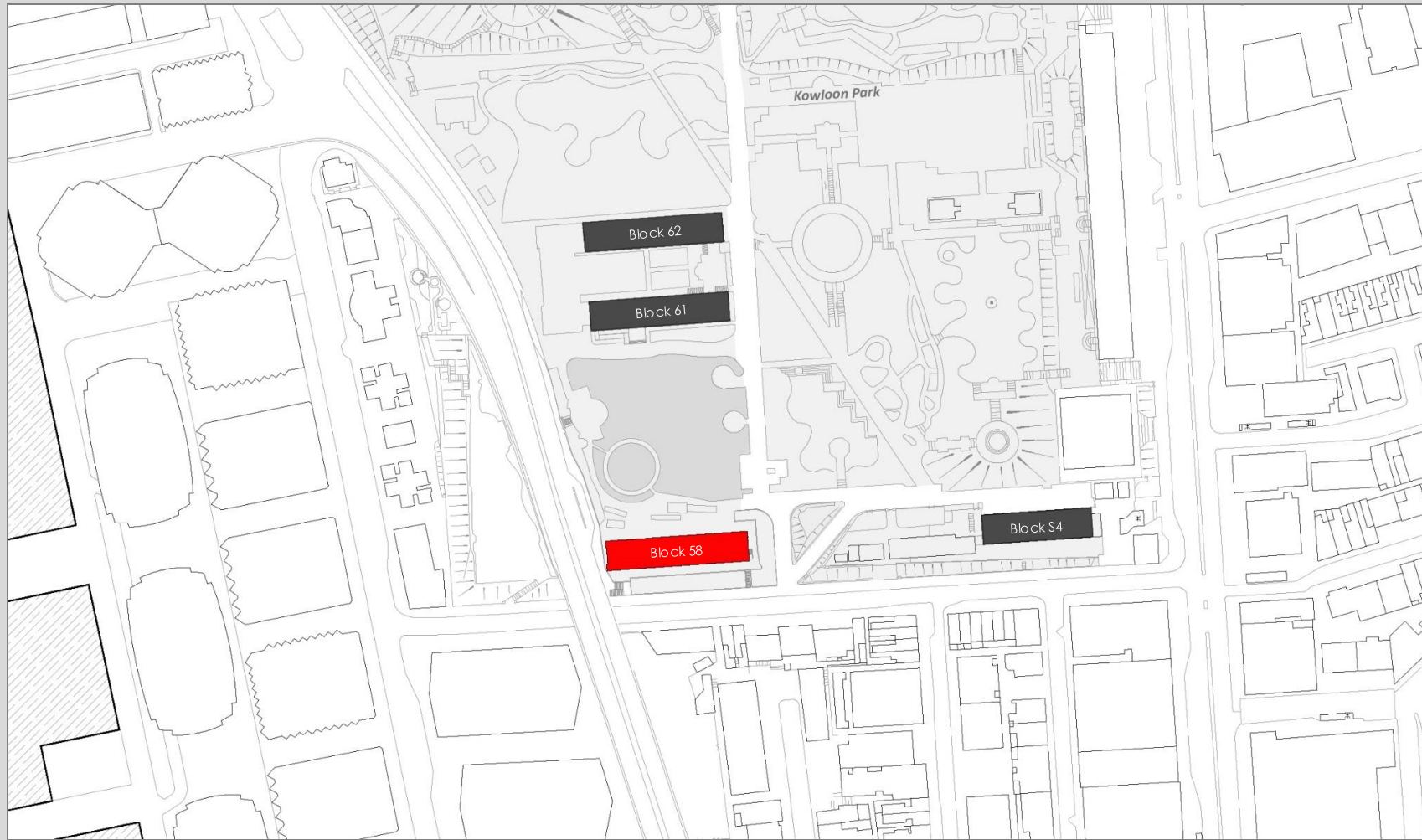
Pilot Study

The Chinese Culture Experience Centre (InFORM No. 8676) was chosen as a pilot project to implement the open BIM approach in 2022, prior to the issuance of TC(W) No. 1/2025. This initiative aims to enhance collaboration and efficiency through openBIM approach.



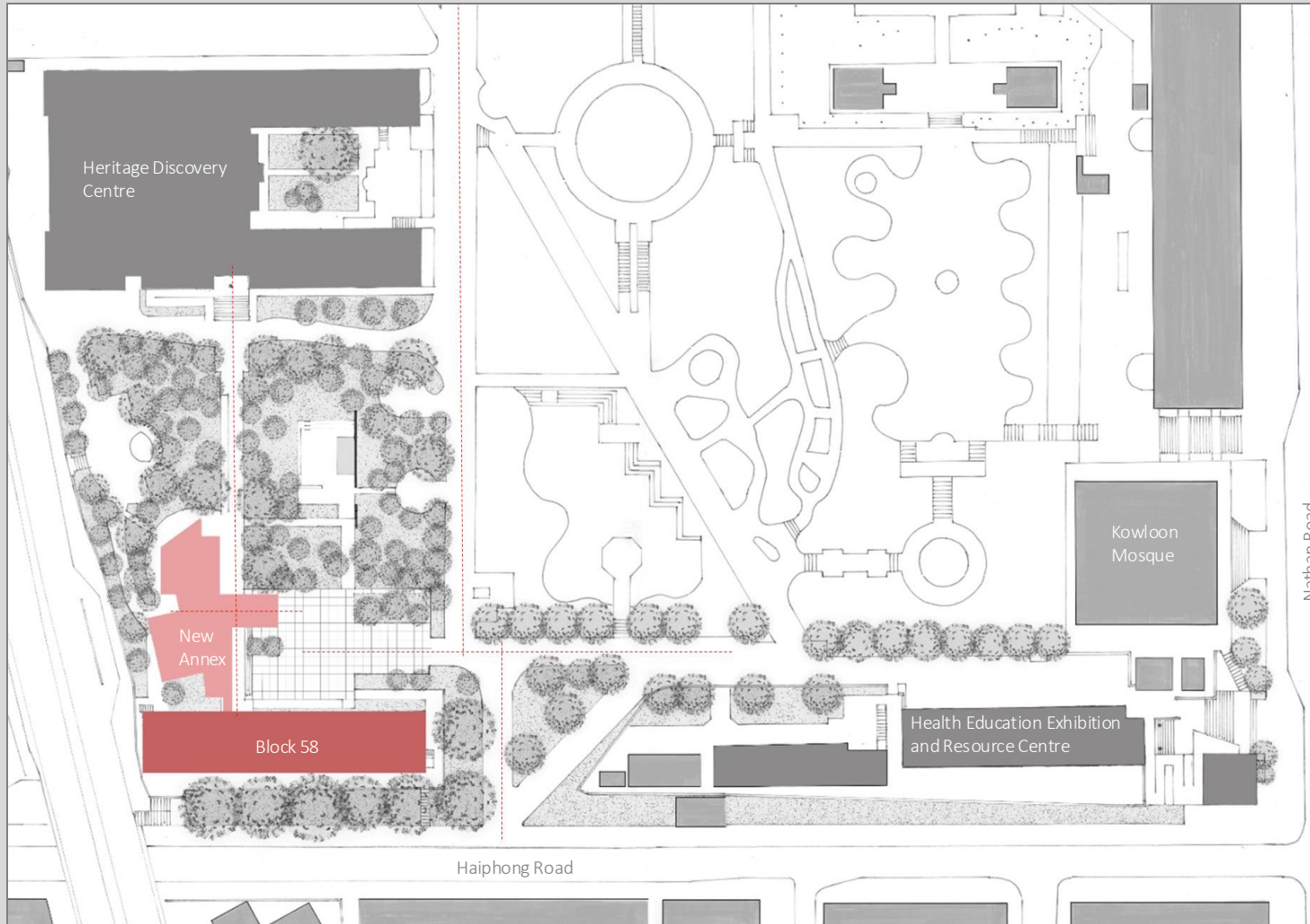
B. Project Background

1 Last Historic Barrack Block in Kowloon Park to be Revitalized

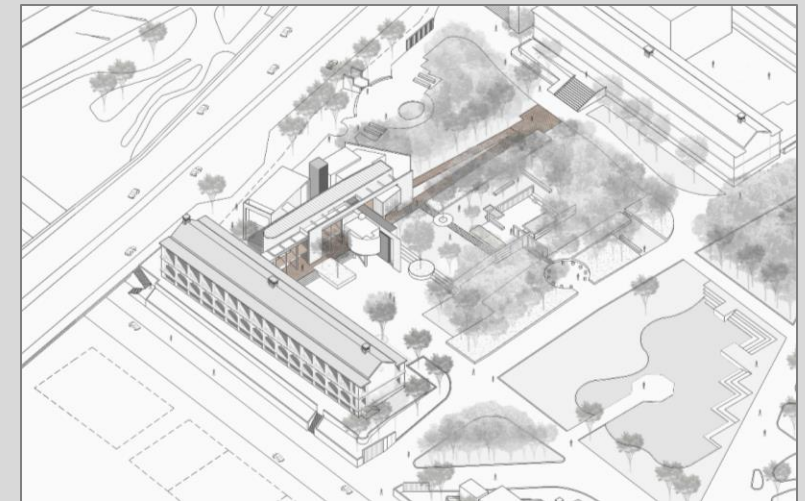


B. Project Background

2 Overall Scope



- Revamp the existing Block 58 in Kowloon Park into an Activity Centre.
- A New Annex building to accommodate new services.
- In view of the tight area constraints, detailed coordination among different trades was required.



B. Project Background

3 The Design



View from Haiphong Road

B. Project Background

3 The Design



View of new plaza inside Kowloon Park

B. Project Background

3 The Design



View from revitalized verandah

B. Project Background

3 The Design

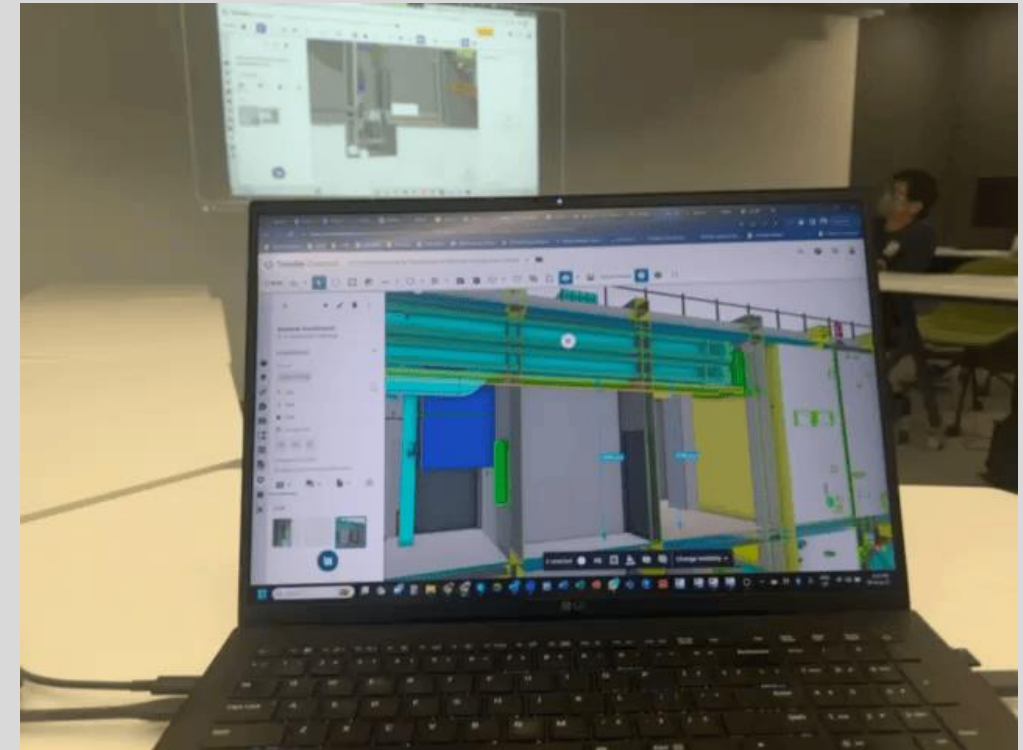


Various views of interior spaces and passages

C. Experience Sharing on OpenBIM

1 Sessions

- BIM Coordination Meetings (Technical Sessions)
- Archicad, Tekla Structures, Revit Working sessions



C. Experience Sharing on OpenBIM

2 Software Ecosystem

Design Authoring



Audit

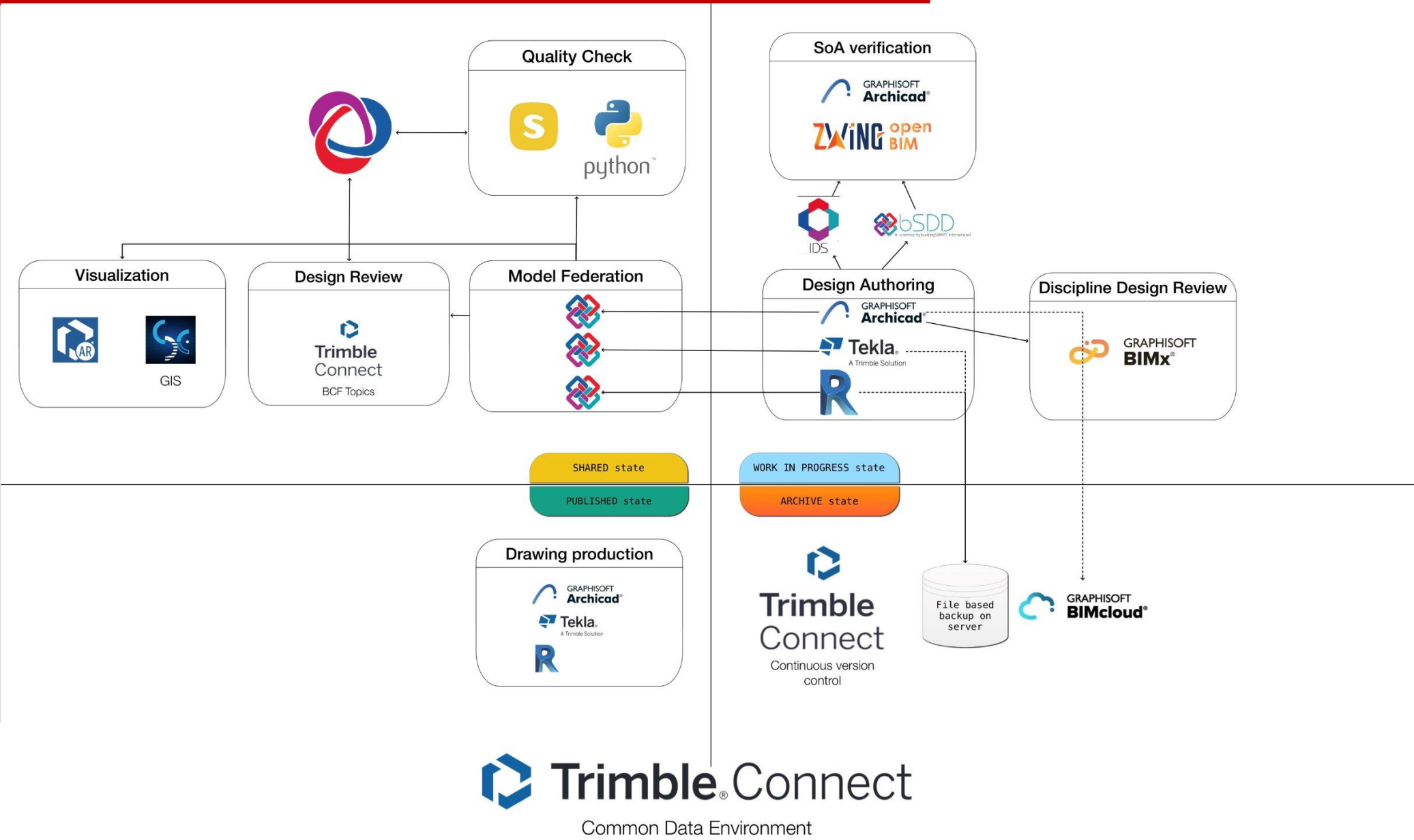


CDE



C. Experience Sharing on OpenBIM

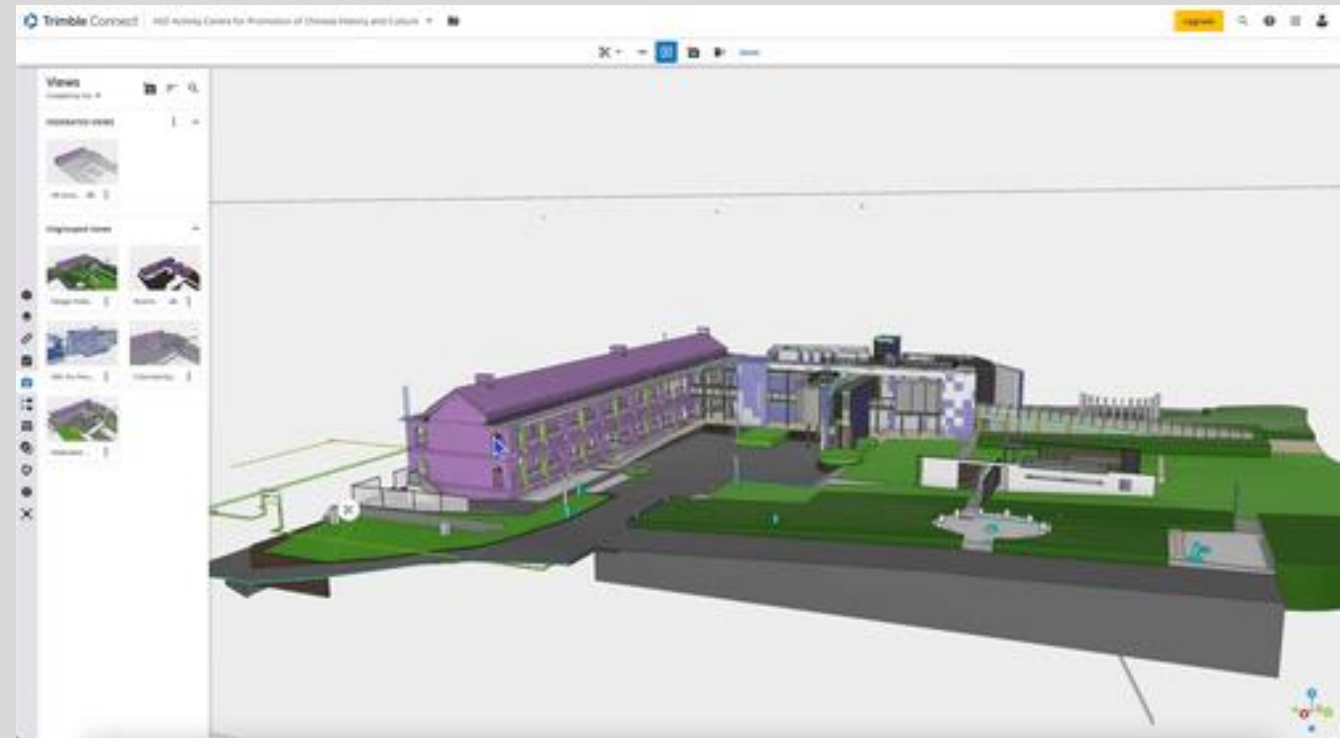
2 Software Ecosystem



C. Experience Sharing on OpenBIM

3 CDE

Trimble Connect as CDE, model federation, model viewer

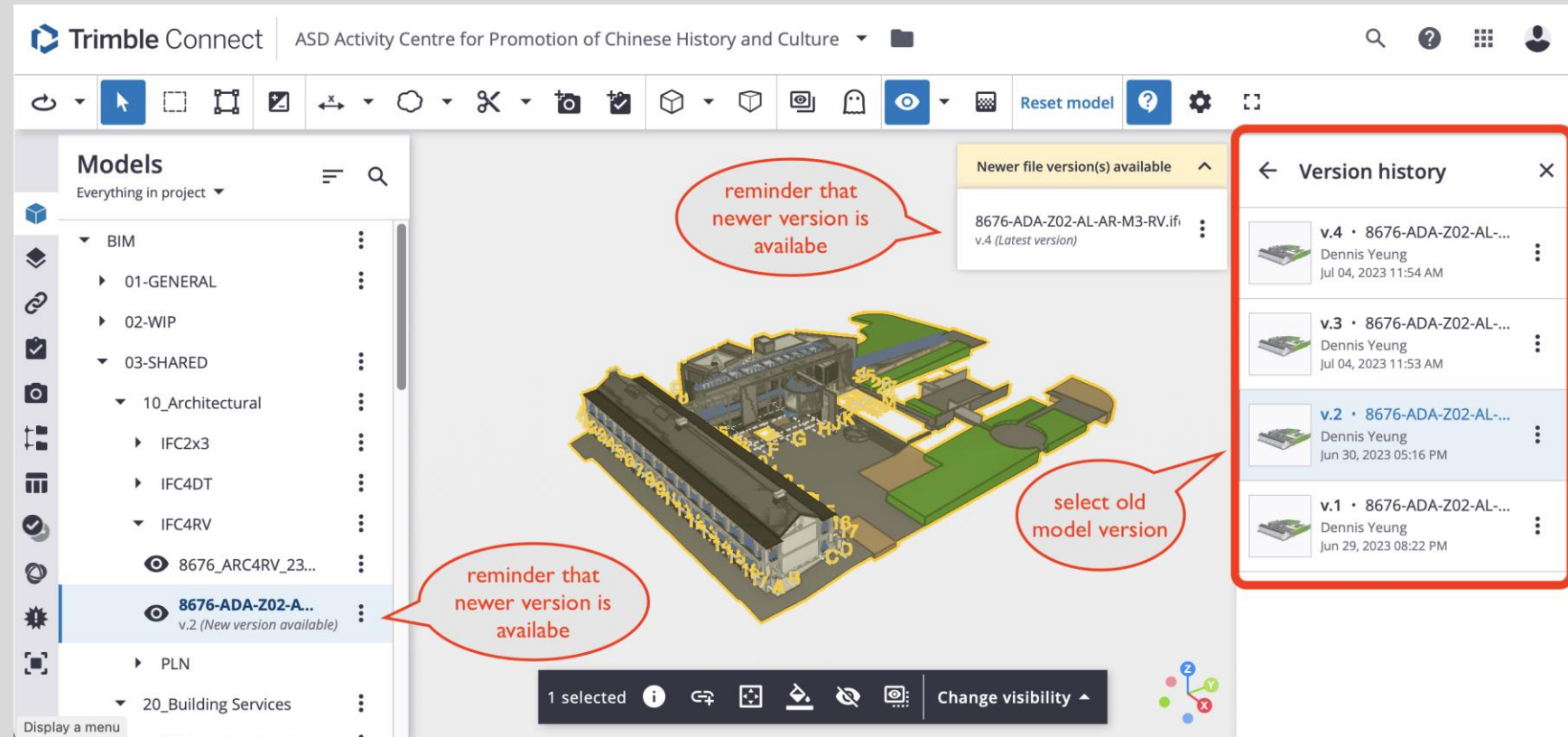


C. Experience Sharing on OpenBIM

3 CDE

Model Federation

Models and versions can be toggled by users

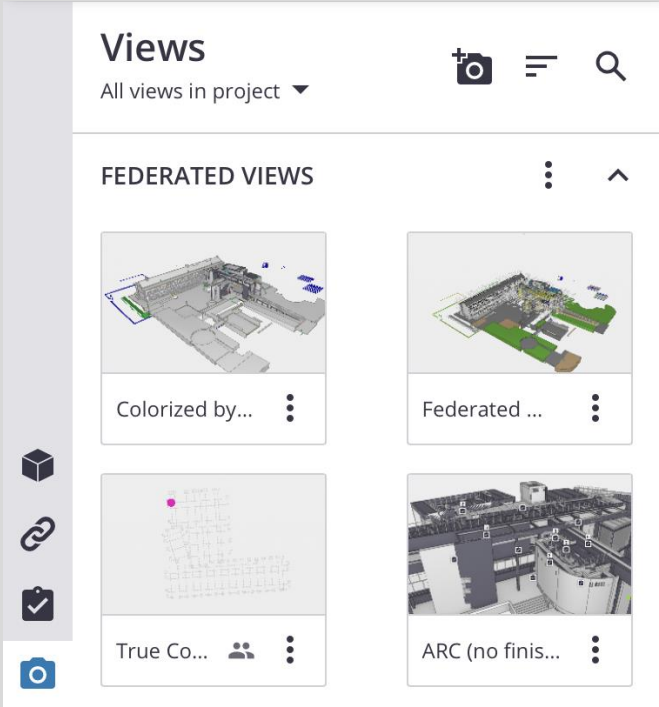


C. Experience Sharing on OpenBIM

3 CDE

Flexible Model viewer

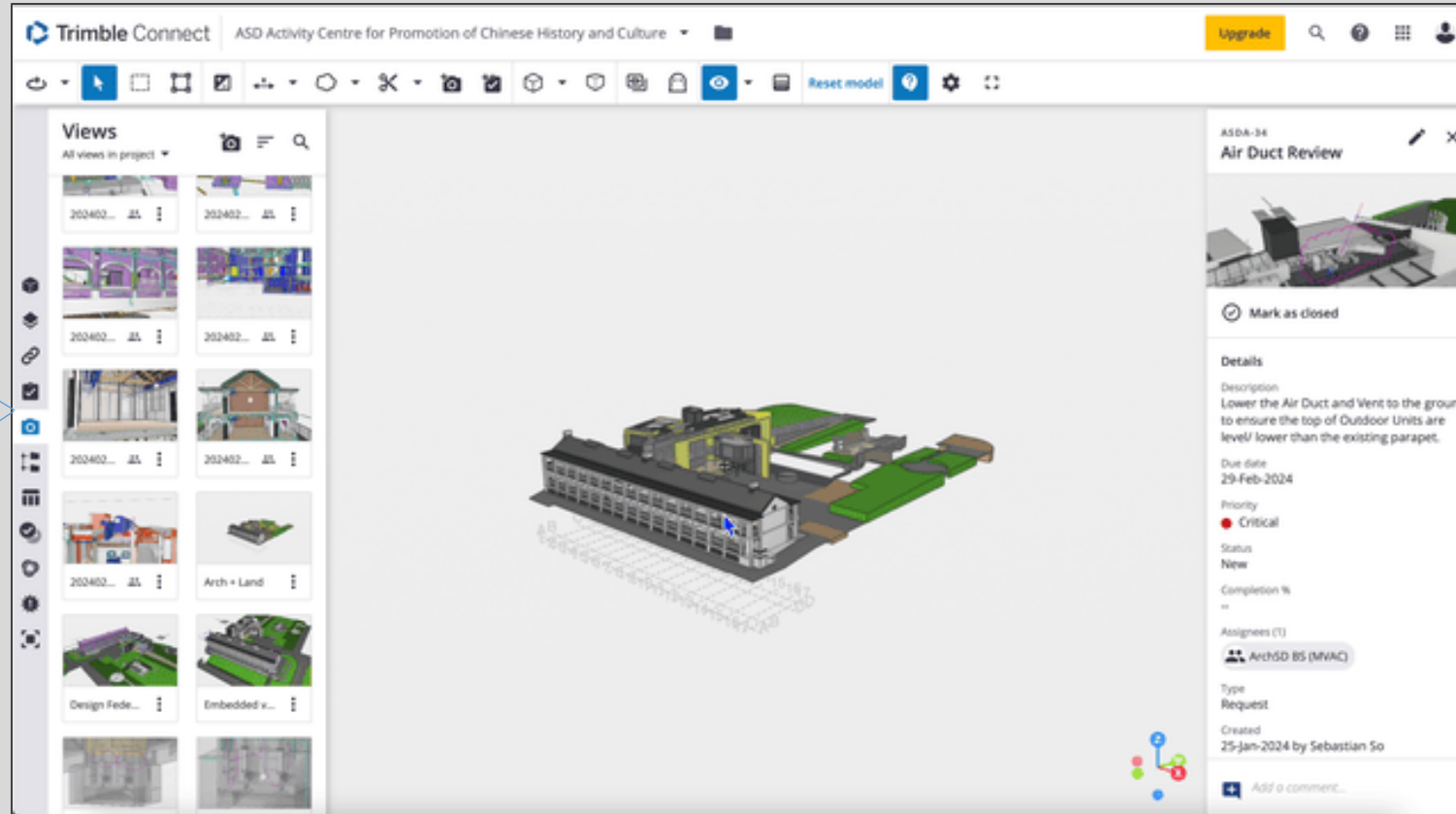
- Saved views
- Model element filters



C. Experience Sharing on OpenBIM

3 CDE

- Design Review in Browser
- Federated model



Architects

Structural
Engineers

BS
Engineers

Project
Manager

Real time, online, by user

C. Experience Sharing on OpenBIM

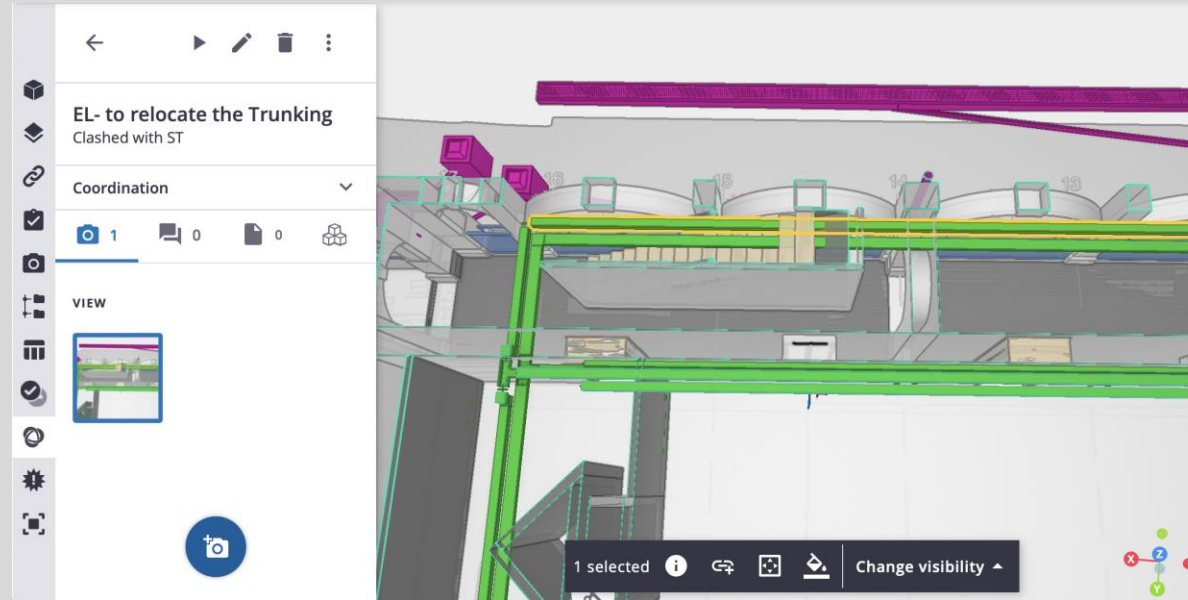
3 CDE

Coordination & Communications

Comment & Markup directly on the model

Architects

Structural
Engineers



BS Engineers

BIM manager

Online BCF Topics



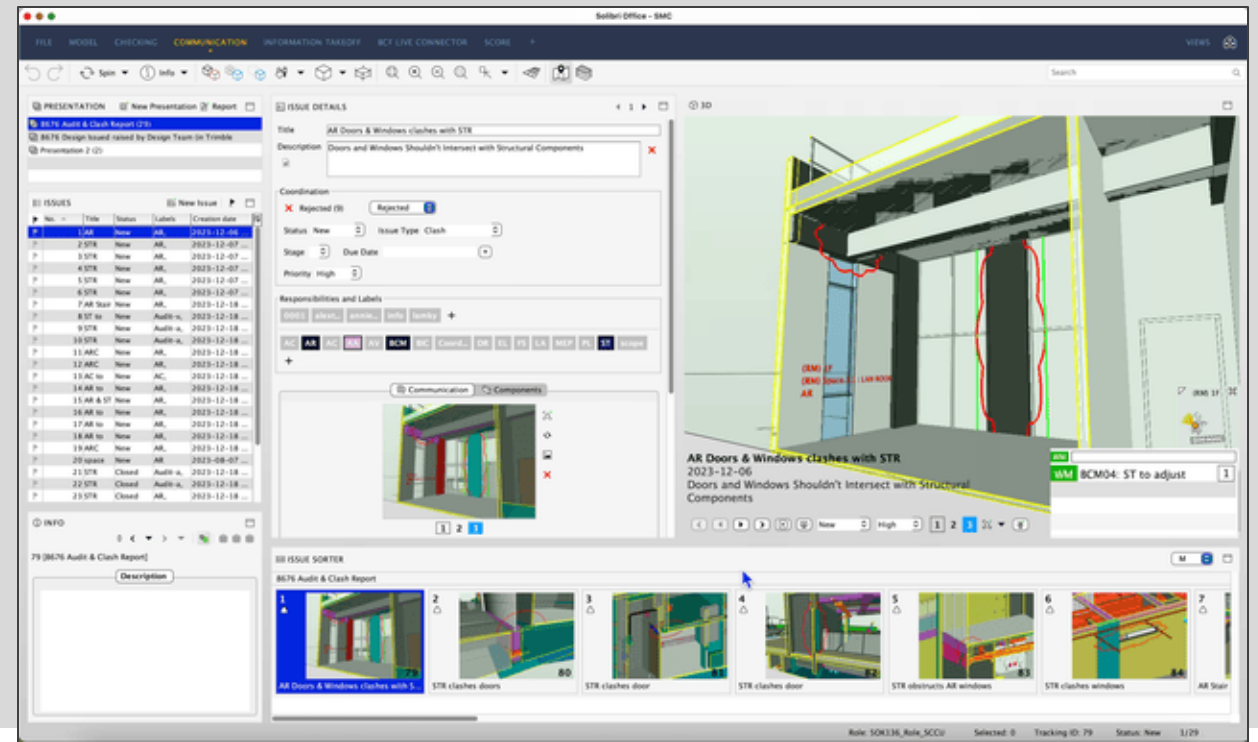
Minimize Emails

C. Experience Sharing on OpenBIM

3 CDE

Solibri model audit

- Issues Bi-directional sync with CDE
 - via BCF



Model audit by BIM manager

C. Experience Sharing on OpenBIM

3 CDE

Quantity Takeoff on CDE



All objects

GROUP BY: Material

Material

Default

Material	Volume	Σ	Count	Name	Name
> Paint - Titanium White (2)	0 m³		2	--	FU - 010
> Paint - Vermilion (9)	0.144 m³		9	--	FU - 014
> Plaster - Gypsum (4)	0.013 m³		4	--	SW - 015
> Reinforced Concrete - Structural (470)	971.448 m³		470	Varies	Varies
> Roof - Asphalt Shingle Gray (3)	86.887 m³		3	--	Varies
> STEEL/S355 (101)	1.766 m³		101	--	Varies
> STEEL/S355 12896 (31)	1.12 m³		31	--	Varies
Total		6896.043 m³	-	-	-

C. Experience Sharing on OpenBIM

Architect – BS Team Coordination

Current Practice

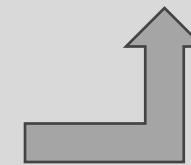
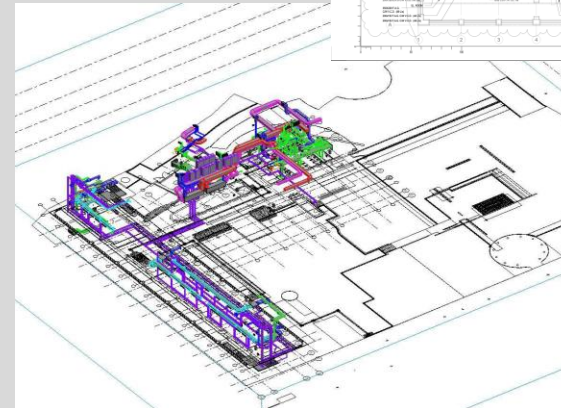
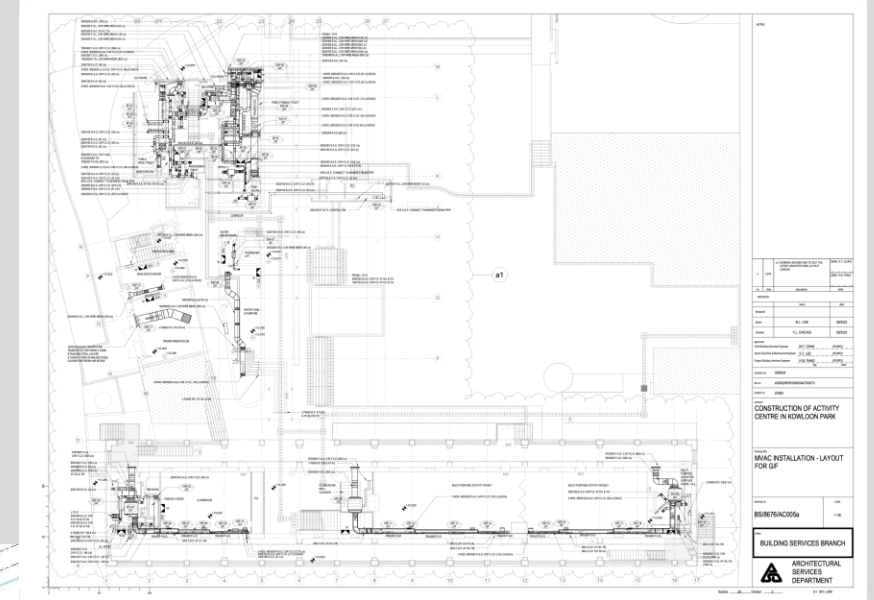
- BSE require precise 2D architectural plans as underlays in their drawings.
- Drawings serve as contractual obligations in current practice.

Limitations of IFC

- IFC format is primarily for 3D geometry and metadata.
- Lacks capability for accommodating 2D drawings.

Workflow

- Need to export additional 2D plans in DWG format for BSE.
- Archicad can streamline export workflow by creating a publisher set.



C. Experience Sharing on OpenBIM

Architect – BS Team Coordination

DWG Export Problem

- Exporting DWG file with fills, the fills do not completely cover the lines underneath them
- unwanted lines become visible in the DWG file.

Solution 1 – File Management

- Explore alternative modelling methods for achieving desired visuals without background fills.
- Use layers to manage visibility of underlying lines.
- Test different .dwg export settings to mitigate visibility issues.
- Post-export editing to remove or adjust unwanted lines.

Consideration

- Need for alternative modeling methods.
- Increased layer management.
- Post-export editing of .dwg files.

Solution 2 – Convert PDFs to DWGs

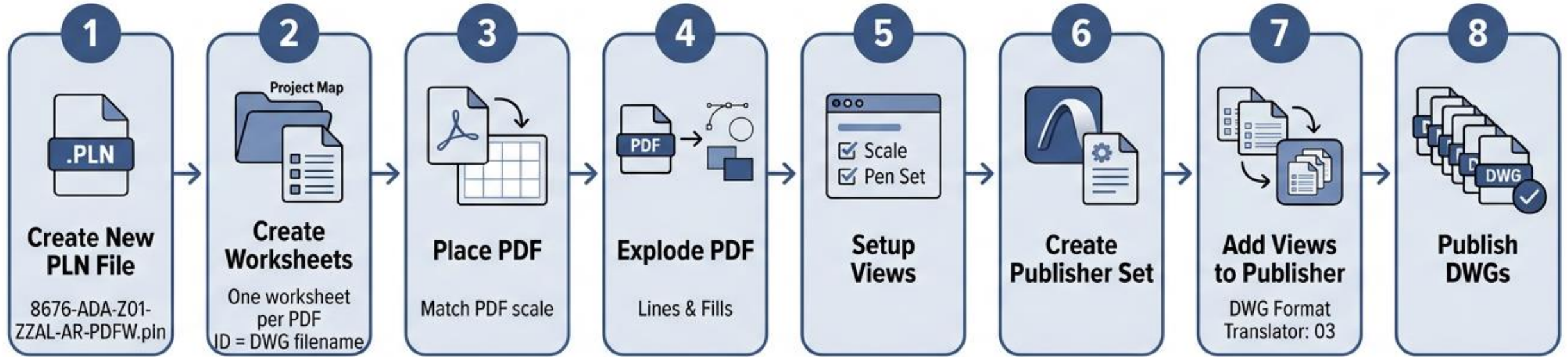
- Convert PDF versions of drawings to DWG format.
- Capture the intended visual representation of the 2D plan without the need for post-editing
- Retain layers for effective visibility control.
- Utilize Publisher for one-click batch generate of PDFs and DWGs.

Considerations

- Lines types and fill types are exploded into individual lines
- Sentences are fragmented into single words

C. Experience Sharing on OpenBIM

Architect – BS Team Coordination



Exporting DWGs Workflow

C. Experience Sharing on OpenBIM

Architect – Technical Team Coordination

Current Practice

- The architects utilizes SketchUp for conceptual modeling, while the technical team relies on Archicad for BIM documentation.
- To facilitate the project's development at various stages, an exchange of model information between the two is essential.

Benefits of SKP Import/Export

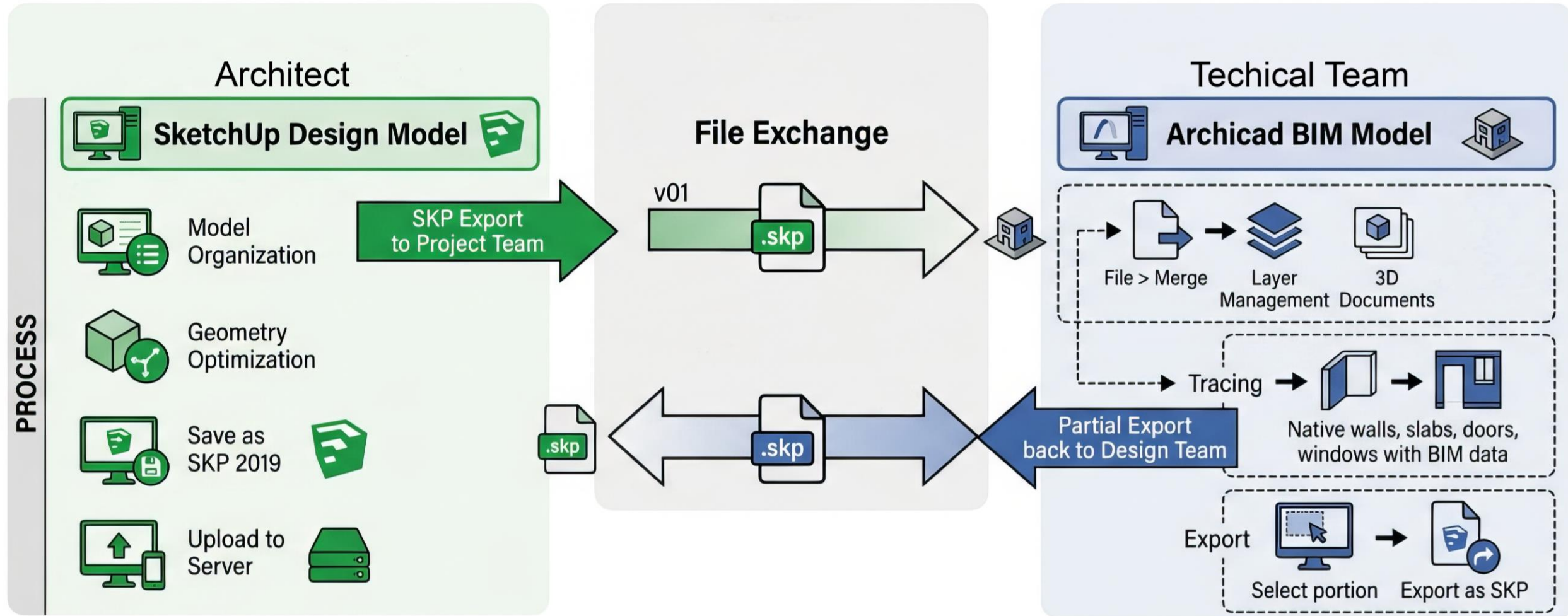
- Simple one-step import/export functionality.
- Smaller file sizes and quicker import times compared to IFC.
- Ensures the integrity of materials during the transfer.

Workflow

- The process begins by importing SKP files into Archicad, where technical team can trace them with native Archicad elements to create intelligent BIM deliverables.
- Throughout the design coordination phase, the technical team will export the updated model as SKP files back to the Architect for further design development.
- Smaller sections of the model can be exported to the Architect, allowing them to explore various options for specific design components and enhances performance in SketchUp by reducing file size.

C. Experience Sharing on OpenBIM

Design Team – Project Team Coordination



Bi-directional SketchUp – Archicad Coordination Workflow

C. Experience Sharing on OpenBIM

Design Coordination

- For multi-disciplinary coordination only, but not for quick architectural design charrette. The model elements are **fragmented** when exported into other design softwares (e.g. Sketchup) and cannot be used for quick design review of building form and profile.
- Need to set up **layers for GBP and PMI** modeling respectively
- Suggest to conduct **site surveys** (e.g. Underground utilities, tree surveys, condition surveys of existing buildings) as far as possible, and input these information (e.g. OVT root scanning/ tree crown) into the model to check clashing, and for potential Compensation Event assessment
- Effectiveness require **designated teams (Archi, Struct, BS) to promptly update the model** to identify any clashing for timely coordination and preparation of statutory/ construction drawings;

C. Experience Sharing on OpenBIM

Design Coordination

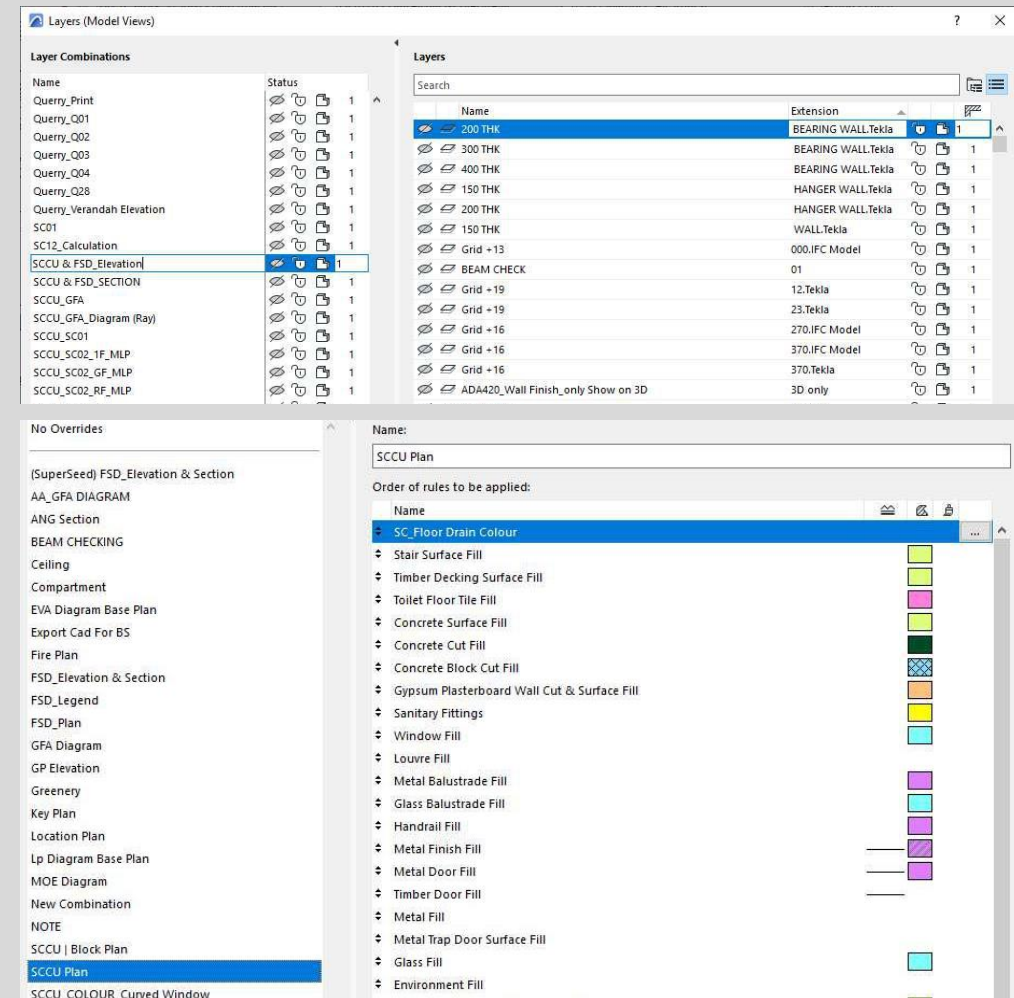
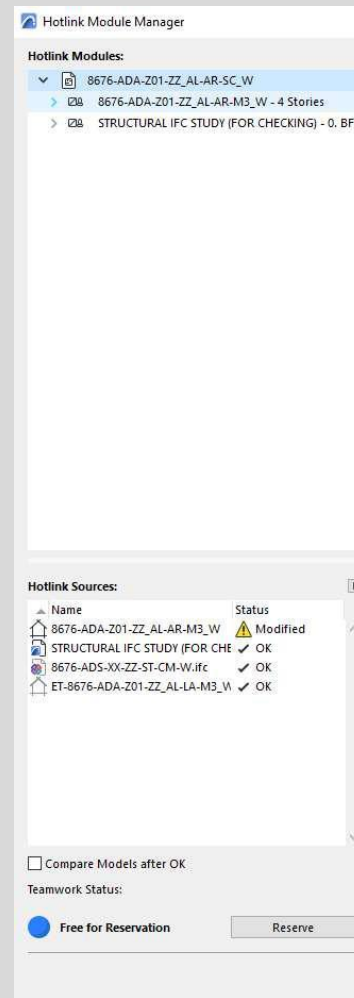
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C. Experience Sharing on OpenBIM

Design Coordination

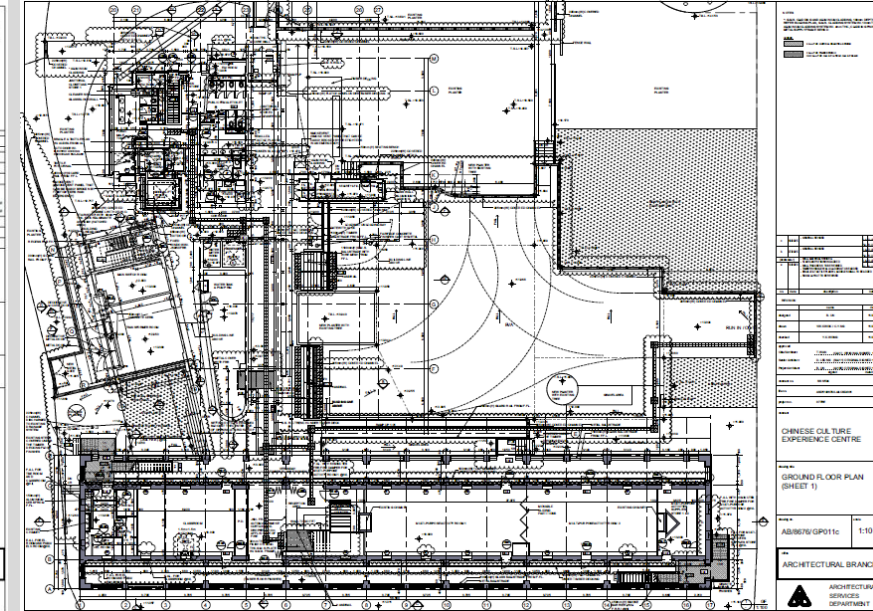
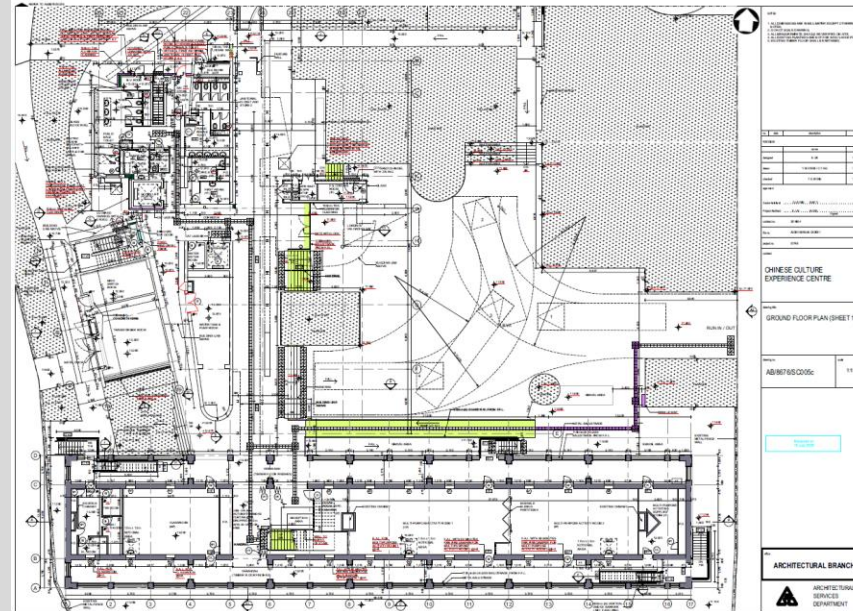
- Need to set up layers for SCCU submission and PMI issuance modeling respectively



C. Experience Sharing on OpenBIM

Design Coordination

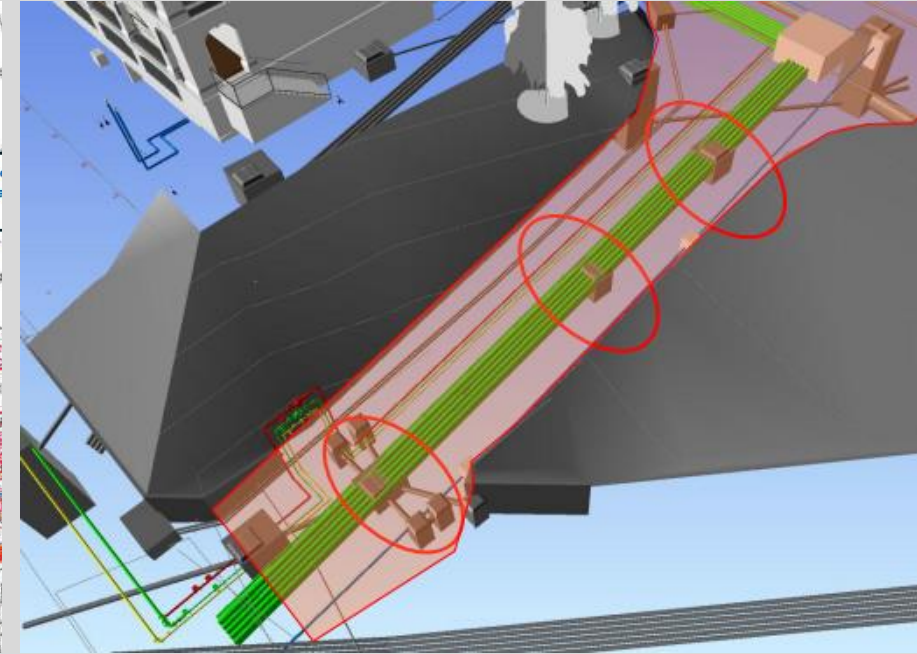
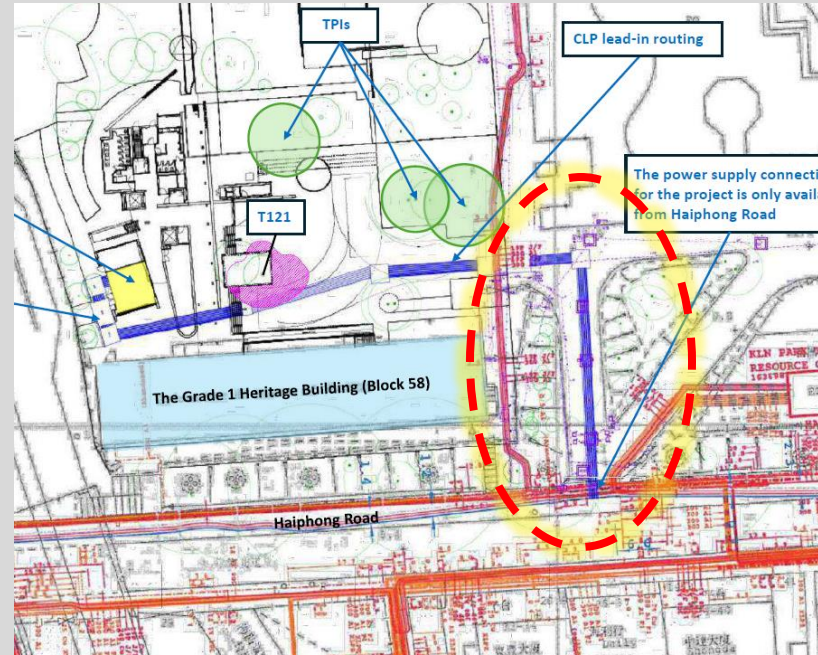
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C. Experience Sharing on OpenBIM

Design Coordination

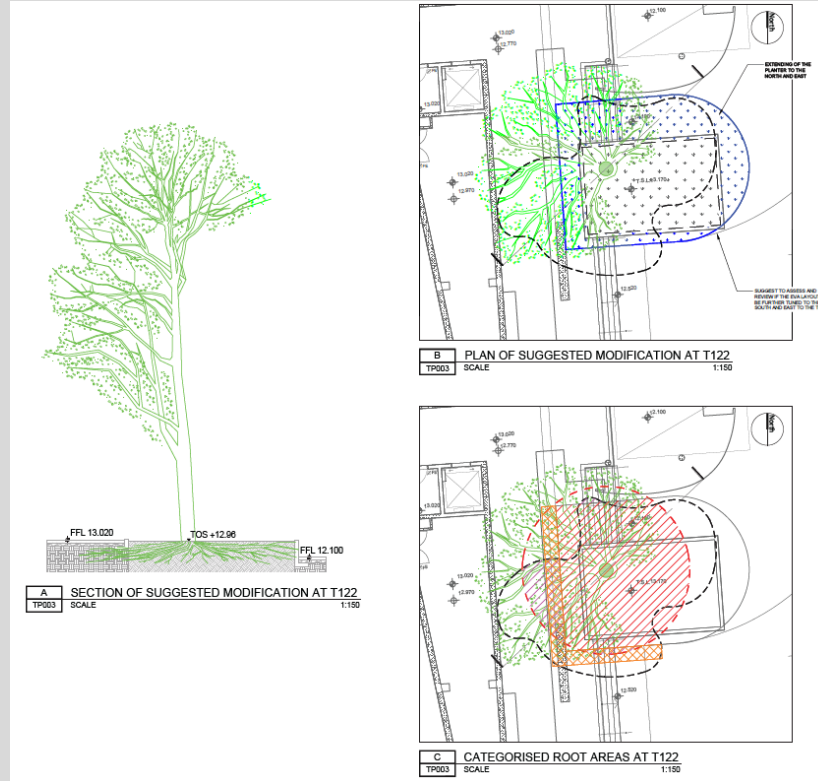
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C. Experience Sharing on OpenBIM

Design Coordination

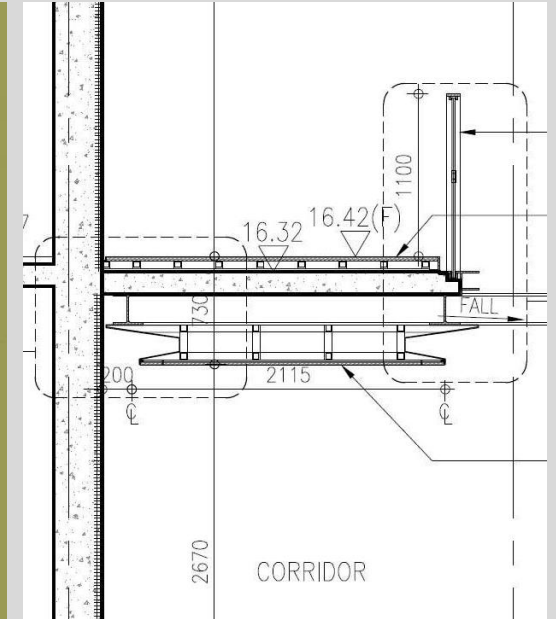
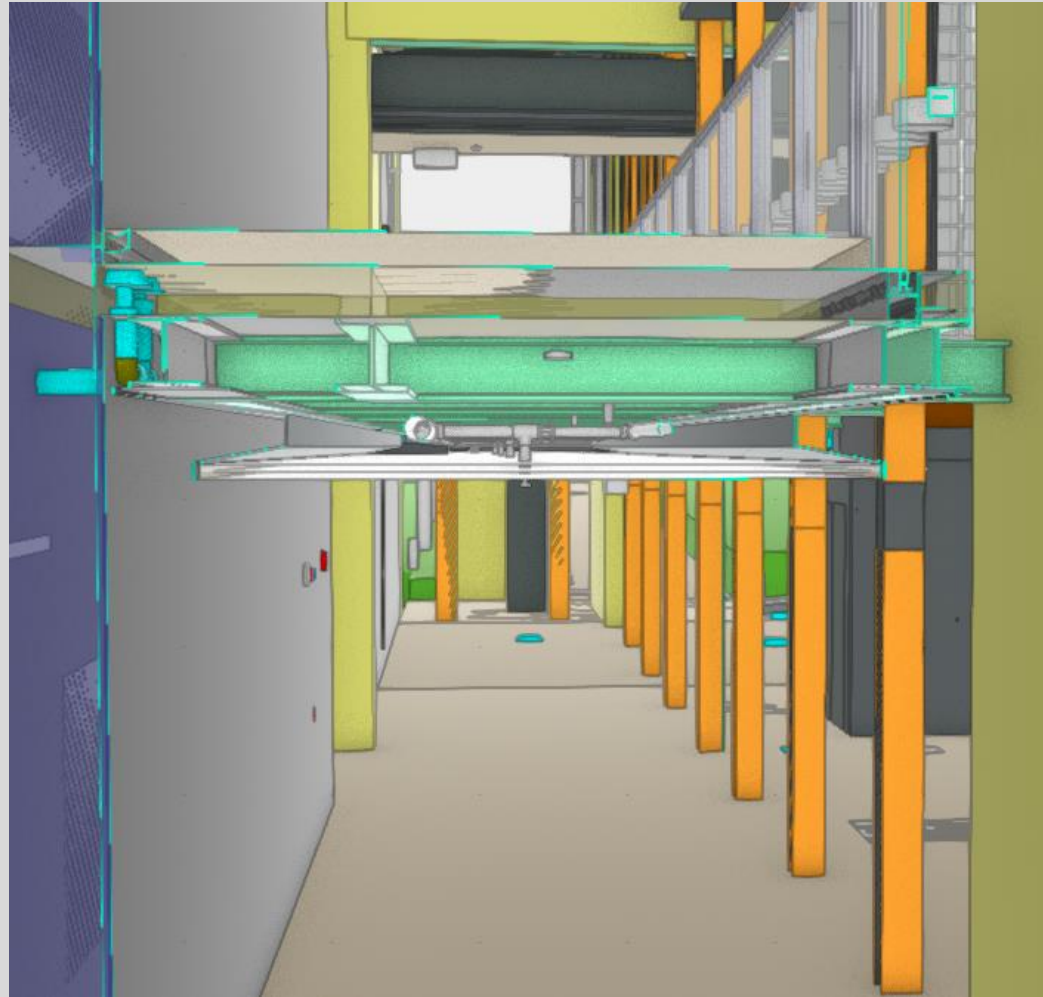
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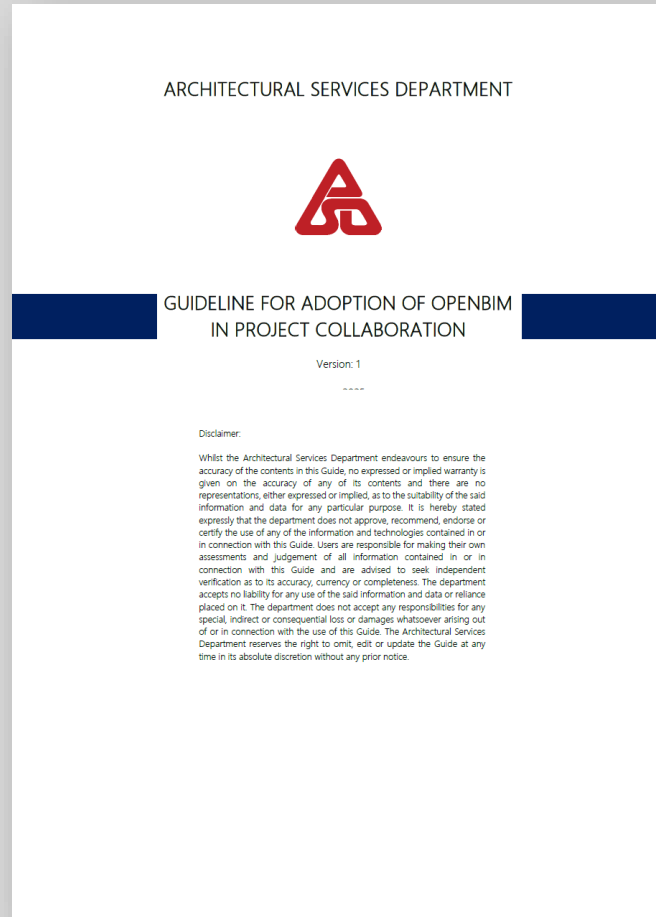
C. Experience Sharing on OpenBIM

Design Coordination

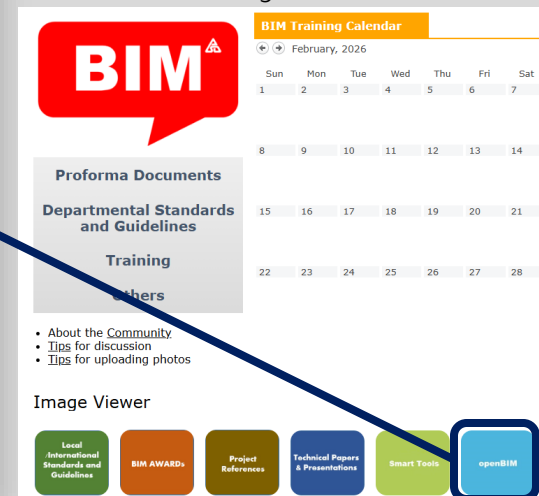
- Effectiveness require **designated teams (Archi, Struct, BS)** to **promptly update the model** to identify any clashing for timely coordination and preparation of statutory/ construction drawings



D. Guideline for Adoption of openBIM in Project Collaboration



Community of Practice for Building Information Modelling



Purpose

Building on the insights and experiences gained from the pilot project, the primary aim of this Guideline is to **establish essential settings and data field, particularly in terms of IFC data structures and properties**. It will serve as a **comprehensive reference** for the project team, providing the necessary guidance for effective implementation.

Major Content

- openBIM Basics
- IFC - Industry Foundation Classes
- Common Data Environment
- Exporting IFC
- Referencing IFC
- Quality Assurance
- Issue Tracking
- Model Federation
- Common (Mis-)Understanding
- Appendix
 - Comprehensive Guide to openBIM Workflow in Archicad
 - Comprehensive Guide to openBIM Workflow in Revit MEP
 - Comprehensive Guide to openBIM Workflow in Tekla Structures

D. Guideline for Adoption of openBIM in Project Collaboration

1 OpenBIM Basics



buildingSMART products provide the open standards that enable interoperable, software-neutral OpenBIM collaboration

buildingSMART

products provide the open standards that enable interoperable, software-neutral OpenBIM collaboration

IFC (Industry Foundation Classes)

Open, vendor-neutral data schema for exchanging and referencing BIM models across different software platforms

bSDD (buildingSMART Data Dictionary)

Provides a common dictionary to standardise terminology and properties used in BIM data

IDS (Information Delivery Specification)

Defines the required information content and data quality expected in IFC deliverables

IDS (Information Delivery Specification)

Defines the required information content and data quality expected in IFC deliverables

BCF (BIM Collaboration Format)

Enables issue tracking and communication linked directly to BIM models without exchanging model files

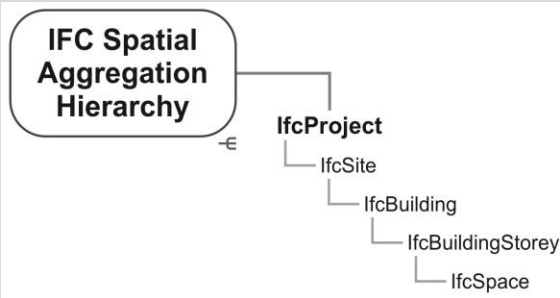
openCDE

An open framework supporting interoperability between Common Data Environment platforms

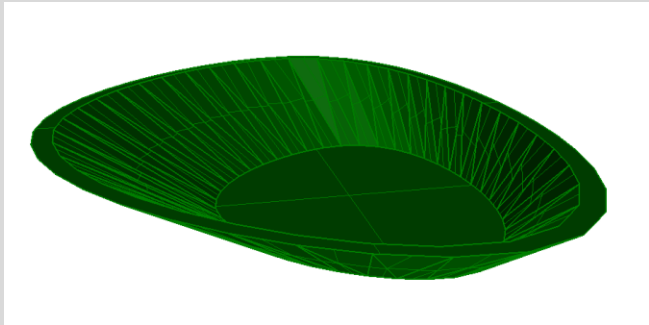
D. Guideline for Adoption of openBIM in Project Collaboration

2 IFC (Industry Foundation Class)

IFC schema provides standards for



Elements are located relative to **Spatial Hierarchy**



How **Geometry** is drawn – e.g. BREP (boundary representation)

6.1.3.41.5 Property sets

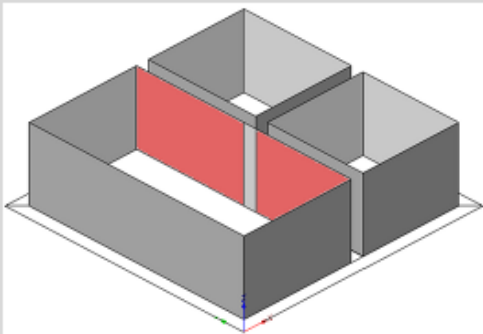
Pset_ConcreteElementGeneral

AssemblyPlace
CastingMethod
StructuralClass

Pset_ConstructionOccurrence

InstallationDate
ModelNumber
TagNumber

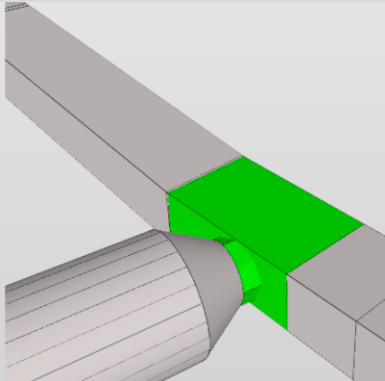
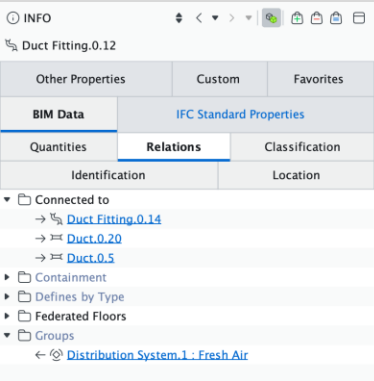
Standardized **Attributes**, **PropertySet (Pset)**, **QuantitySet(Qset)**



How **Space boundary** is broken down

System/Product/Performance-Based			
System /	Trade/Work-Section-Based		
EMSD B	System / Standard	Owner / Source	
CIC BIM	DEVB Obj	Element-Hierarchy-Based	
LOIN Tal	Naming		
	ArchSD El		
	Code Rel		
	HKSM4	System / Standard	Owner / Source
	Classificat	IFC Entity Type & PredefinedType	buildingSMART
	(HKIS)	Revit Category	Autodesk
		Archicad Classification v2.0	Graphisoft

Mechanism to represent different **classification** paradigms



Connection between elements

D. Guideline for Adoption of openBIM in Project Collaboration

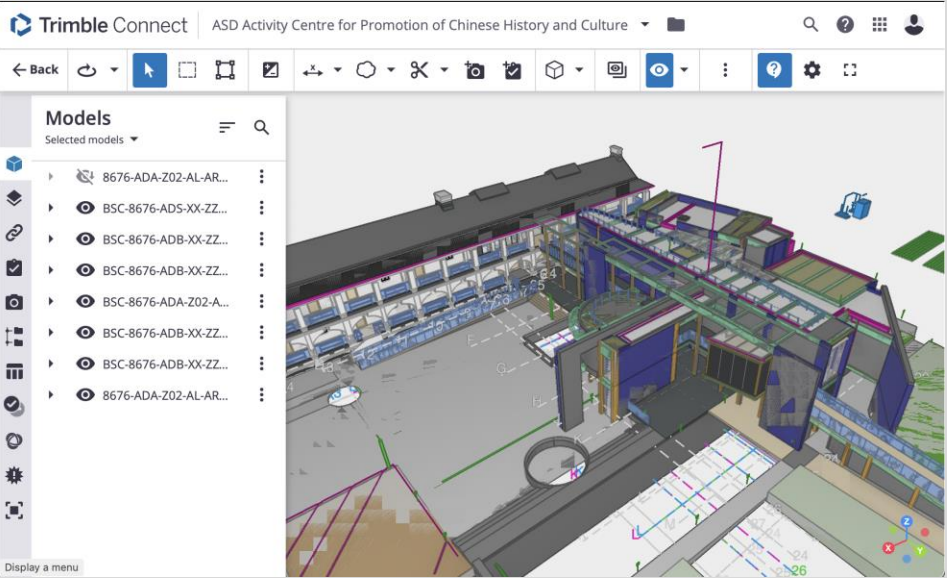
3 Common Data Environment

Functional Requirement from CIC

- 3 essential functions: EDMS, Workflow Mgmt, 2D/3D Coordination
- Must support IFC (2x3, 4, latest) across MVDs
- Per CIC Beginner's Guide on Construction Digitalisation

Robust IFC Model Viewer

- Responsiveness
- Performance Optimization (for large number of elements)
- Object filtering
- Part Model Display
- View saving
- model toggling, flexible model federation



BCF Issue Tracking

Scalability

- Fast loading as file count and complexity grows
- Efficient data extraction for large datasets
- Multi-user stability under load testing

All objects					
GROUP BY: Material					
Material	Volume	Count	Name	Name	
Paint - Titanium White (2)	0 m³	2	--	FU - 010	
Paint - Vermillion (9)	0.144 m³	9	--	FU - 014	
Plaster - Gypsum (4)	0.013 m³	4	--	SW - 015	
Reinforced Concrete - Structural (470)	971.448 m³	470	Varies	Varies	
Roof - Asphalt Shingle Gray (3)	86.887 m³	3	--	Varies	
STEEL/S355 (101)	1.766 m³	101	--	Varies	
STEEL/S355 12896 (31)	1.12 m³	31	--	Varies	
Display a menu	6896.043 m³	-	-	-	

Quantity Takeoff, Pset / Qset Access

D. Guideline for Adoption of openBIM in Project Collaboration

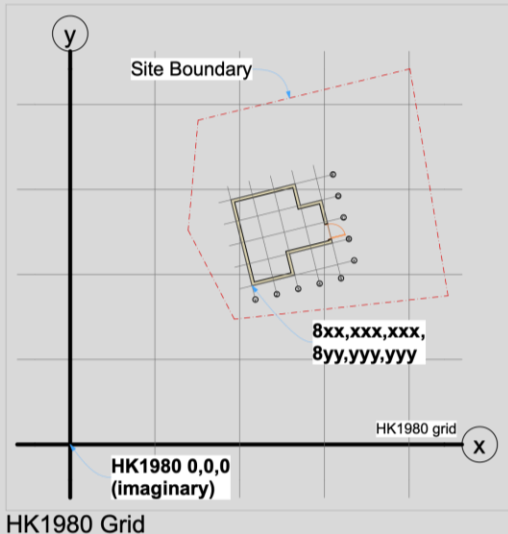
4 Exporting IFC

One Size Fit all or Tailored for Purpose?

- No universal export; tailor to end use.

Coordinates

- Round Tripping capable
- Round-trip capable; IfcProject = HK1980
- IfcSite = local origin.



Exchange Format and Model View Definition

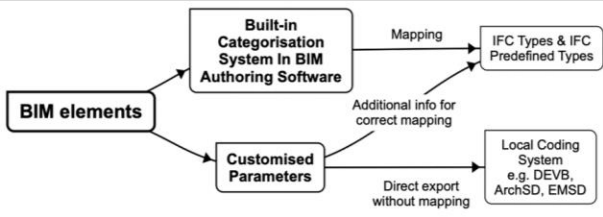
General: Use IFC4 RV 1.2; share native + IFC + 2D at milestones
Special: per BEP

Element Filtering

- BEP defines discipline responsibilities
- all spaces need IfcSpace
- include 2D grids/symbols

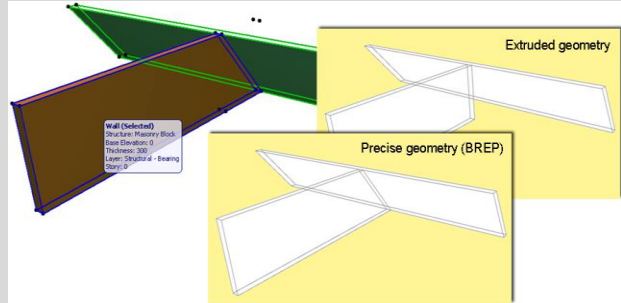
Properties

- Define in EIR/BEP (via IDS in future)
- keep departmental property fields separate.



Classification

Customised Parameters
Software Built-in



Geometry

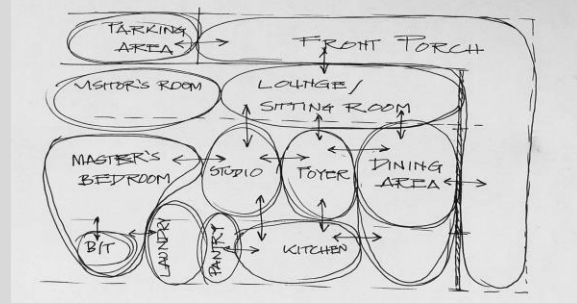
- BREP conversion
- split by floor
- balance fidelity vs. polygon count
- export 2nd level space boundaries

#1=IFCPROJECT('36MmSVM9g9ACMBYvffpBZx',#2,'ACTIVITY CENTRE FOR THE PROMOTION OF CHINESE HISTORY AND CULTURE',\$, \$, \$, \$, \$(#3),#4);

Field no.	Field	Content
1	GlobalId	36MmSVM9g9ACMBYvffpBZx
3	Name	ACTIVITY CENTRE FOR THE PROMOTION OF CHINESE HISTORY AND CULTURE

Spatial Hierarchy

Align IfcProject/ Site/ Building/ Storey with GlobalId and Names consistently across models.



Relationships

- Object Location
- not split models, maintain connections
- Room Adjacency

D. Guideline for Adoption of openBIM in Project Collaboration

5 Referencing IFC

Reference Only

- Reference, as is
- Shared IFC models must not be edited
- Reference them as-is in native BIM software — no geometry conversion
- no type mapping, no property mapping
- Don't use them for drawing production
- No universal export; tailor to end use.

Coordinates & Positioning

- Imported IFC must be placed at correct location:
 - IfcSite → internal coordinates,
 - IfcProject → survey coordinate
- Reposition manually if software lacks import placement options.

Updating

- Referenced IFC should be easily replaceable with updated versions without changing positioning
- Some tools (Navisworks, Archicad) can identify changes between versions.

D. Guideline for Adoption of openBIM in Project Collaboration

6 Quality Assurance

Auditing Native Models

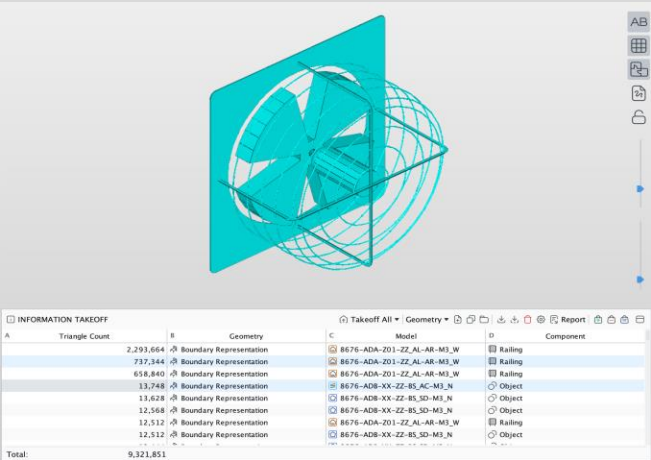
- Each discipline audits own models before sharing to CDE
- Visually and via schedules in native software per BEP/BIM Guide.

Auditing Individual IFC Models

- BIM team leader + discipline coordinators check:
 - IFC types
 - unassigned spaces
 - overlapping elements
 - unpopulated data fields (against IDS)
 - Naming
 - spatial hierarchy, coordinates
 - polygon count.

Quality audit

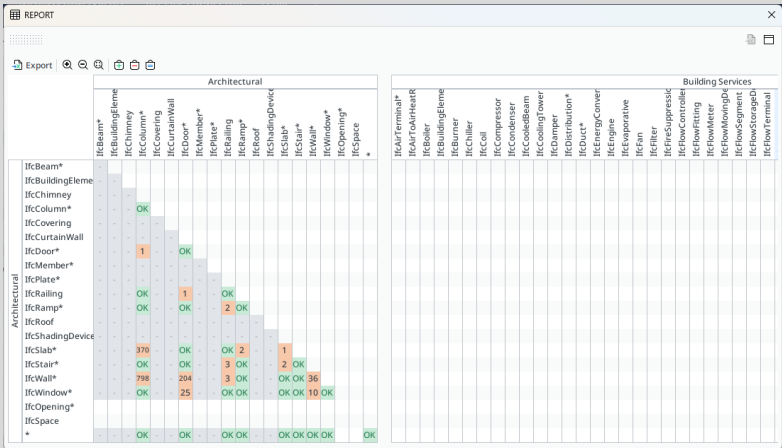
Structure, data validation, spatial checking



Polygon count checking

Model Walkthrough Items		D – to design / setup [please elaborate the definition of design initiator] I - to incorporate / coordinate			
		AR	ST	BS	LA
12	Exposed BS in external area - Gutters - External downpipes - Vent pipes outlets	I		D	
13	Exposed BS in FOH area - Valves and overflow in toilets - Floor drains / BITG	I		D	
14	BS FRR enclosure	I		D	
15	Ceiling access panels	I		D	

Walkthrough - Regular reviews led by BIM Team Leader with all discipline coordinators for completeness and discrepancies



Clash analysis - Use IFC types or DEVB CAT codes (not Revit categories) to define clash sets A & B; establish a clash matrix.

Item	Detail
Unassigned Space	Whether any physical
Headroom	Minimum 2000m for all
Clearance for doors and windows	Check sufficient cleara
MEP equipment clearance	Check whether sufficie
Coverage	Coverage for sprinkler
Architectural vs Structural models	Check whether the stru layout

Advanced checking
Tools like Solibri can automate design checks beyond clashes, but require well-classified, properly set up input models.

D. Guideline for Adoption of openBIM in Project Collaboration

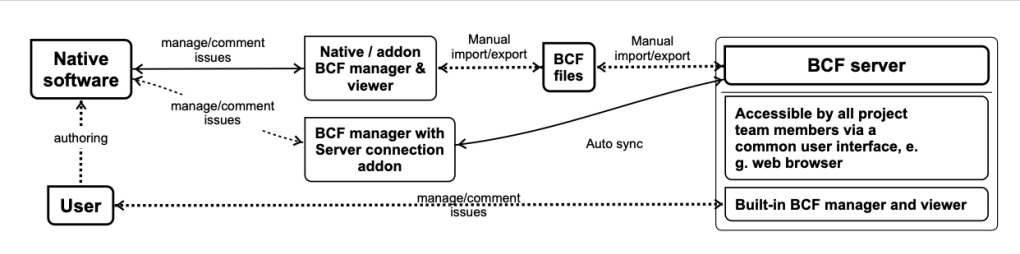
7 Issue Tracking

BCF

- Open standard for BIM issue communication, discovery, tracking & audit trail
- Replaces email with model-linked mark-ups

BCF in Practice

- Often hybrid: online platform + offline manual import/export
- 3 modes:
 - direct in platform viewer
 - add-on real-time sync
 - native BCF manager with manual sync



BCF Server	Remarks
Trimble Connect	Online CDE
Dalux	Online CDE
BIMCollab	Online
BIMTrack	Online
Local File Server	Intranet, file based. Require viewers for analysis
Solibri with local file	Offline, save in Solibri file Can sync with Trimble Connect, interoperate with Autodesk ACC, etc.
Autodesk Collaboration Cloud	Not BCF compatible

Examples of BCF Server, online or offline

	Revit	Archicad	Tekla Structures
Built-in BCF function	No	Yes, issue manager	Yes
BCF import and export	No	Yes, issue manager	Yes
BCF function via plugin	Yes	Yes	Yes
Sync with BIMCollab	Yes, via their BCF add-on	Yes, via their BCF add-on	Yes, via their BCF add-on
Sync with BIMTrack	Yes, via their BCF add-on	Yes, via their BCF add-on	Yes, via their BCF add-on

BCF functions in Archicad, Tekla and Revit

Assignee	
Assignee	When to use
(Name, or group)	Who should respond to the issue

Topic Type	
Topic Type	When to use
Discrepancy	Discrepancy found among different models
Model Error	Modelling mistakes or Error not found in model
Request for Info	To request further information from the model creator
Clash	Errors found in Model Audit / Clash Detection
Other	Issues cannot be categorised by the above

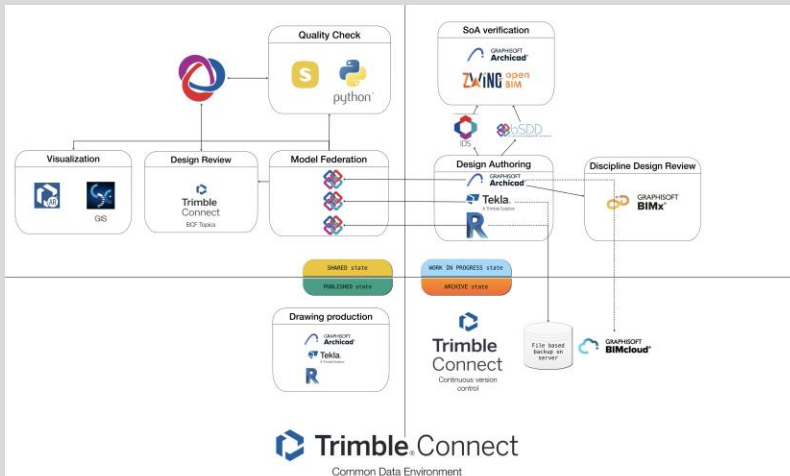
Topic Statuses	
Topic statuses	When to use
New	All new found issues
Done	Issues resolved with model update
Re-open	Done issues found to be still unresolved
Closed	Issues verified and closed by model creator
Unresolved	All unresolved issues

Topic Priorities	
Topic Priorities	When to use
Critical	Issues to be resolved in 1 week
High	Issues to be resolved in 2 weeks
Normal	Issues to be resolved in 4 weeks
Low	Issues to be resolved upon project completion

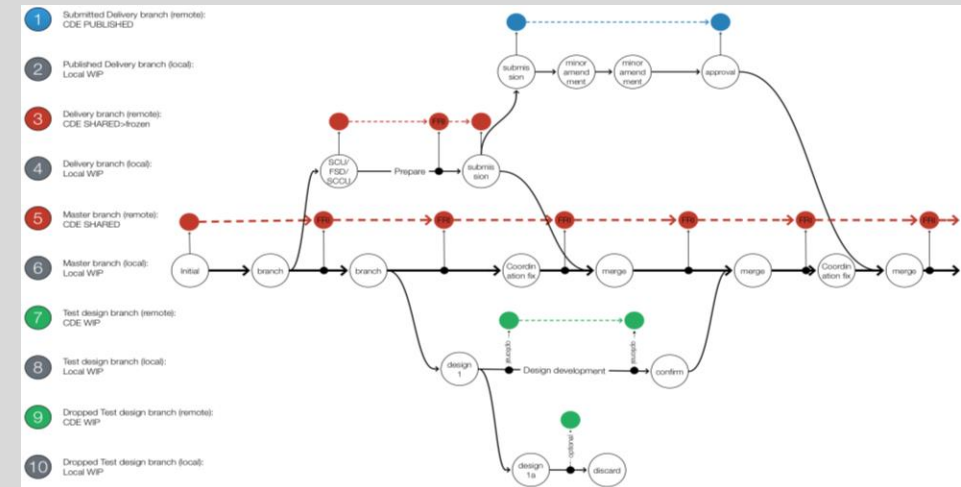
Pre-defined Metadata Value
Agreed in project BEP

8 Model Federation

- Online and Offline complementary
- Online:
 - real-time federation
 - user-selectable model sets, no BIM manager bottleneck
 - multi-device access, real-time stats
- Offline tools for advanced functions by BIM manager:
 - clash detection
 - Automated audit

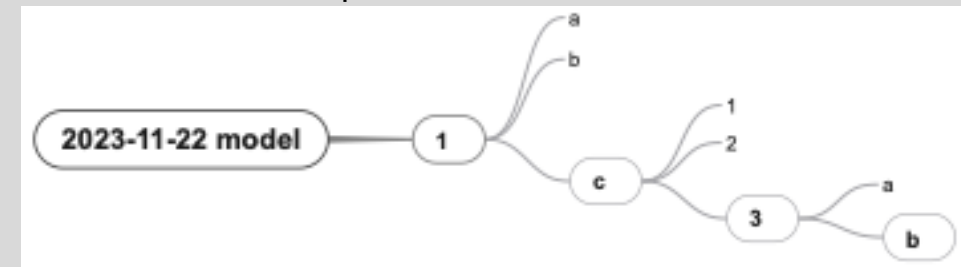


- Master branch = design intent model for construction
- Branch-outs for testing / submissions; merge back when confirmed
- Store locally (authoring platform) + remotely (CDE)



- Authoring: Archicad, Revit, Tekla
- CDE / viewer / 3D coordination: Trimble Connect
- Audit & clash detection: Solibri Office + custom Python
- Issue tracking: Solibri, BCF servers, Trimble Connect

Use branch code convention (date + alphanumeric);
dedicated folders per branch



D. Guideline for Adoption of openBIM in Project Collaboration

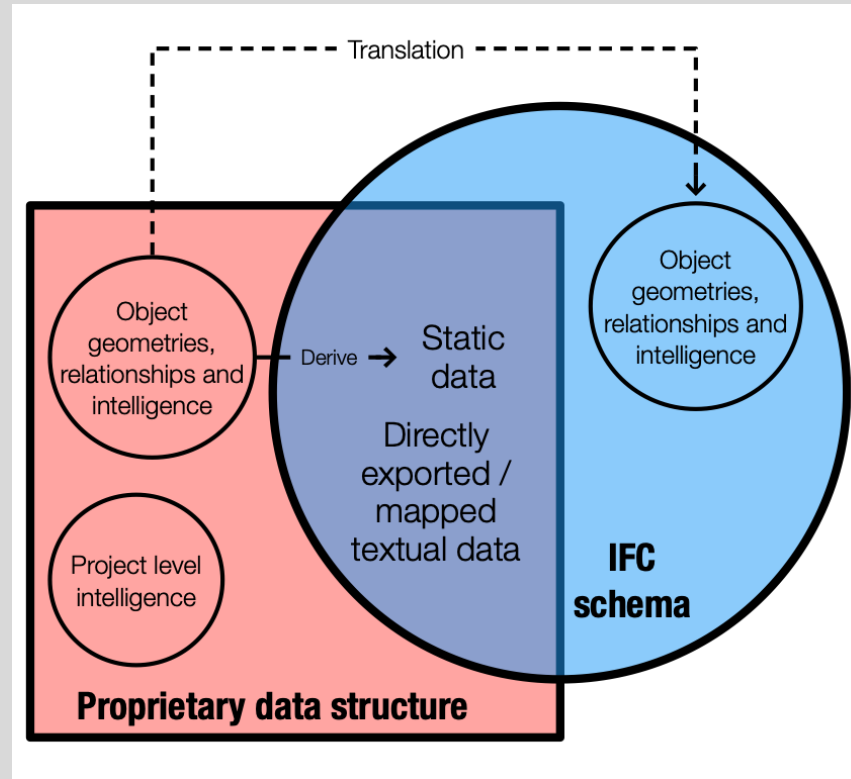
9 Common Understanding

Fear of Data Loss in Translation

IFC export = data extraction/restructuring,
not perfect but essential for cross-tool
collaboration

Also an opportunity: standardize, omit
redundant/sensitive data, protect trade
secrets

- **Static text data** — no loss expected
- **Quantities** — exported as static values;
minimal loss
- **Parametric properties** — total loss (IFC4
Design Transfer still immature)
- **Geometry fidelity** — simplified/faceted;
fine for coordination, not fabrication
- **Semantic category** — risk of
misclassification if mapping not
configured
- **Static relationships** — mostly preserved
- **Parametric constraints** — dropped;
often intentional (trade secrets / internal
tools)



Uncertainty Incurring Time and Cost

- Local BIM standards often illustrated
with dominant software (e.g. Revit)
- Alternative software users bear extra
cost/effort to prove compliance
- E.g. object naming conventions differ
between Revit & Archicad

Models Cannot be Round Tripped

- IFC doesn't carry full native model
"intelligence"
- IFC4 Design Transfer still under
development, capability unknown

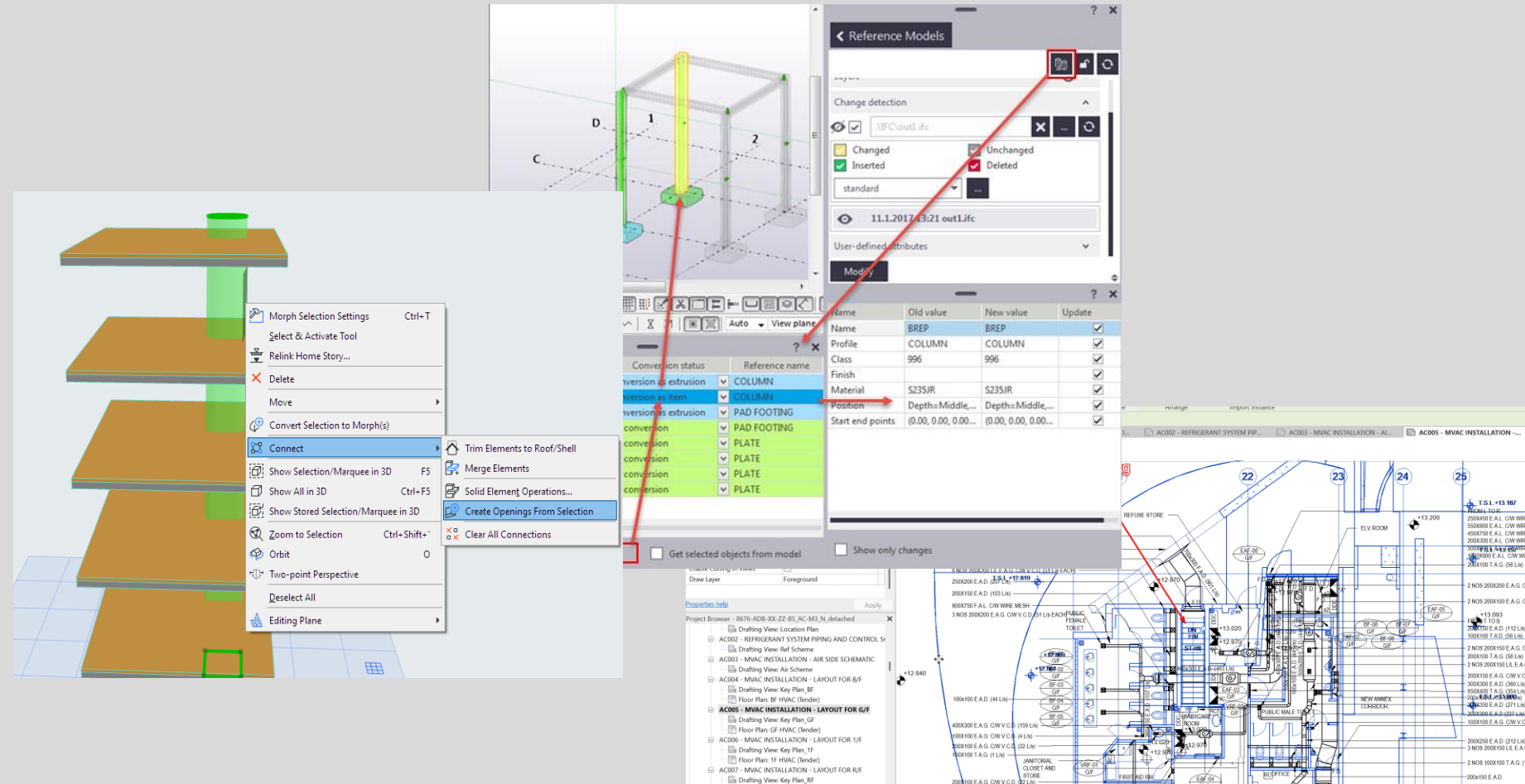
D. Guideline for Adoption of openBIM in Project Collaboration

9 Comprehensive Guide to OpenBIM Workflow in Archicad, Tekla Structures and Revit MEP

Appendix A, B & C

Actual practical details, steps and workflow in 3 authoring software to implement the guideline's recommendations

Also include software-specific workarounds to addressing known limitations



Section 2

Archicad

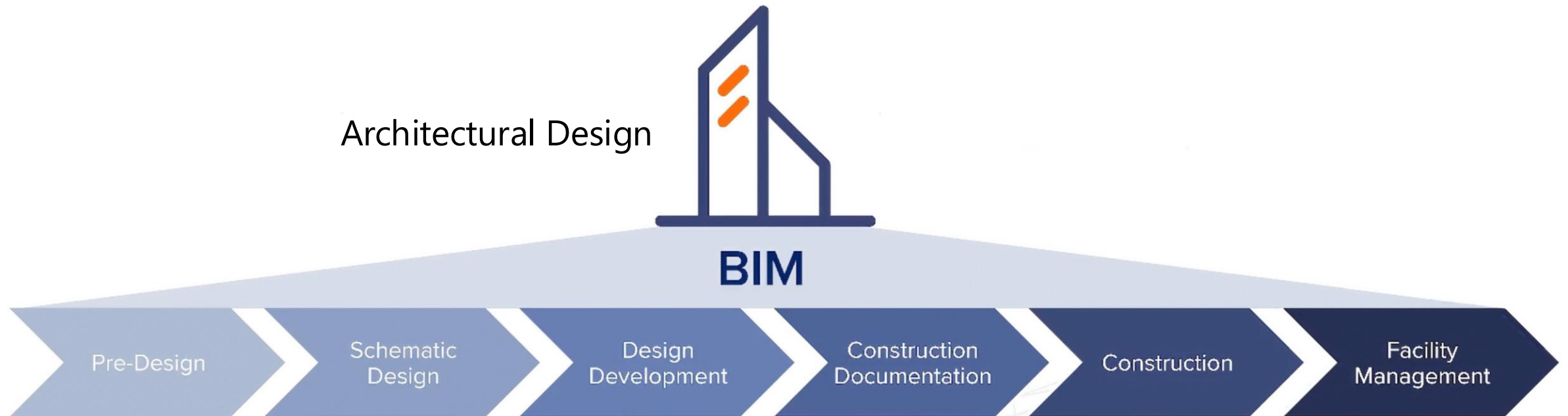
Background



- Since 1984, continuously evolving for 42 years.
- In 28 Languages
- Cross-platform (Windows + Mac including Apple Silicon)

Archicad

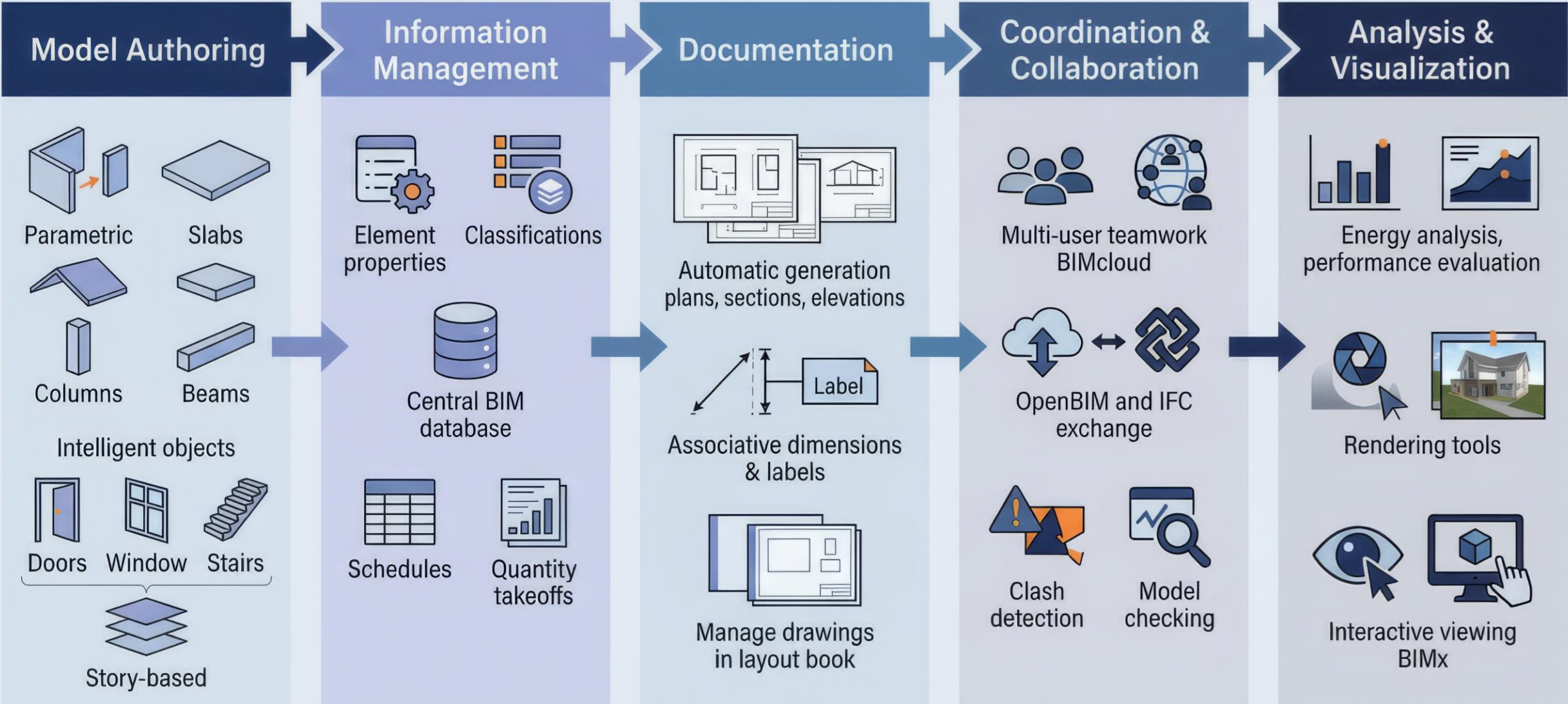
Architectural BIM Authoring Tool



Archicad is a BIM authoring software for Architects to design buildings from the conceptual phase to construction phase and beyond.

ArchiCAD

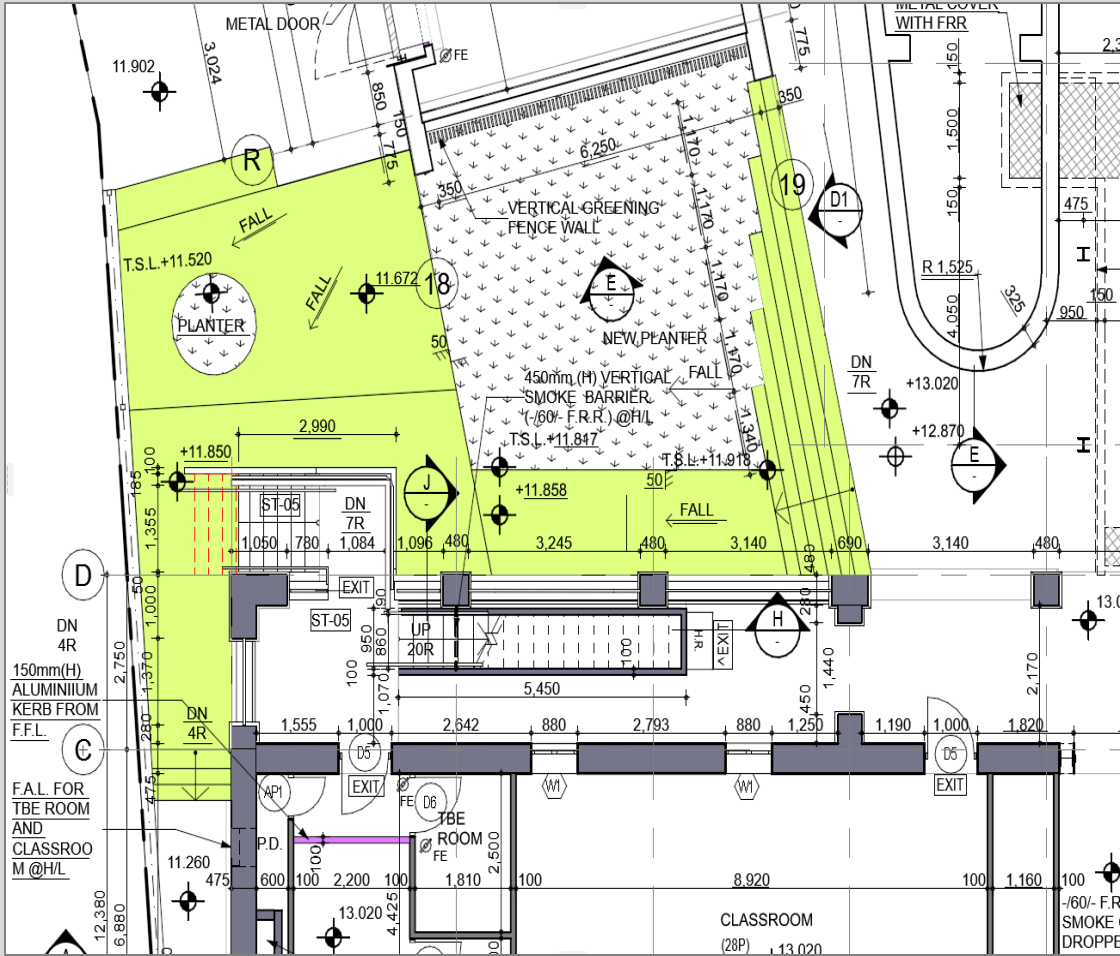
Core BIM Functions



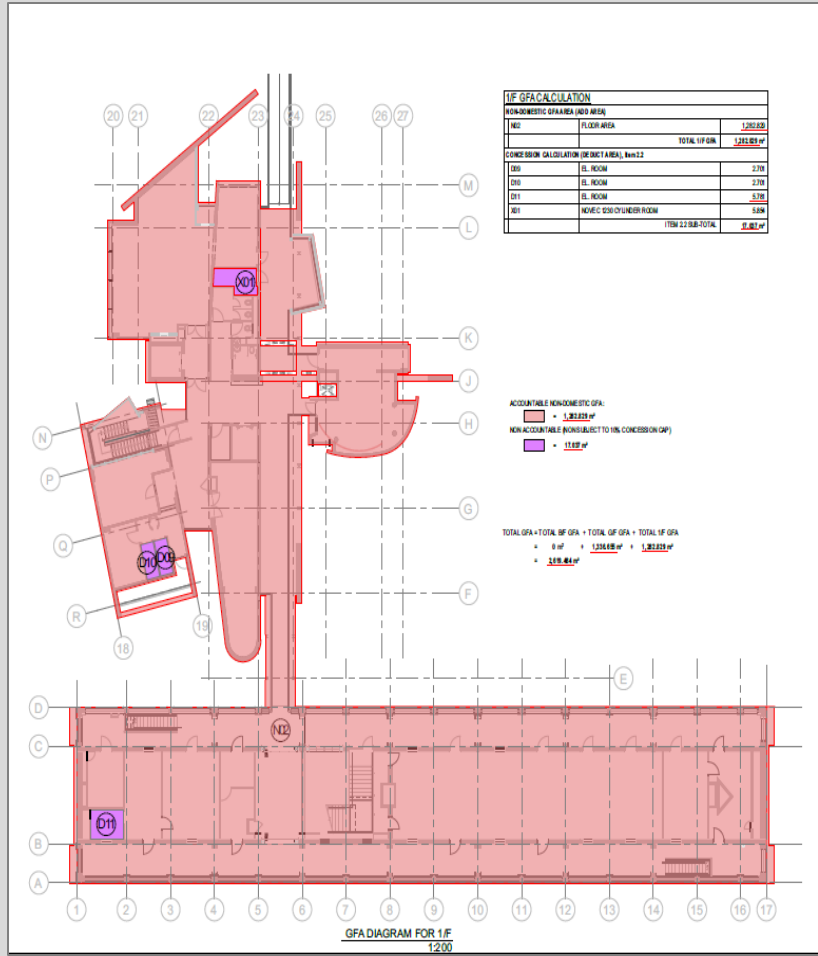
BIM process flows sequentially through ArchiCAD's core functions—from creating the intelligent 3D model, enriching it with data, generating documentation, coordinating with teams and consultants, to final analysis and visualization deliverables.

Documentation

Example of GBP submission.



Coloring of Plans



Area Diagrams & Schedules

Archicad

User Interface – Smart Cursors

Smart cursors change shape dynamically based on context

	Empty Space	Reference Line	Other Edge	Other Edge - Perpendicular	Intersection	Node of Reference Line	Other Node
Before Input (Arrow Tool)							
Before Input (Other Tools)							
During Input/ Editing							
Magic Wand							
Trim Elements							
Pick Up Parameters							
Transfer Parameters							

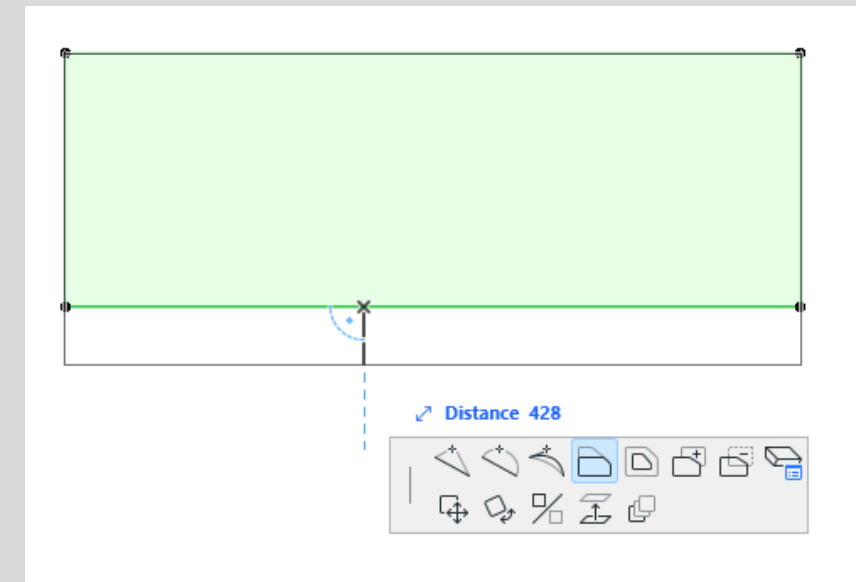
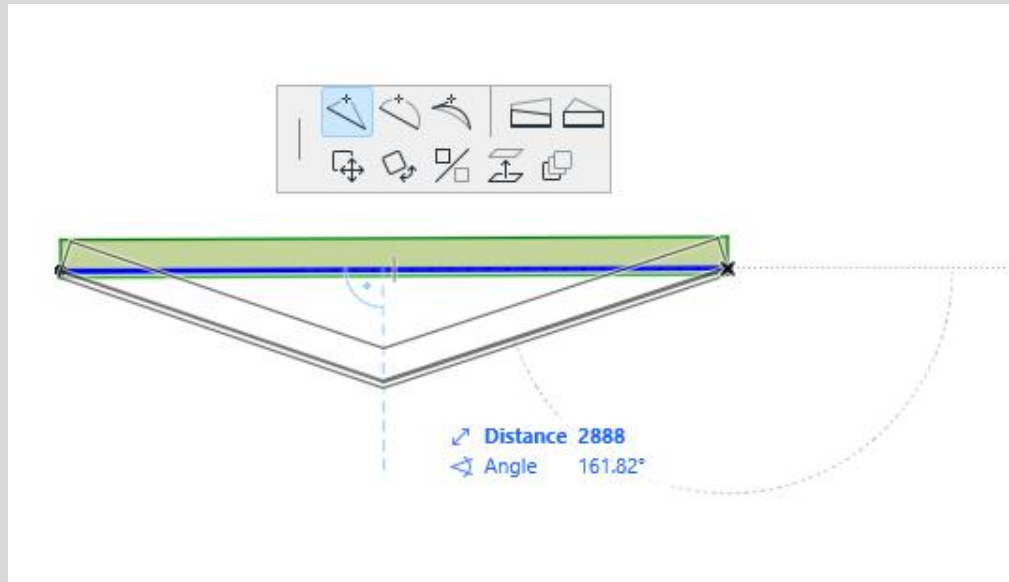
Benefits: Speeds up drafting and editing to enhance workflow efficiency

Archicad

User Interface – Pet Palette

Pet Palette

- Context-specific icons appear on hover over selected element nodes or edges.
- Icons adjust based on element type and selection.
- Options include drag, rotate, mirror, elevate, multiply, and stretch.

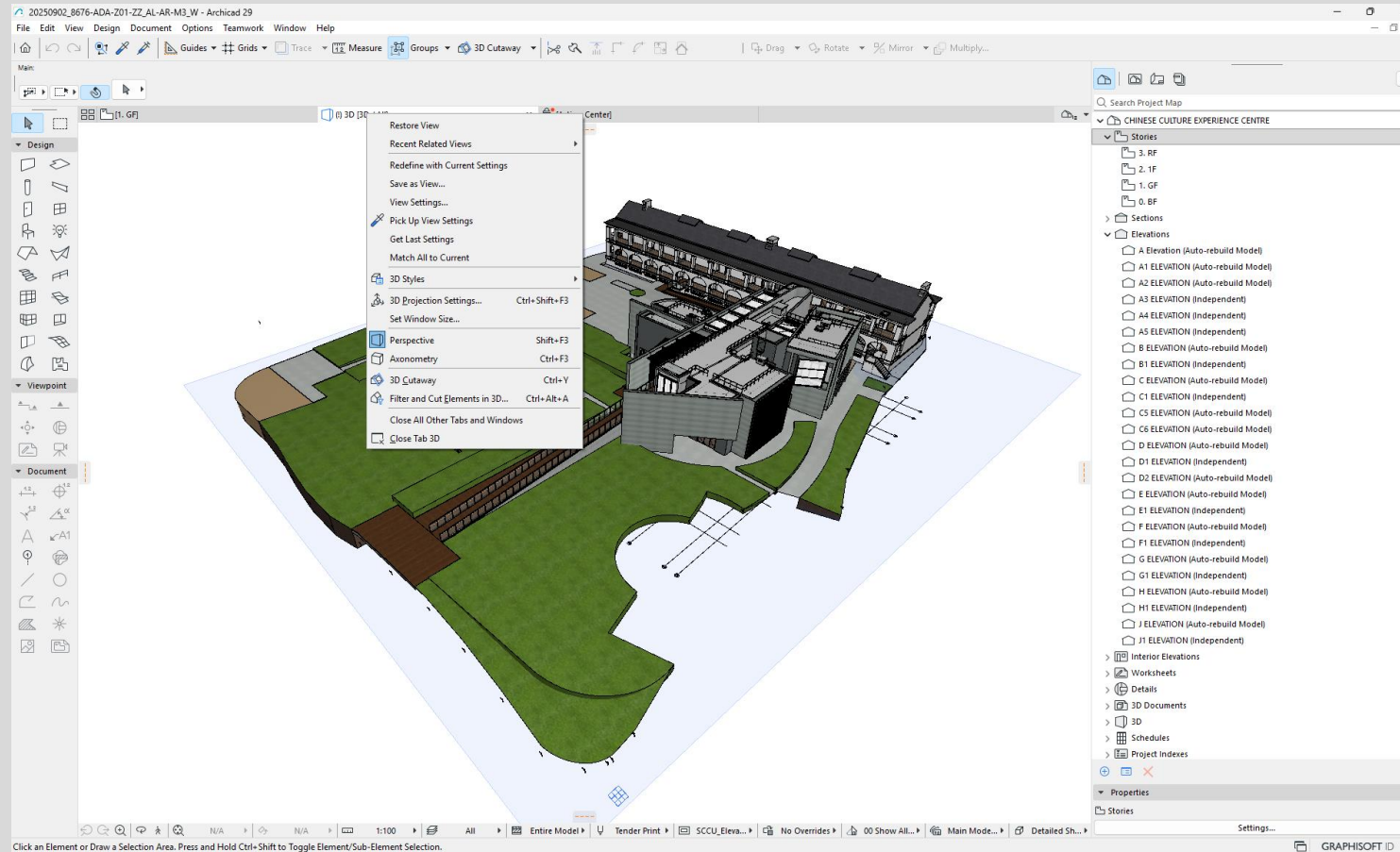


Benefits: Enhance efficiency for quick, on-the-fly modifications

Archicad

User Interface – Contextual Menus

Context-Sensitive Menus: (right-click menus) show commands relevant to selected objects or tools.



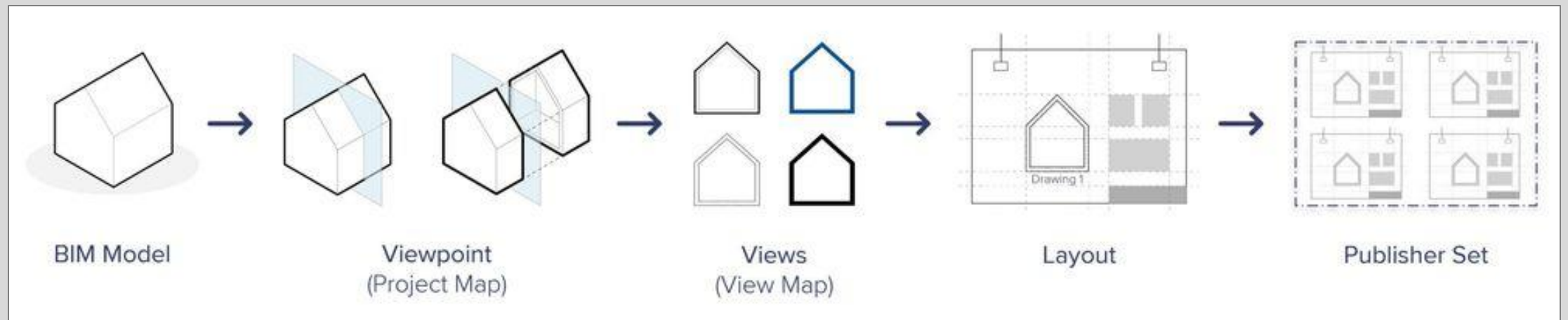
Benefits: Decreases search time for commands

Archicad

User Interface – Navigator

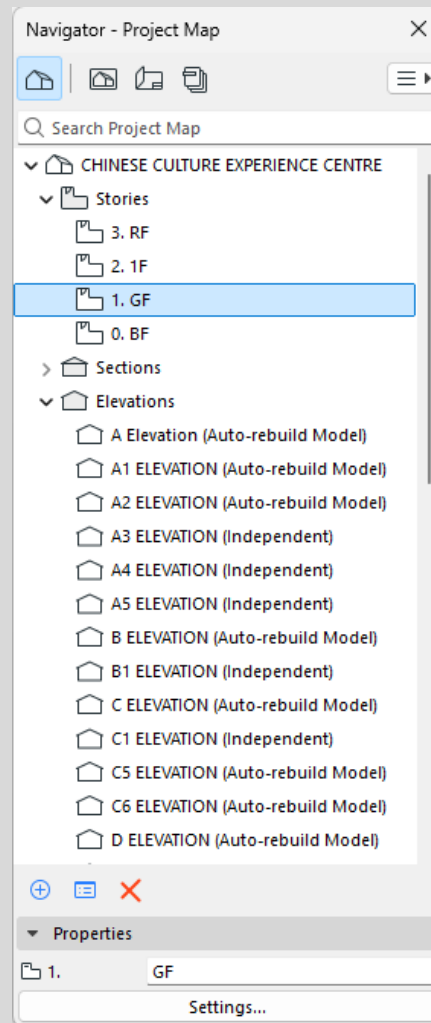
Navigator

- A palette that holds the complete logical structure of your project designed to mirror the BIM workflow from modeling through documentation and publishing.
- Lets you open, organize and manage all views, layouts and publisher sets by double-click or drag-and-drop.
- It is divided into four “maps”: Project Map, View Map, Layout Book, and Publisher, each on its own tab. Together these maps represent how you move from raw model viewpoints, to standardized views, to layout sheets, and finally to published outputs.

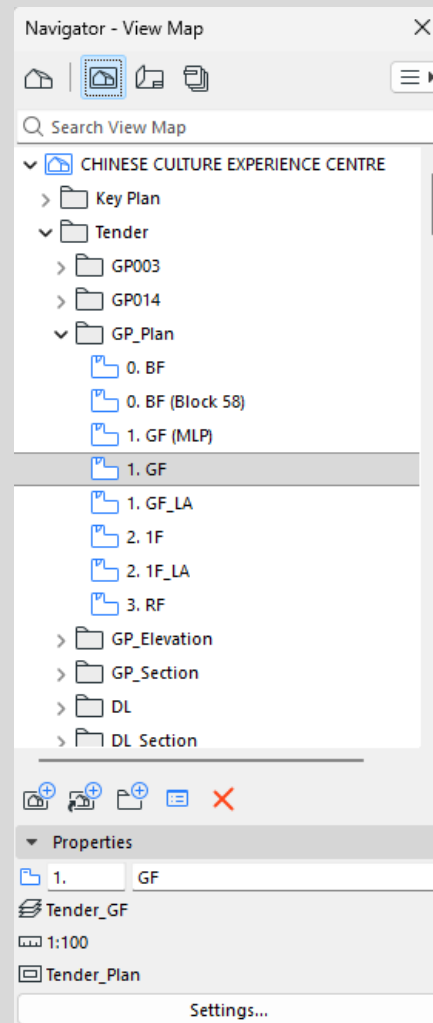


Archicad

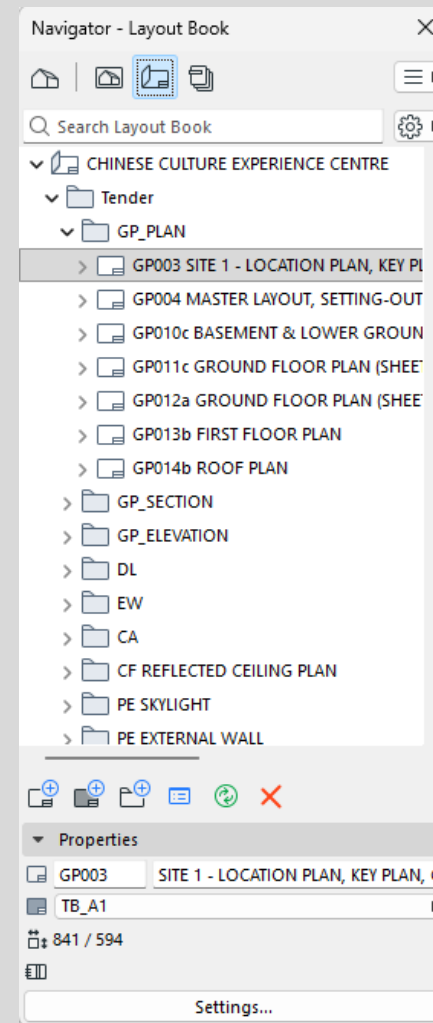
User Interface – 4 Main Tabs of the Navigator



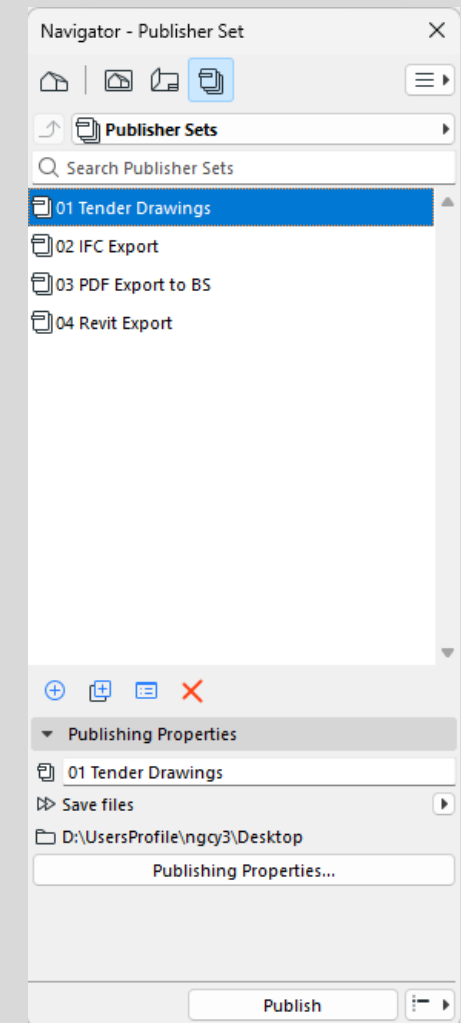
Project Map - Lists all raw viewpoints like floor plans, sections, elevations, 3D models, and schedules.



View Map - Saved, purpose-built views with specific settings like layers, scales, model filters.



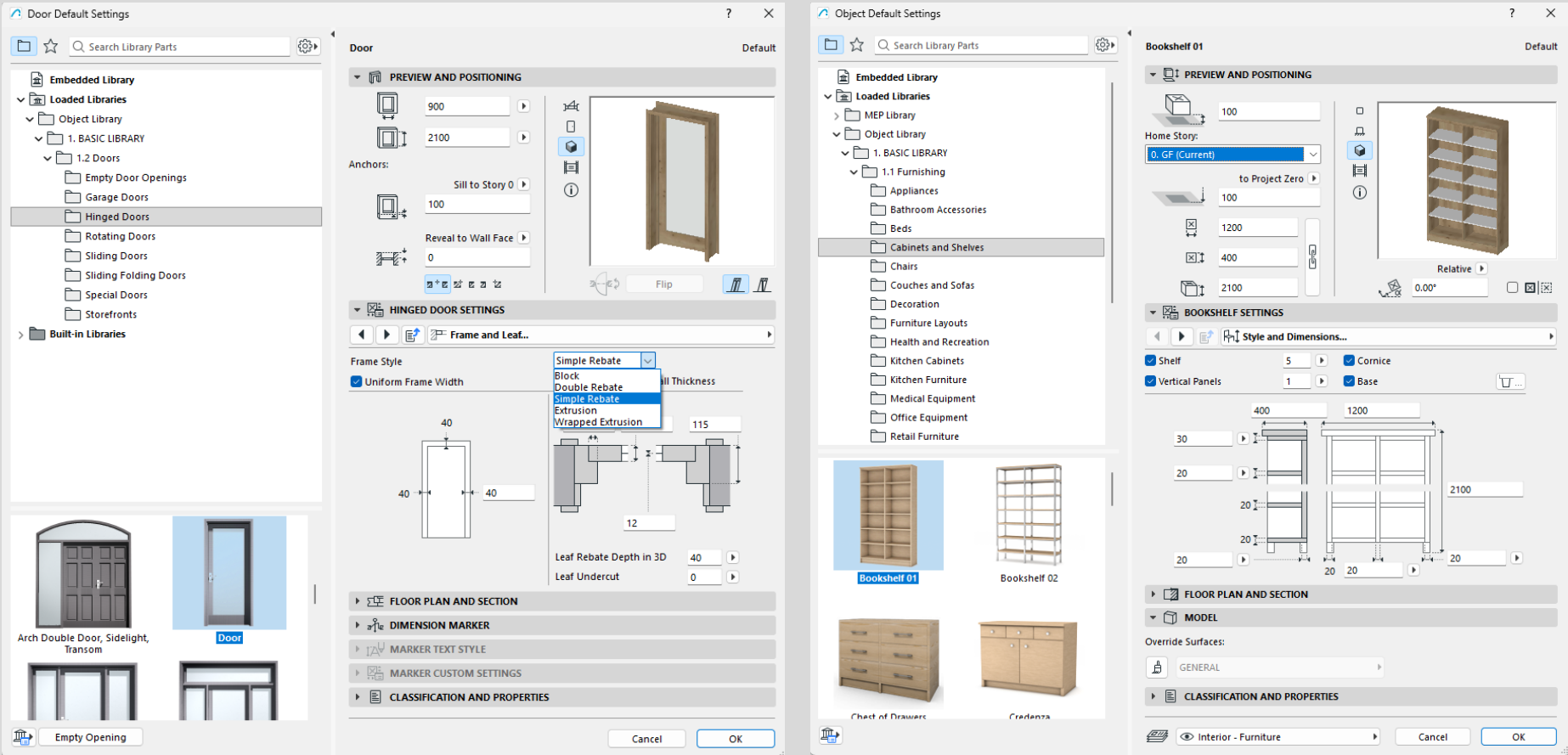
Layout Book - Organizes drawing sheets (layouts) into subsets, where you place views/drawings. one click.



Publisher Sets - Collect layouts with defined output format and location. Re-publish updated sets with one click.

Archicad

User Interface – Tools Settings



Preview Area: Interactive display of plan, front, 3D, or custom views; click to rotate/flip for instant feedback on adjustments.

Graphical Diagram: Visual icons and diagrams explain each input setting clearly, aiding quick comprehension.

Archicad

Challenges – Project Setup

CSWP Layer Coding in Archicad

Following the CSWP layer naming conventions

Challenges

- CSWP is fundamentally a 2D drafting standard designed for legacy CAD platforms.
- Increase in the total number of layers required, which complicates layer and layer combination management.

Recommendations

- **Fewer is Better:** Do not create separate layers for 2D elements if they are always shown together in a View. If two 3D elements always need to appear together, they likely belong on the same layer.
- We also have alternative methods for organization, such as classification and properties.
- Include a comprehensive layer naming convention in the Archicad guidelines.

Archicad

Challenges – Modelling

Multiple Models

Utilize distinct models for Design, Tender Documentation, and SCCU Submission.

Challenges

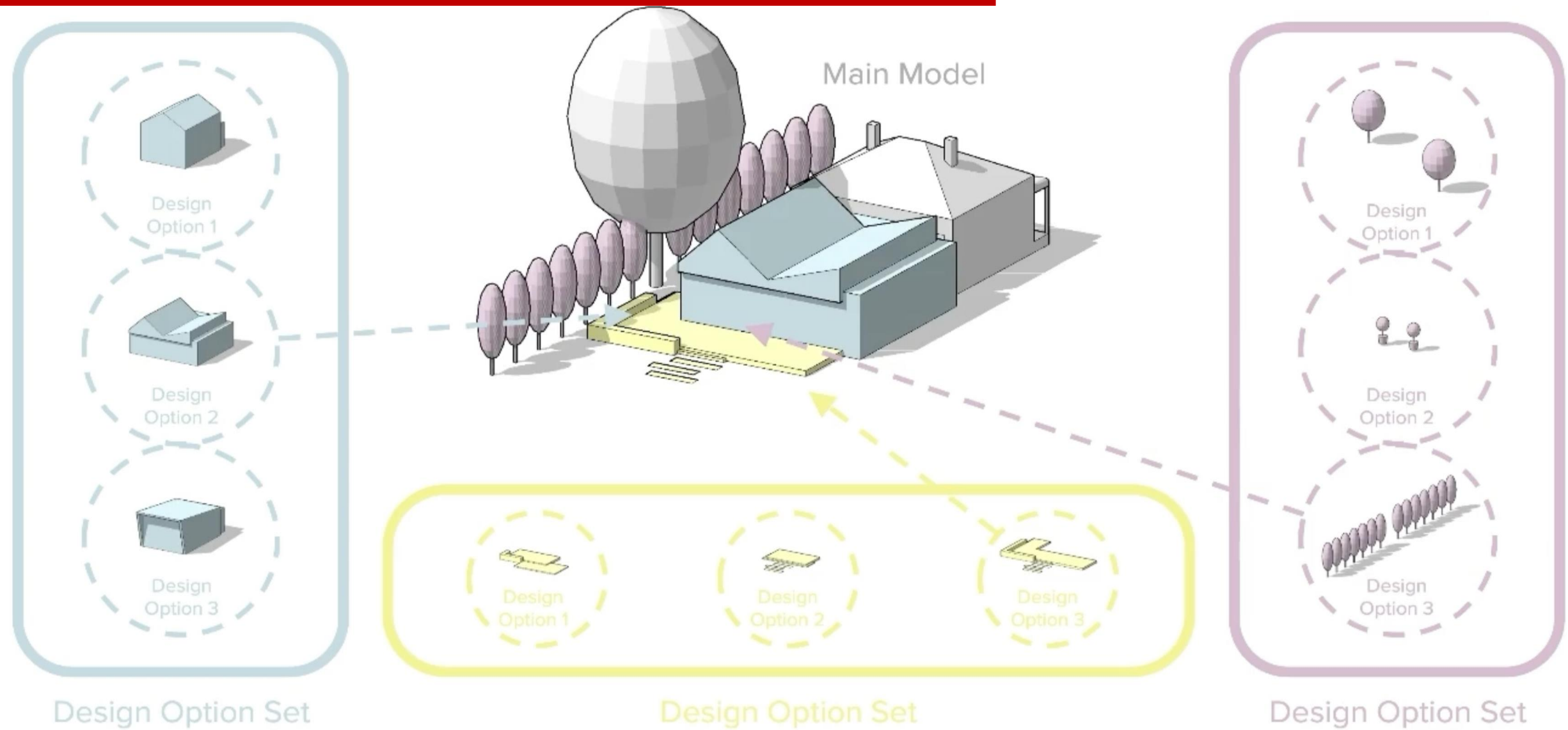
- Maintaining multiple parallel models significantly increases the workload for the BIM Manager and the project team.
- It requires duplicating attribute management (Layers, Surfaces, Building Materials)

Recommendations

- To effectively manage two or more models, consider leveraging the Design Options feature in Archicad. This functionality allows you to handle multiple design variations without the need to separate your project into different files. By doing so, it reinforces the concept of a Single Source of Truth, enabling you to explore, present, and document alternative design options all within a single BIM model.

Archicad

Challenges – Modelling



Archicad

Challenges – Documentation

Detail Drawings & Schedules

Only plans, sections, and elevations are extracted from the 3D model, while schedules and 2D detail drawings rely solely on manual 2D drafting.

Challenges

- 3D BIM model disconnected from documentation, significantly increasing the risk of errors.
- Requiring excessive manual effort to keep details synchronized with design changes.

Recommendations

- Hybrid Detailing utilizes live views generated from the 3D building model as an accurate base, which is then embellished with 2D linework, fills, and detail components to fully convey the design intent.

Archicad

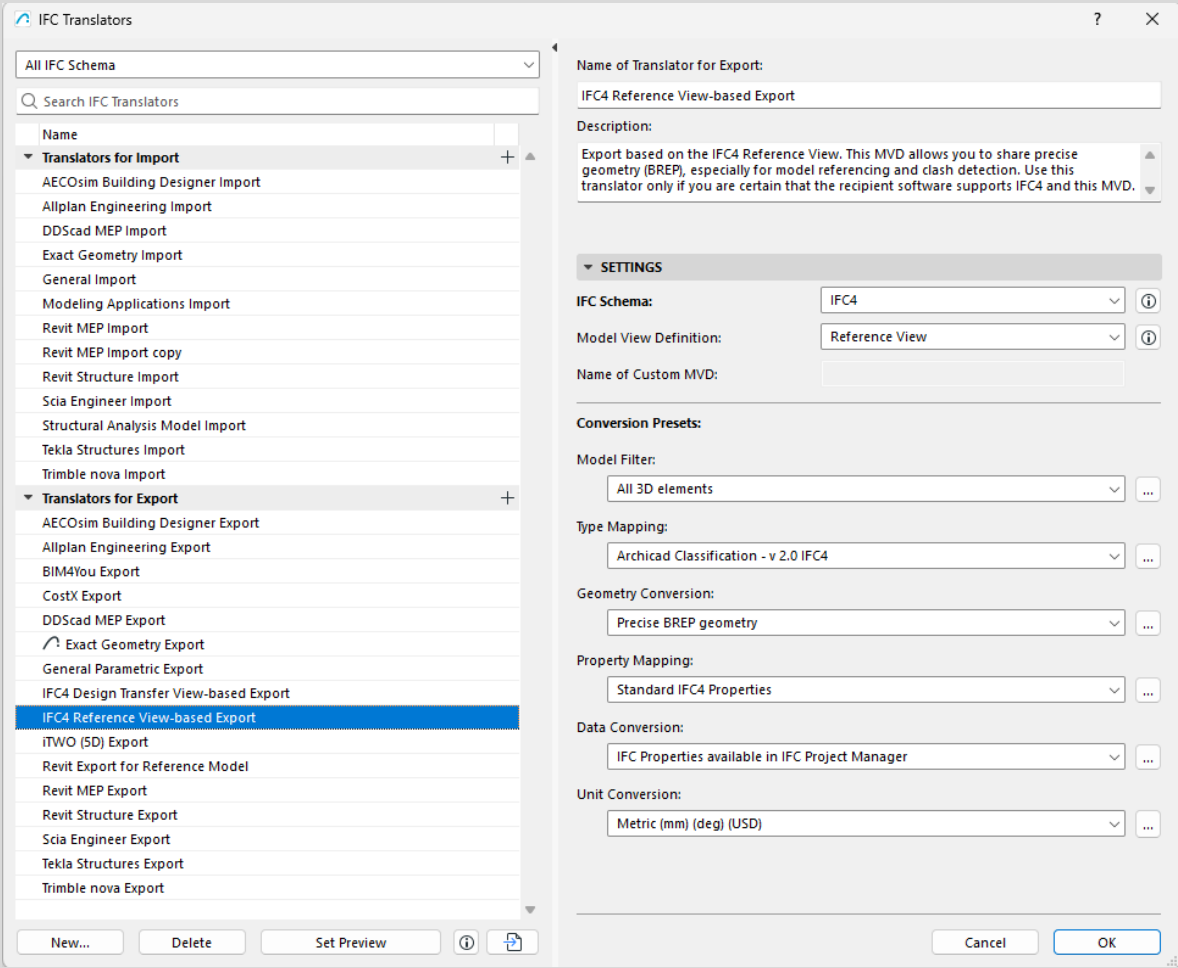
Open Collaboration and Information Management – Manage IFC Structure & Data in Archicad

	Spatial Structure Hierarchy	Geometry Representation	IFC Entities (IFC CLASS)	IFC Group
Automatic	Project Info > IfcProject Project Data > IfcBuildingIfc Home Story > IfcBuildingStorey Zone > IfcSpace Archicad Classification > IFC Entity			
Custom	IfcSite > IFC Project Manager IFC Translator > Geometry Conversion IFC Project Manager IFC Project Manager			
	Predefined Types	IFC Element Type	Attributes	PropertySet & QuantitySet
Automatic	Archicad Classification > Predefined Types Archicad Classification > IFC Element Type Archicad Attribute > Attribute Archicad Property > IFC Property Archicad Quantity > IFC Quantity			
Custom	IFC Translator > Map IFC Types for Export IFC Translator > Map IFC Types for Export IFC Project Manager IFC Translator > Property Mapping			

Archicad

Open Collaboration and Information Management – IFC Translators

Predefined and user-defined **IFC translators** that enable precise control over model filtering, type mapping, geometry conversion, property mapping, data conversion, and unit settings.



Type Mapping

Geometry Conversion

Property Mapping

Archicad

Open Collaboration and Information Management – IFC Translator

1. Select Mapping by **Classification**.

Archicad
Classification

Map IFC Types for Export

Map Elements by: ☐ Element Type ☒ Classification

Source Classification System: Archicad Classification - v 2.0

Show IFC Entities for IFC4 Schema

Classification

Search Classifications

- Construction Element
 - Building Element Proxy
 - Wall
 - Elemented Wall
 - Movable Wall
 - Parapet Wall
 - Partitioning Wall
 - Plumbing Wall
 - Polygonal Wall
 - Shear Wall
 - Solid Wall**
 - Standard Wall
 - Footing
 - Column
 - Pile

Reset Mapping

IFC Type

Mapping Status: ☐ by Parent ☒ Custom

IFC Type: IfcWall

Predefined Type: SOLIDWALL

User Defined Type:

IFC Type Product: IfcWallType

Predefined Type: SOLIDWALL

User Defined Type:

☒ Synchronize Predefined Type values when possible

Cancel OK

2. Choose a **Classification System**

IFC Type

Predefined Type

IFC Type Product

IFC Translator > Map IFC Types for Export

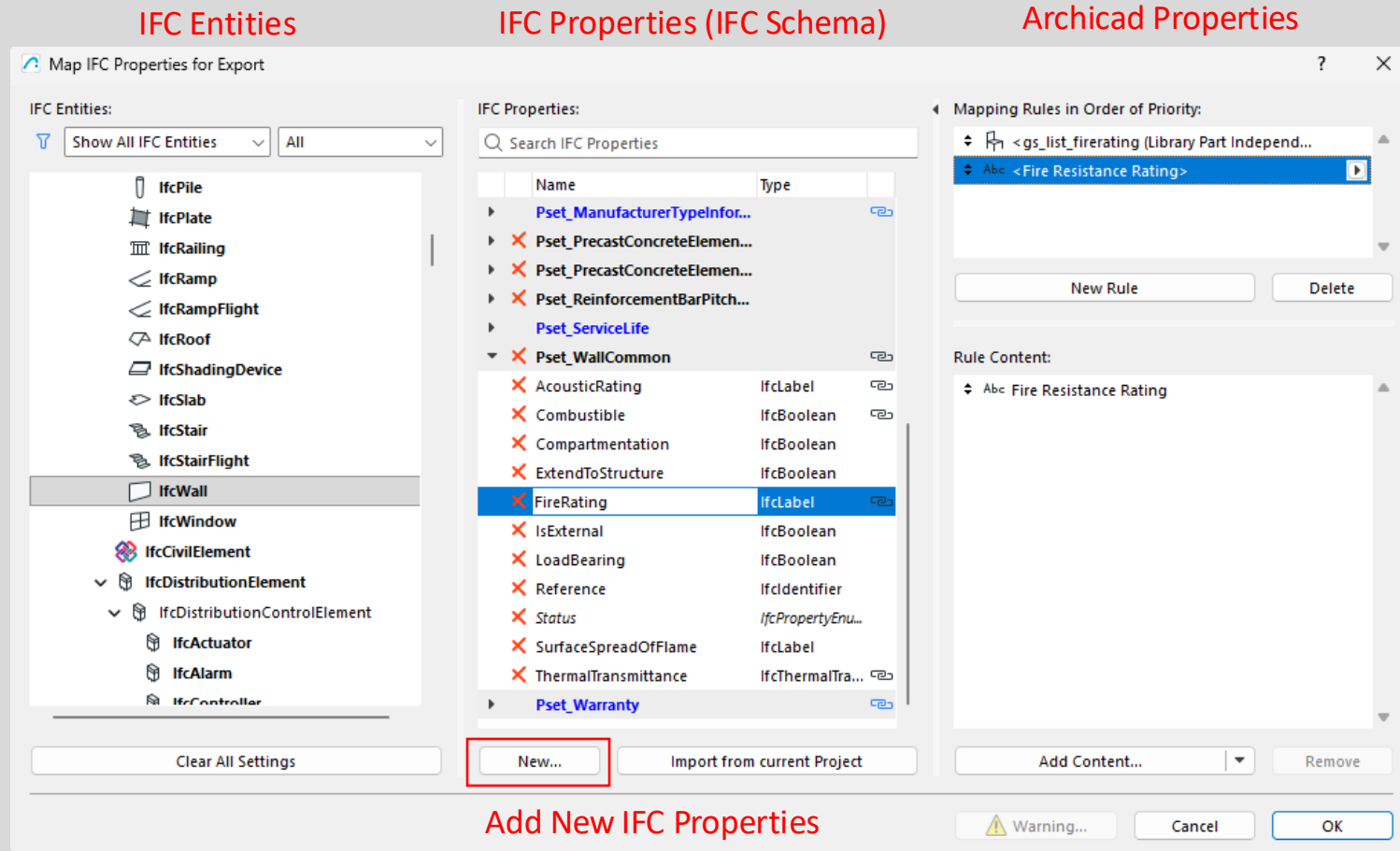
Maps each Archicad Classification to an IFC Type, Type Product, and/or Predefined Type.

Archicad

Open Collaboration and Information Management – IFC Translator

Property Mapping Control

Users-friendly interface that simplifies the mapping of Archicad parameters to IFC properties.



IFC Translator > Map IFC Types for Export

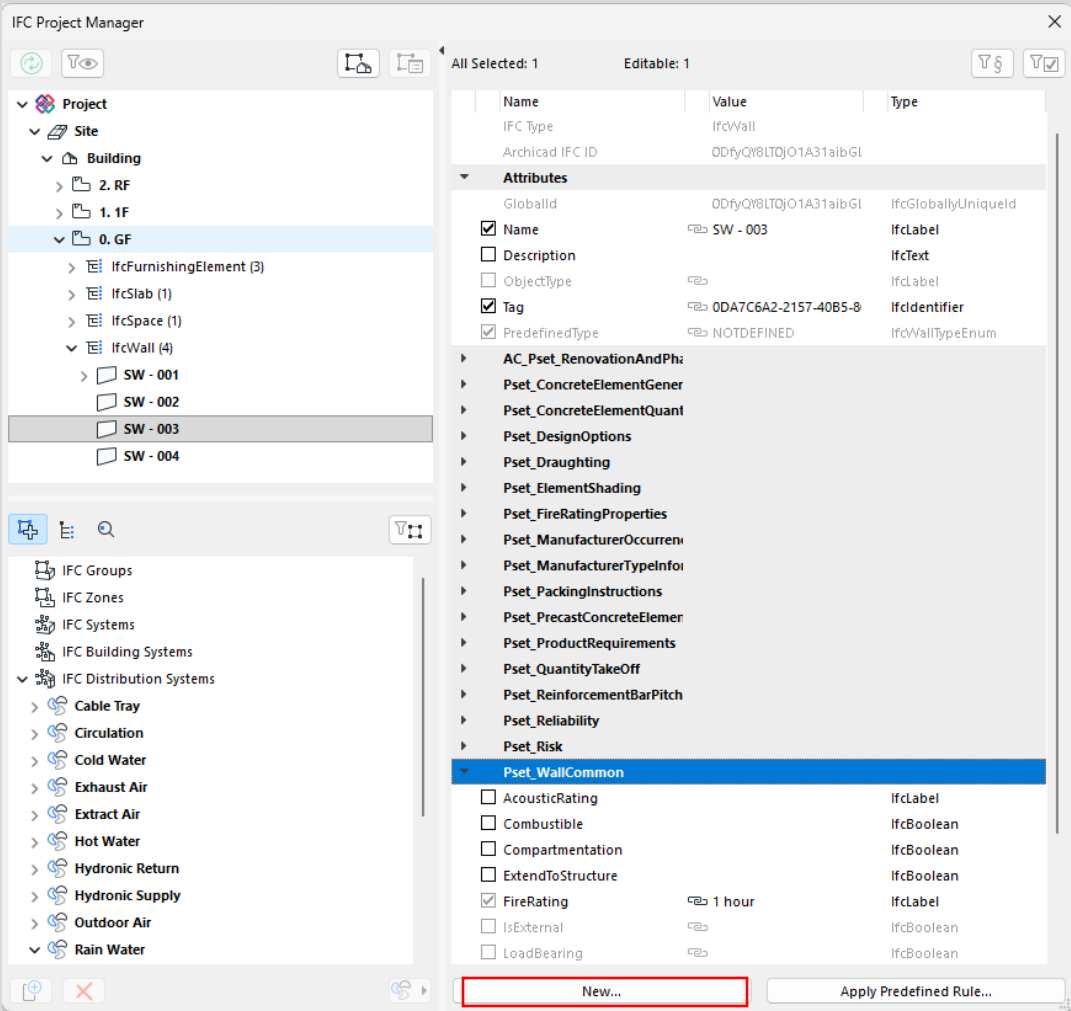
Map selected IFC properties into existing Archicad Properties

Archicad

Open Collaboration and Information Management – IFC Project Manager

List all IFC entities generated from the Archicad project in a **hierarchical tree**, giving you a full overview of the IFC model structure.

Supports grouping/assigning entities to elements as **IFC Assignments** and managing their data.



Displays all **IFC attributes, property sets, properties and classification references** for the **selected elements**, so you can inspect and edit non-geometric BIM data in one place.

ArchiCAD

Presentation – Graphics Engines

ArchiCAD achieves smooth and visually accurate 3D model viewing through its optimized **graphics engines** and **shading systems**.

- ArchiCAD uses hardware-accelerated graphics engines like Direct3D for fast, real-time 3D navigation.
- These bitmap-based engines display textures accurately and enable smooth performance on supported GPUs.



ArchiCAD

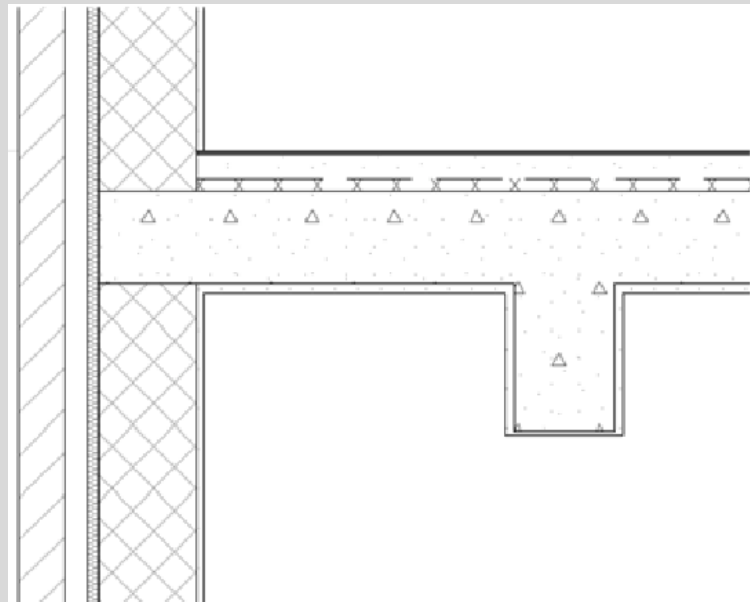
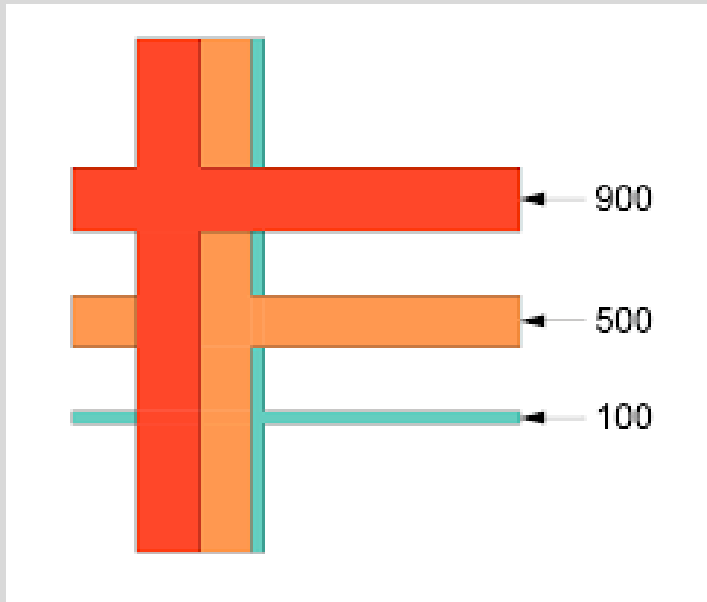


Revit

Archicad

Presentation Priority-Based Junctions

Priority-Based Connections is an automated modeling feature that resolves intersections between construction elements like walls, slabs, and roofs, ensuring structurally accurate joins in both 2D and 3D.



Benefits

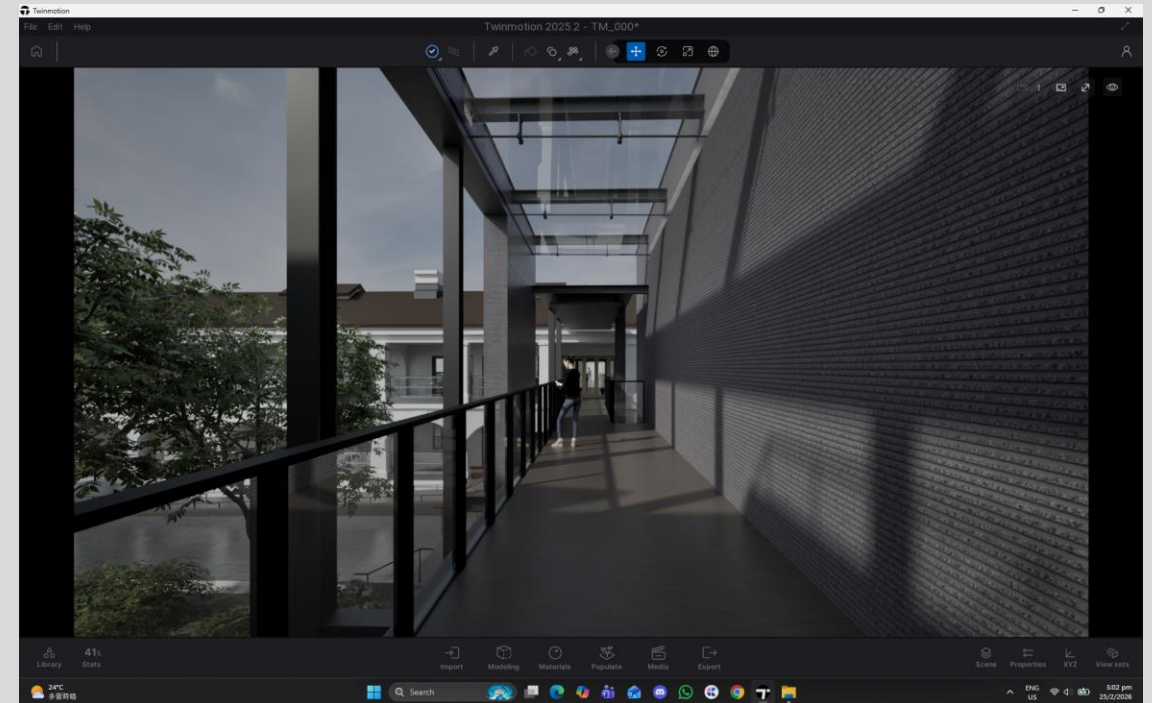
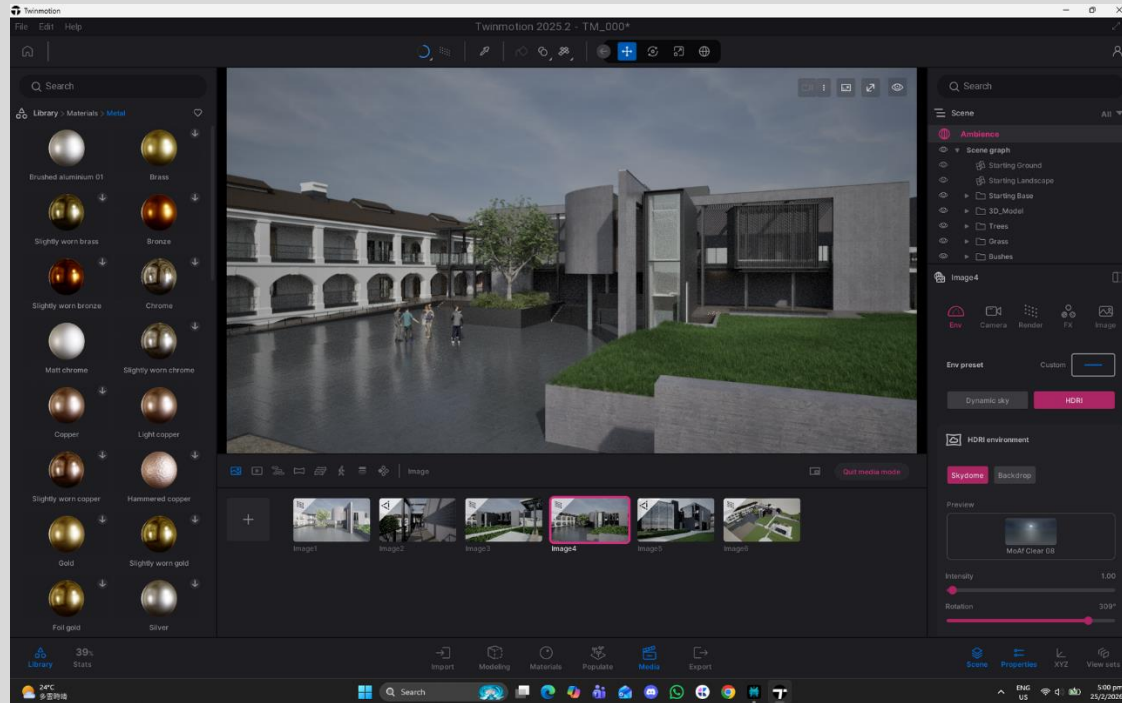
- Automated detailing
- Accurate quantity takeoffs
- Reduced manual modeling

ArchiCAD

Presentation – Realtime Renders

Realtime Renders (Twinmotion, Lumion, Enscape, D5 Render)

- ArchiCAD offers live links with real-time renderers for instant visual feedback.
- Architects can test design variations (layouts, materials, lighting) instantly in a realistic setting.
- Teams and clients can review live walkthroughs.

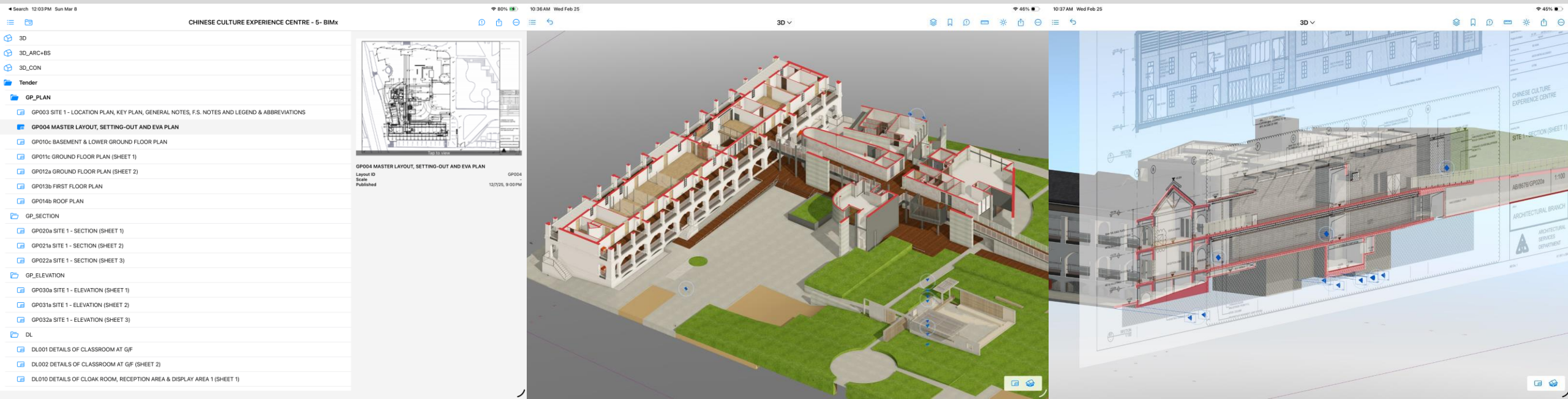


ArchiCAD

Presentation – BIMx

Graphisoft's BIMx is a free app for viewing BIM models and drawings from ArchiCAD.

- Available on mobile, desktop, web, and Apple Vision Pro.
- Facilitates collaboration between design studios, sites, and clients with interactive Hyper-models.
- Combines 2D documentation and 3D views for comprehensive exploration.
- Features game-like 3D navigation.
- Hyperlinked 2D/3D views allow users to tap markers for seamless navigation between plans, sections, and models.
- Access element information directly from 2D or 3D views.
- Supports BCF-compliant Issues for markups.

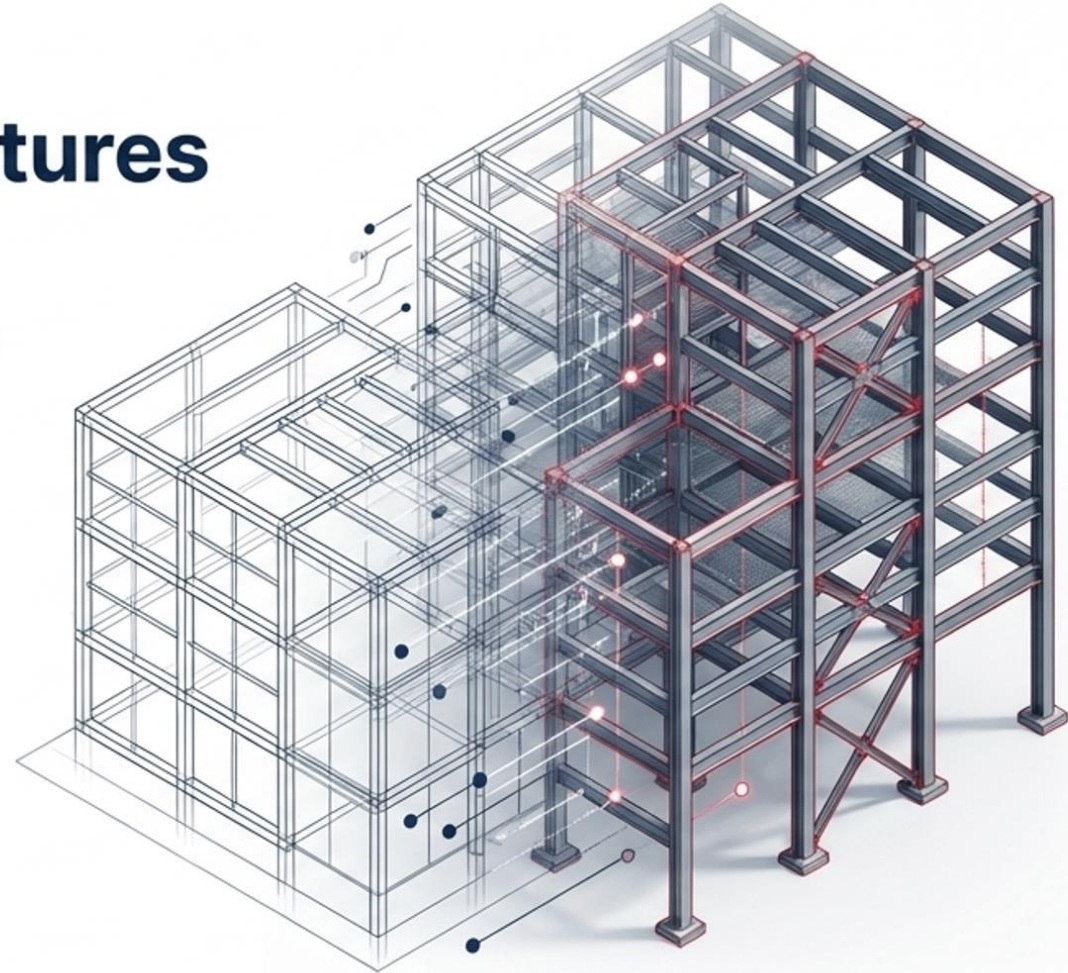


B. Tekla Structures

02 Structural BIM Authoring Tool

Executing the OpenBIM Workflow in Tekla Structures

Standardizing model federation,
information exchange, and collaboration



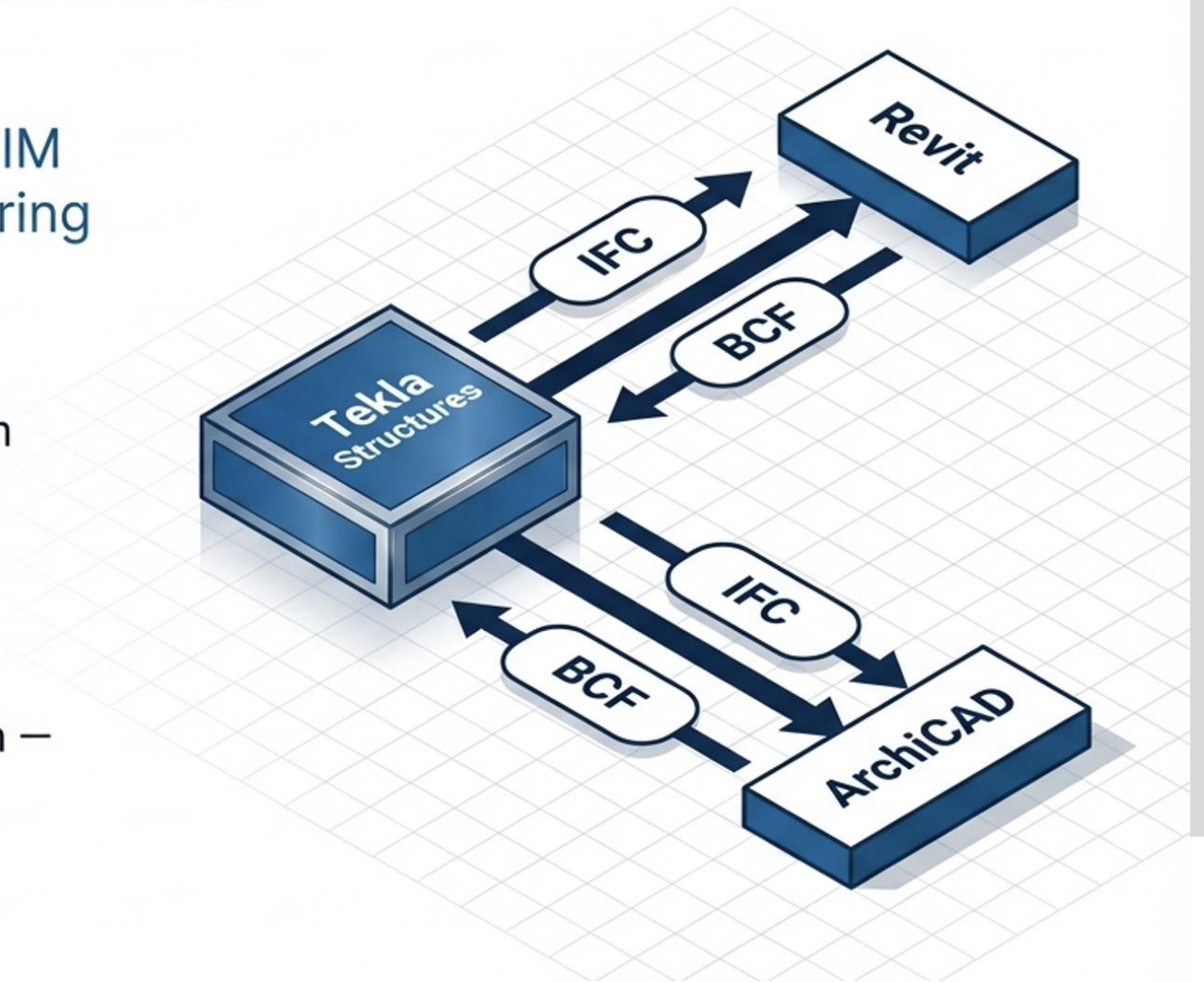
B. Tekla Structures

01 Structural BIM Authoring Tool

Section 2B: Tekla Structures Brief Sharing

Implementing Appendix C OpenBIM
Workflows for Structural Engineering

- **The Mandate:** Transitioning to software-neutral OpenBIM collaboration per DEVB TC(W) No. 1/2025.
- **The Structural Role:** Establishing Tekla as the central hub for structural and construction detailing.
- **The Lifecycle:** Four pillars of integration — Foundation, Translation, Coordination, and Resolution.



B. Tekla Structures

02 Structural BIM Authoring Tool



Translating Native Models into Compliant Deliverables

✓ Format & Delivery

- Export strictly using IFC4 RV 1.2.
- At major milestones, deliver Native + IFC + 2D formats concurrently as dictated by the BEP.

✓ Spatial & Coordinate Alignment

- Ensure exact placement: IfcProject must strictly use HK1980 survey coordinates.
- IfcSite must be set to the local origin.
- Align the Spatial Hierarchy (Project > Site > Building > Storey) utilizing consistent GlobalIds and Names.

✓ Geometry Rules

- Utilize Boundary Representation (BREP) conversion.
- Split all structural elements strictly by floor.
- Balance visual fidelity against polygon counts (crucial for complex steel nodes or rebar detailing).

✓ Property Management

- Keep internal departmental property fields completely separate.
- Define and map specific data fields via the EIR/BEP (transitioning to IDS protocols in the future).

B. Tekla Structures

02 Structural BIM Authoring Tool

Establishing the Baseline Exchange Standard

Recommended Schema

IFC4 Reference View (IFC4 RV)

Ensures broad acceptance and verified interoperability across modern software platforms.

Legacy Support

IFC2x3 Coordination View 2.0 (CV2.0)

Available strictly for **backward compatibility** with older project parameters.



Setup Phase



B. Tekla Structures

01 Structural BIM Authoring Tool

Pillar 1: Foundation — Coordinates & Spatial Hierarchy

Grounding the structural model using Base Points and the Tekla Organizer

Grid Alignment

IfcProject strictly aligns with the HK1980 grid system, fixed at coordinates (0,0,0).

Origin Management

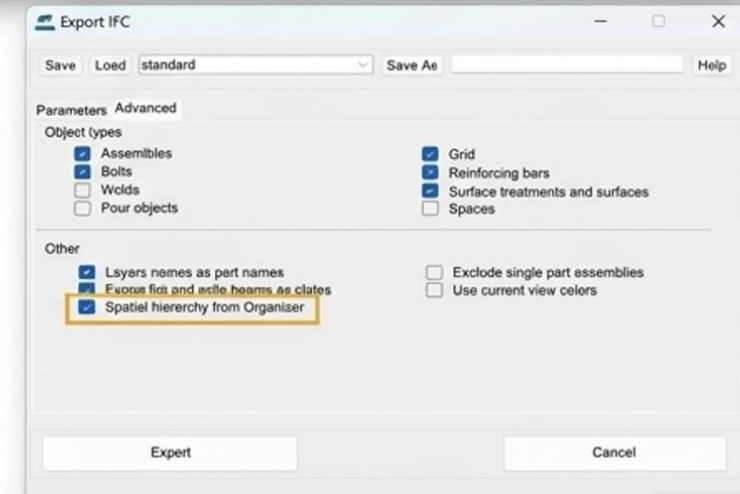
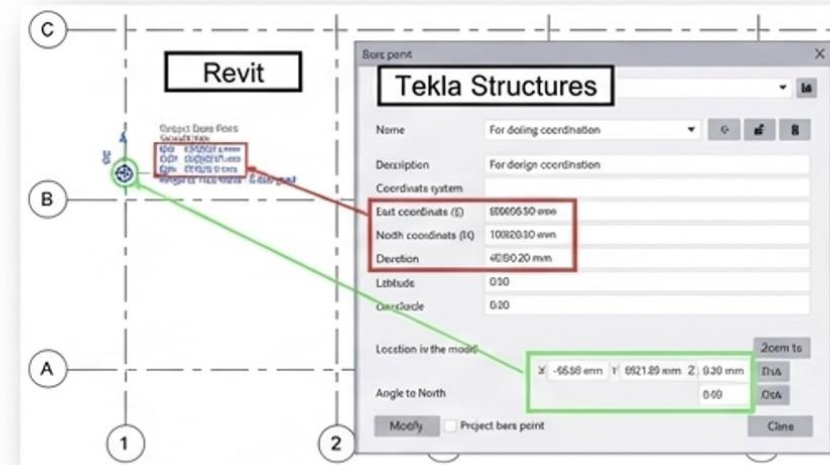
IfcSite aligns with the Global Point of Origin. Models must remain near the origin to prevent performance degradation.

The Base Point Bridge

Establish site-specific reference points. This guarantees seamless integration and IFC round-trip compatibility across disciplines.

Spatial Hierarchy

Synchronize a strict spatial hierarchy (IfcBuilding -> IfcBuildingStorey) via the Organizer before export.



B. Tekla Structures

02 Structural BIM Authoring Tool

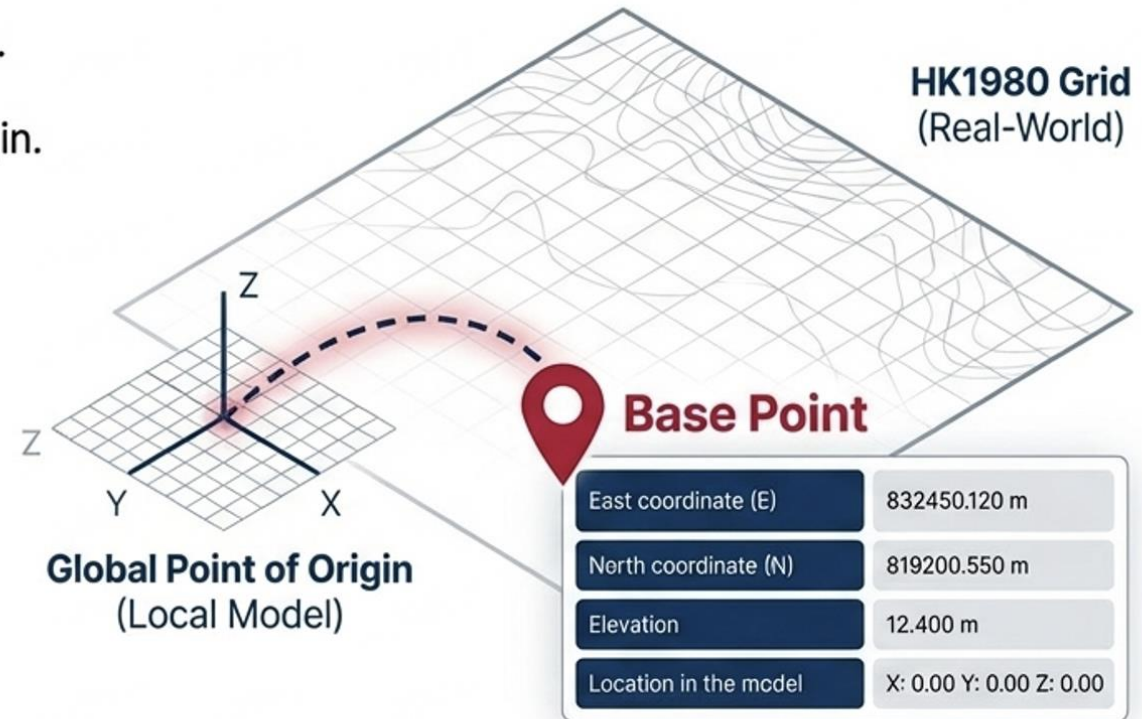
Anchoring the Model in Real-World Space

IfcProject: Aligns strictly with the HK1980 Grid (0,0,0).

IfcSite: Aligns with Tekla's internal Global Point of Origin.

The Golden Rule: Always keep models near the **internal origin** to prevent **performance** degradation and maintain **IFC round-trip accuracy**.

Base Point Coordination: Input site-specific survey data (East, North, Elevation) using Tekla's Base Point feature to bridge the local model with the HK1980 grid.

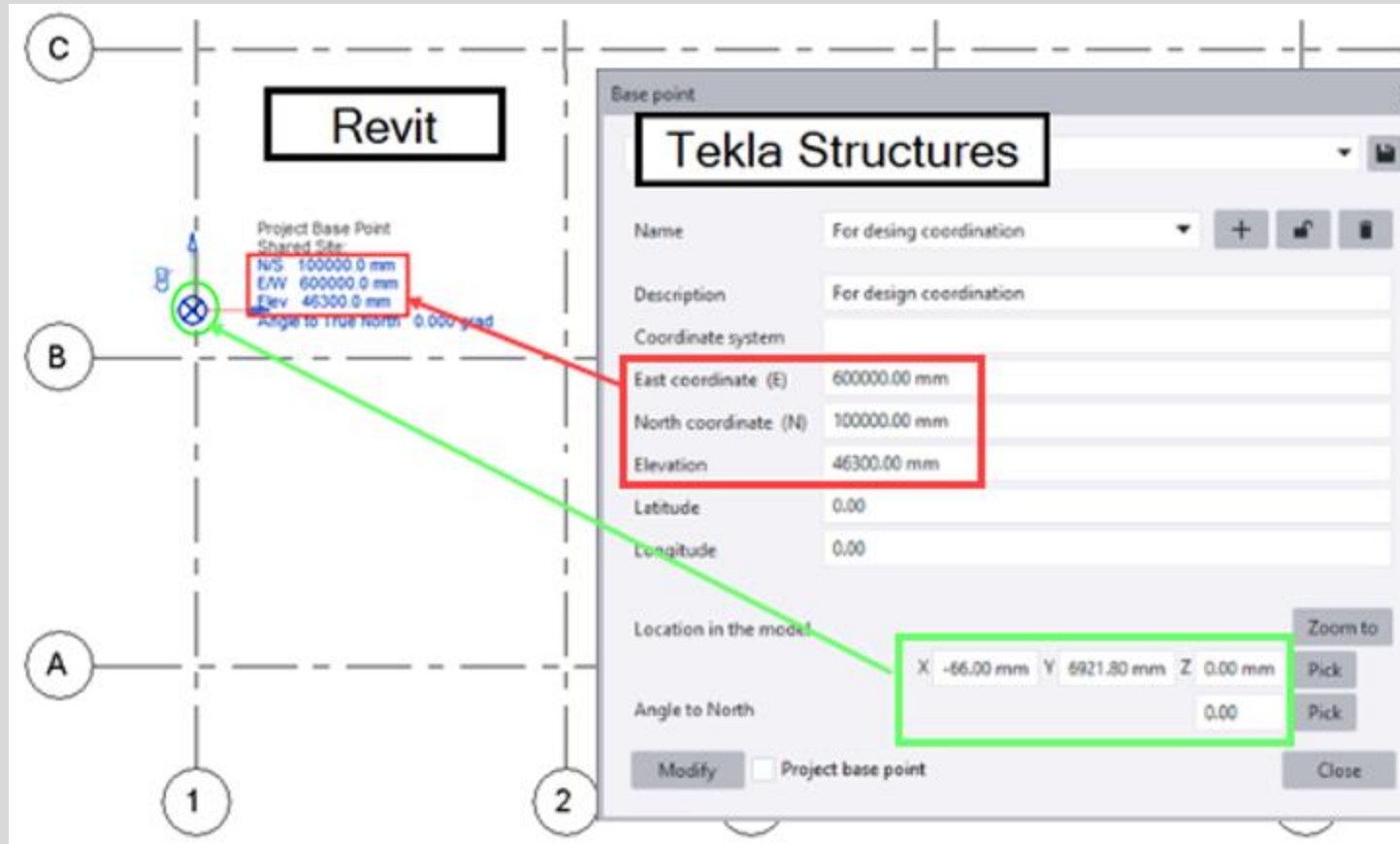


Setup Phase



B. Tekla Structures

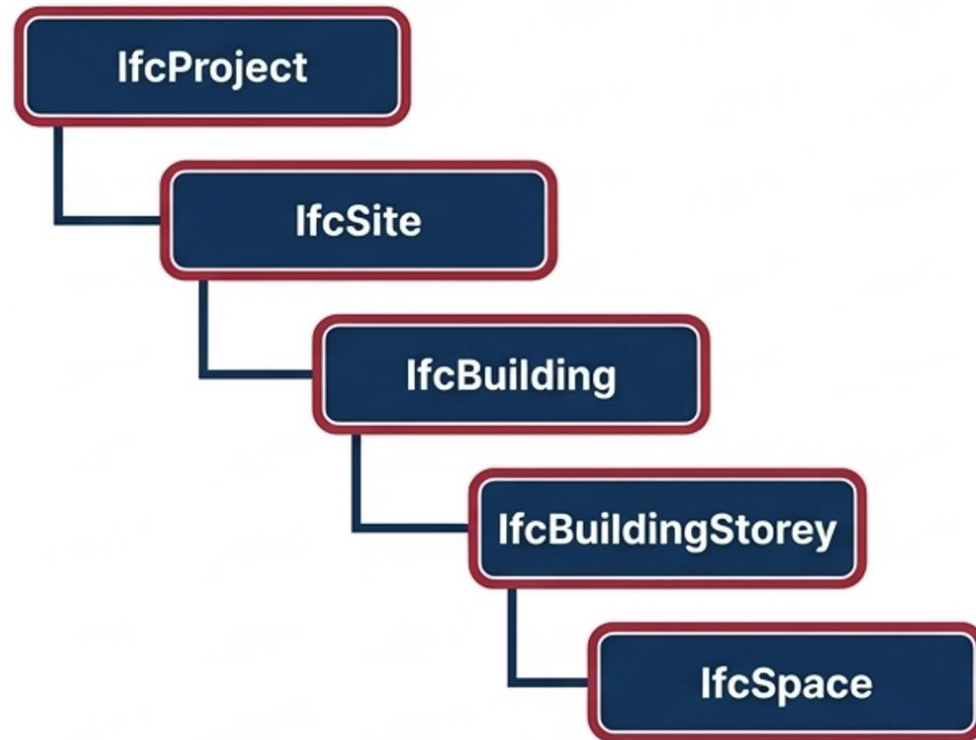
02 Structural BIM Authoring Tool



Base points in Tekla Structures are control points that allow you to use a coordinate system based on the civil origin or another coordinate system for interoperability and collaboration.

Structuring the Spatial Data Hierarchy

The Standard Flow

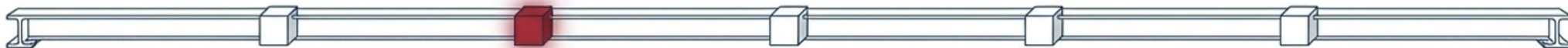


Levels in the selected building

NAME	ELEVATION	BOTTOM OFFSET	LEVEL OFFSET
LEVEL 16	+57500.00 mm	0.00 mm	0.00 mm
LEVEL 15	+57500.00 mm	0.00 mm	0.00 mm
LEVEL 14	+57500.00 mm	0.00 mm	0.00 mm
LEVEL 13	+57500.00 mm	0.00 mm	0.00 mm
LEVEL 12	+57500.00 mm	0.00 mm	0.00 mm
LEVEL 10	+57500.00 mm	0.00 mm	0.00 mm
LEVEL 9	+57500.00 mm	0.00 mm	0.00 mm
LEVEL 8	+57500.00 mm	0.00 mm	0.00 mm
LEVEL 7	+57500.00 mm	0.00 mm	0.00 mm

Tekla Execution

- **Primary Method:** Use the Tekla Organizer to create and sync this hierarchy (Building-Site-Section-Floors) prior to export.
- **Alternative Method:** Define hierarchy manually via part User-Defined Attributes (UDAs) or project property UDAs.



B. Tekla Structures

01 Structural BIM Authoring Tool

Pillar 2: Translation – Geometry Conversion & Element Mapping

Delivering exact shape reproduction and lean data exchange

Precise Geometry

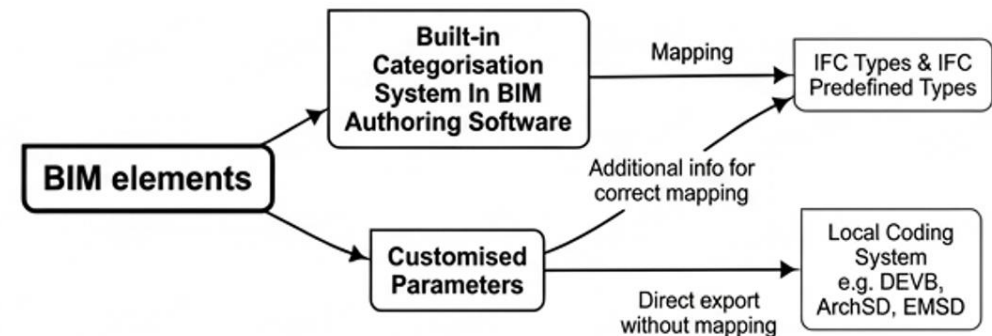
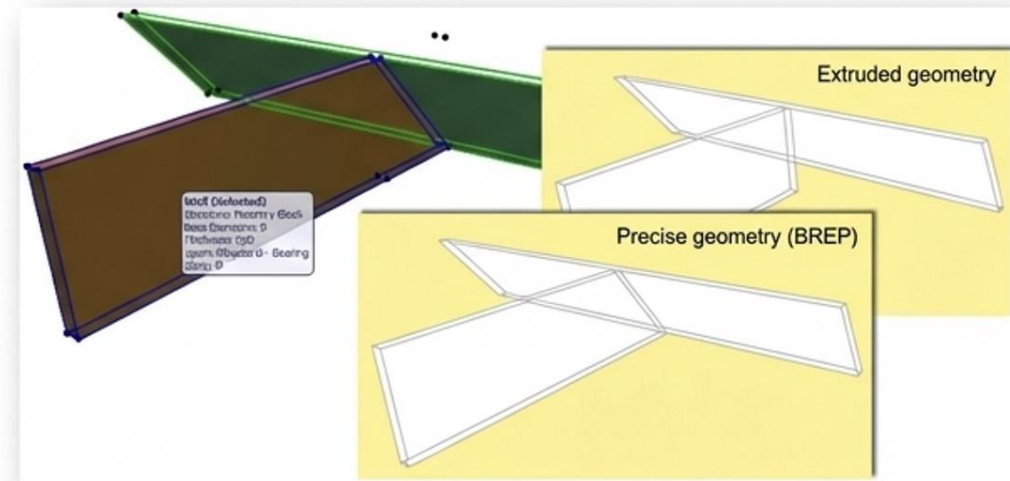
Export geometries using BREP (Boundary Representation) for Reference Views. This ensures exact, unalterable shape reproduction down to millimeter precision.

Model Filtering

Maintain lean files. Exclude temporary construction elements and duplicate architectural finishes. Limit export to defined structural scope (load-bearing walls, beams, columns).

Element Mapping

Ensure built-in categorizations correctly map to required IFC Entities and Predefined Types (e.g., mapping specific profiles to IfcBridgePart subtypes).



B. Tekla Structures

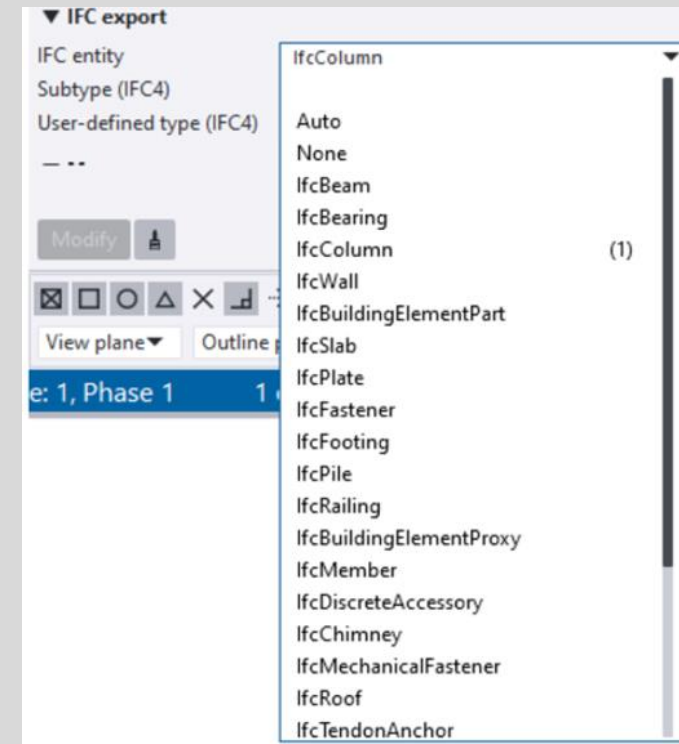
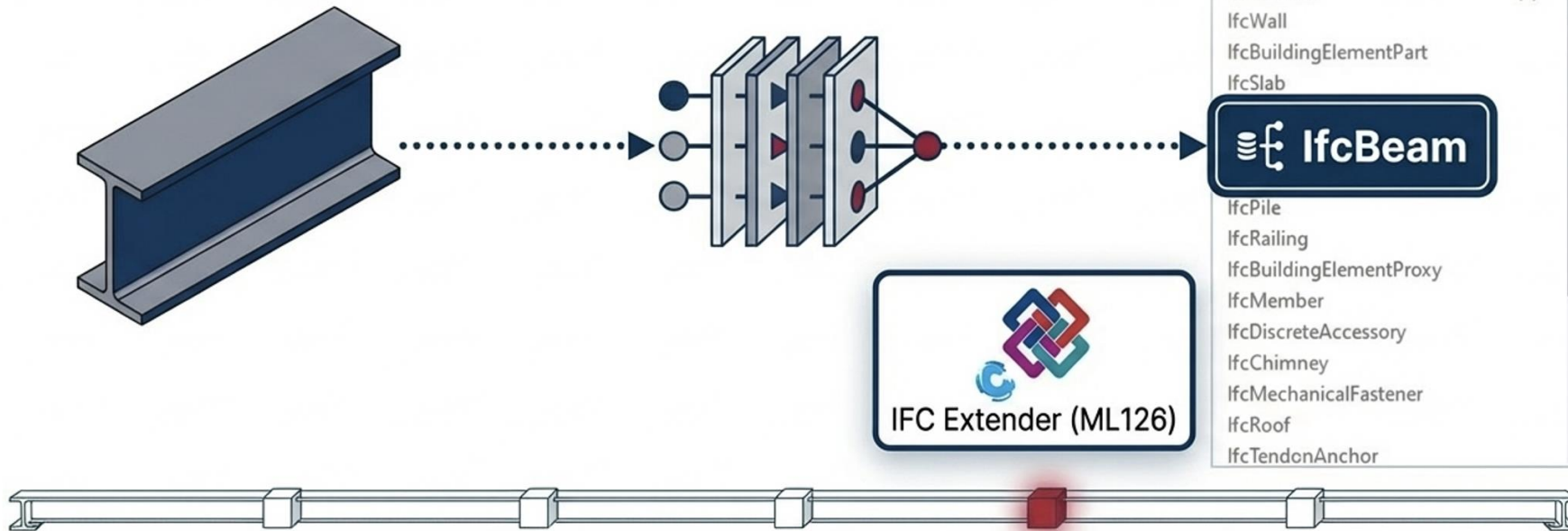
02 Structural BIM Authoring Tool

Categorizing Native Objects for Export

Explicit mapping avoids generic, unreadable data classifications like IfcBuildingElementProxy.

- **Automatic Mappings:** Native object types default to logical IFC entities (e.g., Steel Beam to IfcBeam).
- **Custom Overrides:** Override default mappings using UDAs (e.g., mapping a column specifically to the PILASTER predefined type).

Pro-Tip: Utilize the IFC Extender (ML126) application for advanced, bulk mapping control.

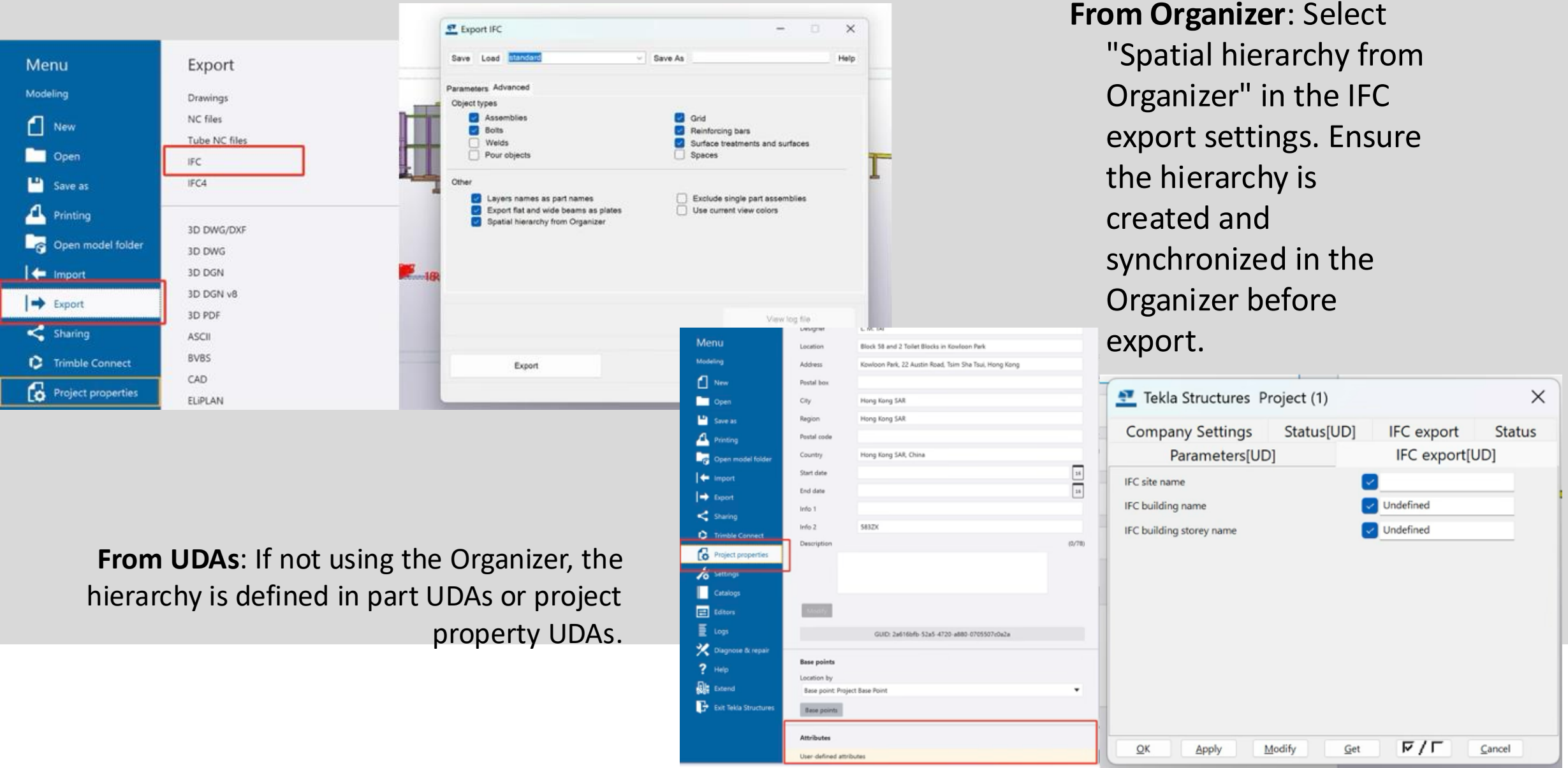


B. Tekla Structures

02 Structural BIM Authoring Tool

From Organizer: Select "Spatial hierarchy from Organizer" in the IFC export settings. Ensure the hierarchy is created and synchronized in the Organizer before export.

From UDAs: If not using the Organizer, the hierarchy is defined in part UDAs or project property UDAs.



B. Tekla Structures

02 Structural BIM Authoring Tool

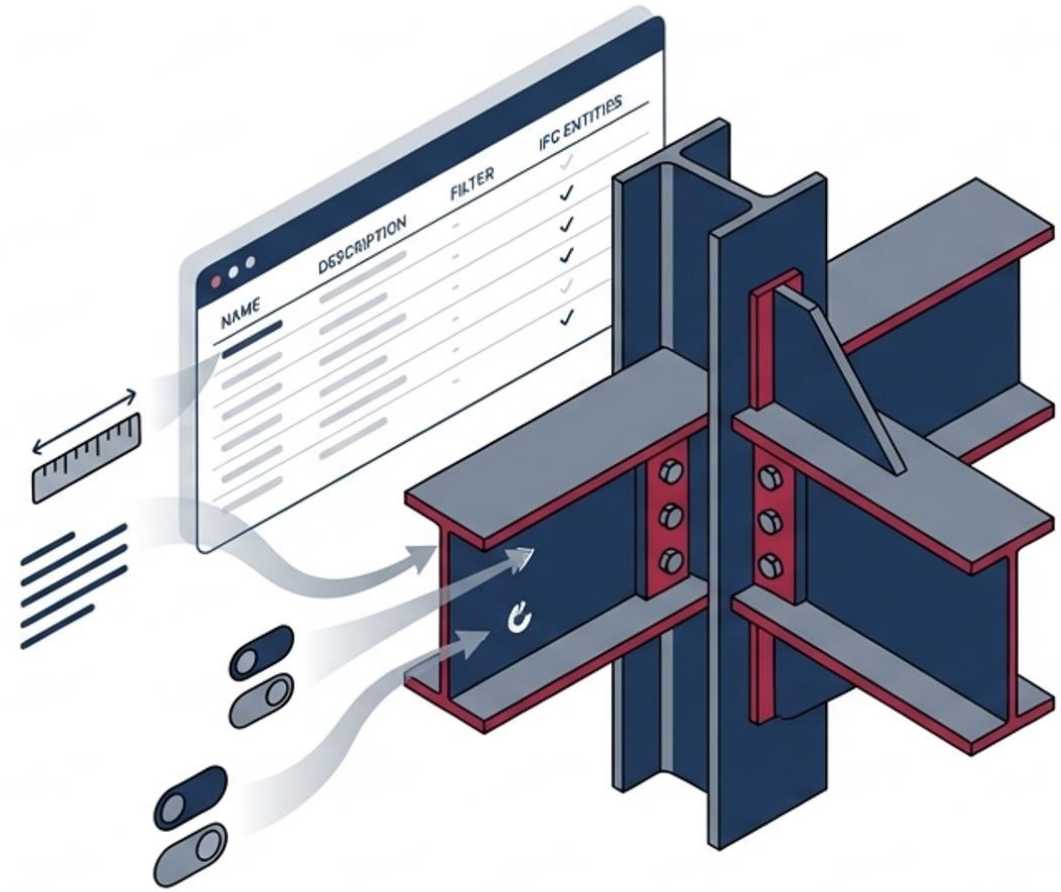
Enriching Geometry with BIM Data

The Standard Flow

Map native Tekla User-Defined Attributes (UDAs) to IFC Property Sets (Psets) using XML configuration files.

Supported data types include Strings, Integers, Booleans, and Measurements (length, area, volume).

BuildingSMART default property sets (e.g., Pset, Qto) are fully supported and protected to ensure standard compliance.



B. Tekla Structures

02 Structural BIM Authoring Tool

The image shows two overlapping dialog boxes in the Tekla Structures software. The background dialog is titled 'Tekla Structures Column (1)' and has tabs for 'Parameters', 'Workflow', 'End conditions', 'Analysis', 'IFC export', and 'Structural information'. The 'Parameters' tab is active, showing a list of attributes with checkboxes and input fields. The foreground dialog is titled 'Steel column' and has a 'General' section with fields for Name, Profile, Material, Finish, and Class. A 'User-defined attributes' button is highlighted with a yellow box in the 'More' section of the 'Steel column' dialog.

Steel column

▼ General

Name: COLUMN

Profile: HEA400

Material: S235JR

Finish:

Class: 7

► Numbering series

► Position

► Deforming

► IFC export

▼ More

UDAs

User-defined attributes

Show fewer properties

Modify

Tekla Structures Column (1)

Unitechnik Mountpart | General design | Tekla Structural Designer

Parameters | Workflow | End conditions | Analysis | IFC export | Structural information

Comment	☒	
Shorten	☒	0.00
Camber	☒	
Preliminary mark	☒	
Preliminary assembly mark	☒	
Locked	☒	
Fabricator name	☒	
User field 1	☒	
User field 2	☒	
User field 3	☒	
User field 4	☒	
User Phase (affects numbering)	☒	
Fixed drawing main view	☒	Default
Product code	☒	
Product description	☒	
Product website	☒	
Product weight	☒	
Product unit	☒	
Execution class	☒	

OK | Apply | Modify | Get | ☒ / ☐ | Cancel

Tekla Structures supports the use of **User Defined Attributes (UDA)** to store and manage IFC-originated information within native Tekla objects.

B. Tekla Structures

02 Structural BIM Authoring Tool

Property set definitions

Reference view default properties.xml 1

☐ Show only included 2

Property sets in selected configuration file 3 Search 4 IFC entities 5 Versions 6

INCLUDE 7	NAME	DESCRIPTION	FILTER 8	IFC ENTITIES	VERSION
☒	Pset_BeamCommon	Properties common to the definition of all		IfcBeam	4
☒	Pset_BuildingElement	Properties common to the definition of all i		IfcBuildingElementP	4
☐	Pset_ChimneyComm	Properties common to the definition of all		IfcChimney	4
☒	Pset_ColumnCommo	Properties common to the definition of all		IfcColumn	4
☐	Pset_CurtainWallCom	Properties common to the definition of all		IfcCurtainWall	4

11

Properties in Pset_BeamCommon 10

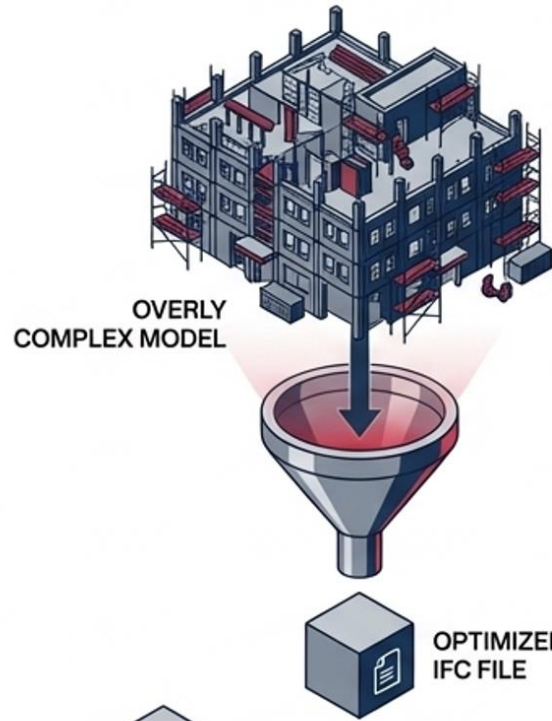
INCLUDE	NAME	TEKLA PROPERTY	TYPE	MEASUREMENT TYPE	CONVER	ACCURACY
☒	Reference	REF_ID	StringValueT	IfcLabel		
☒	Status	RENOVATION_STATUS	IntegerValue			
☒	Span	SPAN	MeasureValu	IfcLengthMeasure	1 (mm)	
☒	Slope	SLOPE	RealValueTyp			
☒	Roll	ROLL	RealValueTyp			
☒	IsExternal	IS_EXTERNAL	BooleanValu			
☒	ThermalTransmittance	THERMAL_TRANSMITTAN	RealValueTyp			

12

Users can create custom property sets or modify existing ones using the **Property set definitions** dialog.

Optimizing Model Detail for Exchange

Export Filtering & Format

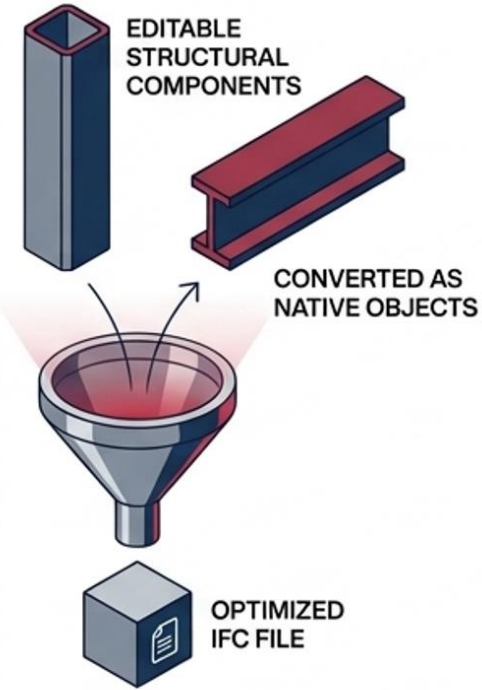
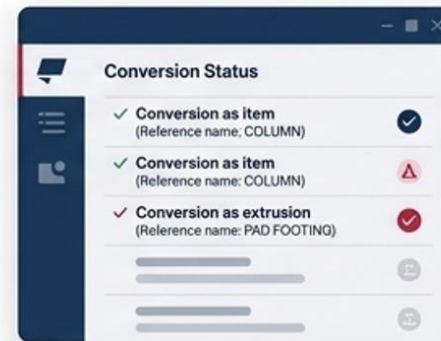


Export Filtering: Exclude temporary components, duplicate architectural elements, or single-part assemblies using Selection Filters or Organizer rules.

Export Format: Export geometry as Boundary Representation (BREP) for high visual fidelity in federated viewers.

Import Conversion

Import Conversion: When receiving external IFCs, convert them to native Tekla objects—either as Items (shape defines geometry) or Extrusions (profile extruded to create length) for further detailing.



B. Tekla Structures

Structural BIM Authoring Tool

Pillar 3: Coordination — Importing IFC & Clash Detection

Pressure-testing the structural model against MEP and Architecture

Importing Reference Models

Bring in external architectural and MEP IFC files strictly as uneditable Reference Models using BREP.

Visibility & Alignment

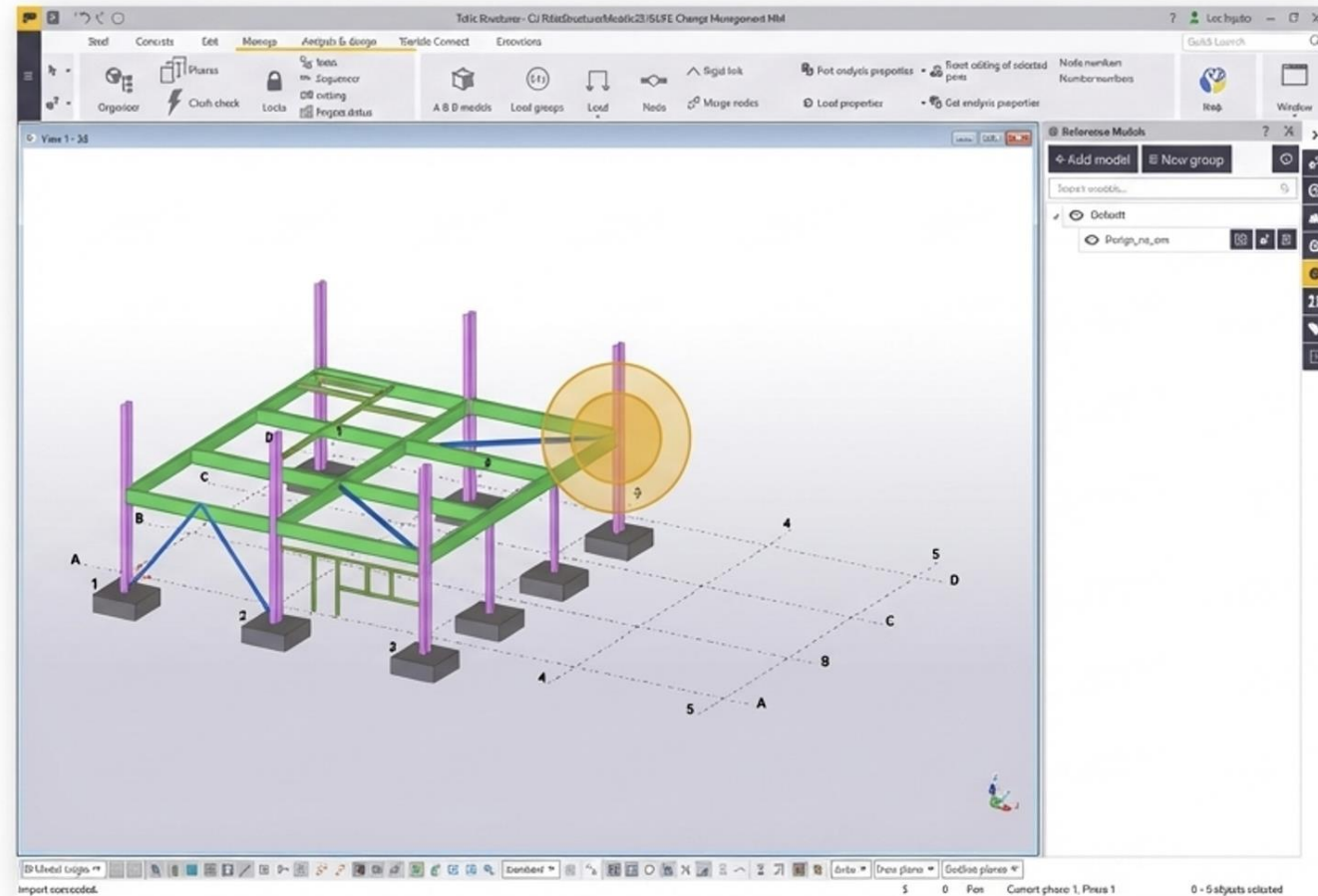
Utilize clip planes to isolate spatial hierarchies. Immediately verify alignment between imported IFC coordinates and native base points.

Native Clash Detection

Execute built-in clash checking between native structural elements and the referenced MEP/Arch models.

Execution Timing

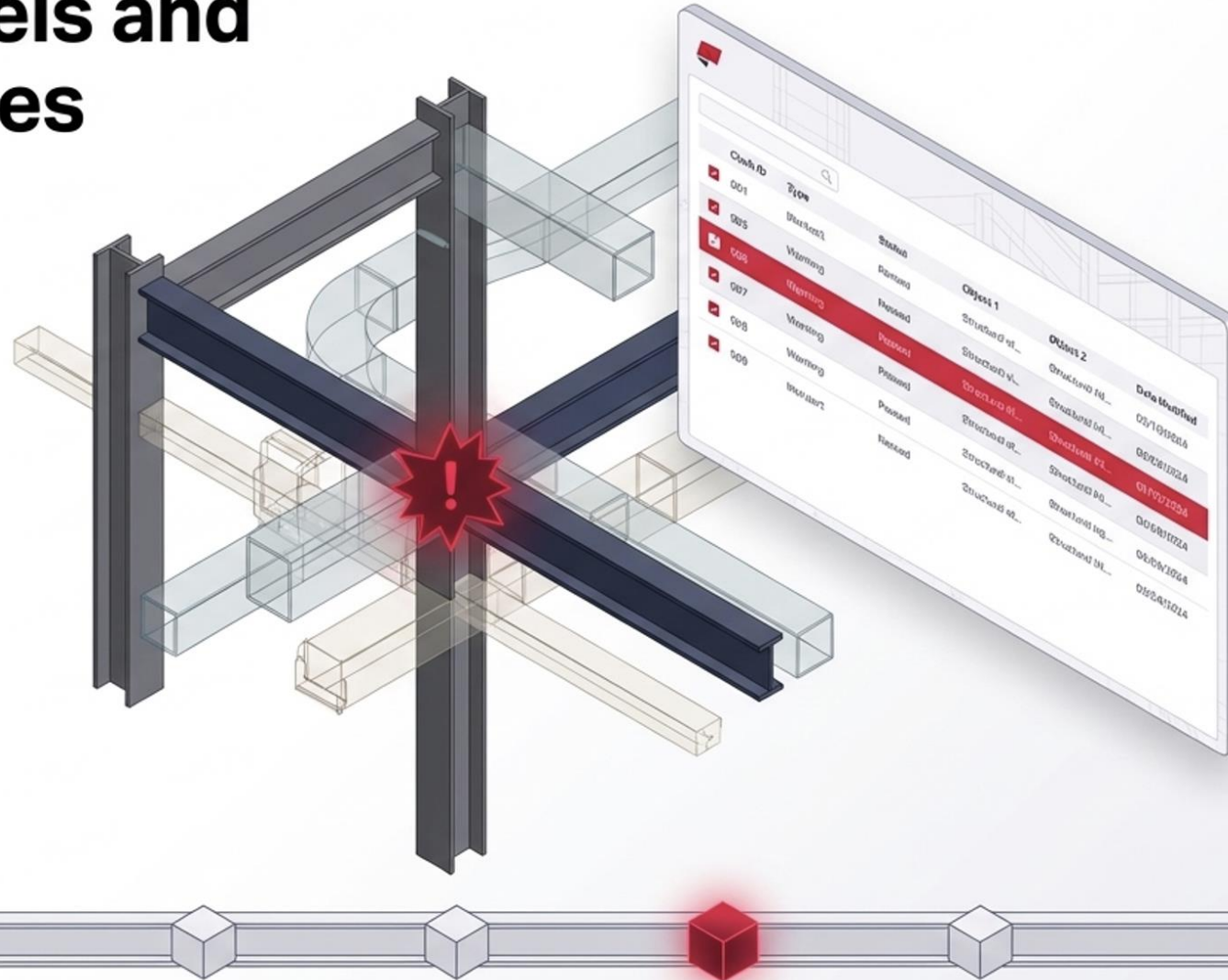
Perform continuously during detailing, after major IFC exchanges, and critically before drawing issuance.



02 Structural BIM Authoring Tool

Import Architectural and MEP IFC models natively as Reference Models. Manage visual complexity using Tekla's visibility controls: layers, transparency, and clip planes.

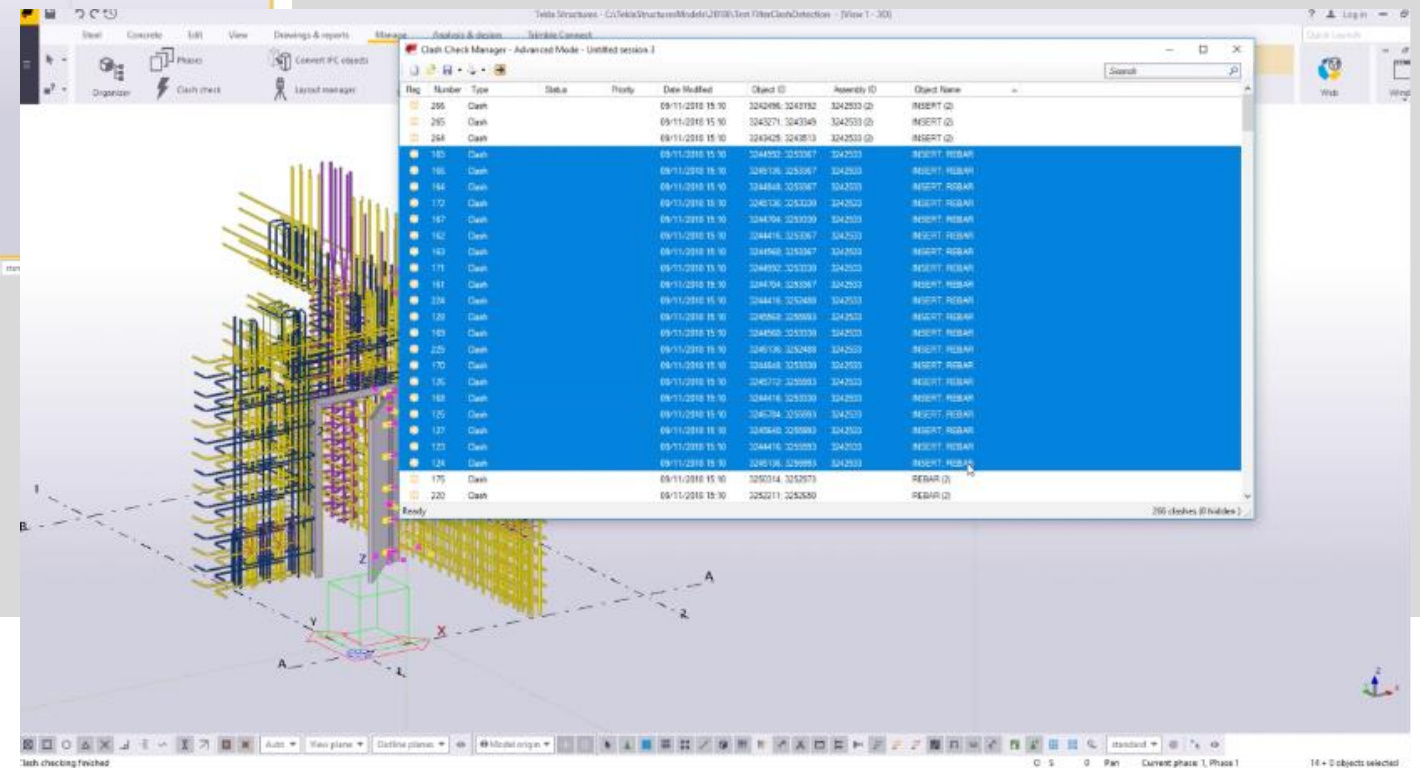
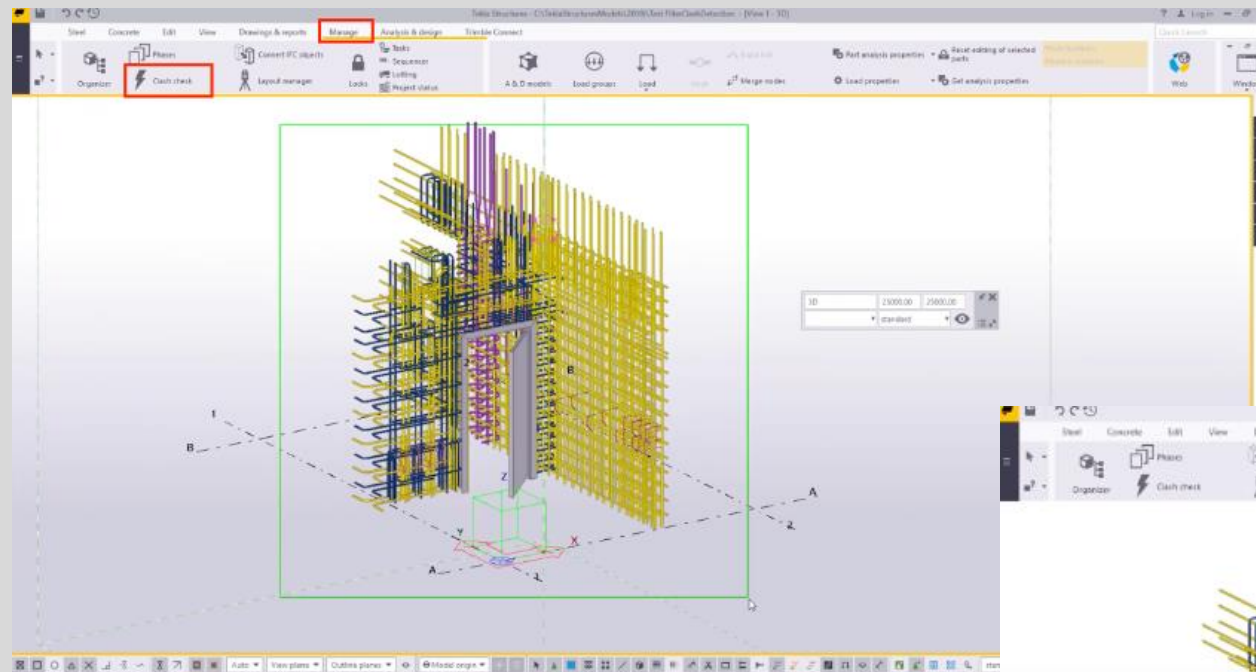
Run the built-in Clash Check Manager to identify hard geometric conflicts between native structural elements and imported reference models prior to fabrication release.



02 Structural BIM Authoring Tool

02 Structural BIM Authoring Tool

Tekla Structures provides built-in **clash checking functionality** to identify geometric conflicts between:



B. Tekla Structures

Structural BIM Authoring Tool

Pillar 4: Resolution – Frictionless BCF Issue Tracking

Replacing email with targeted, model-independent communication

Context-Rich Data

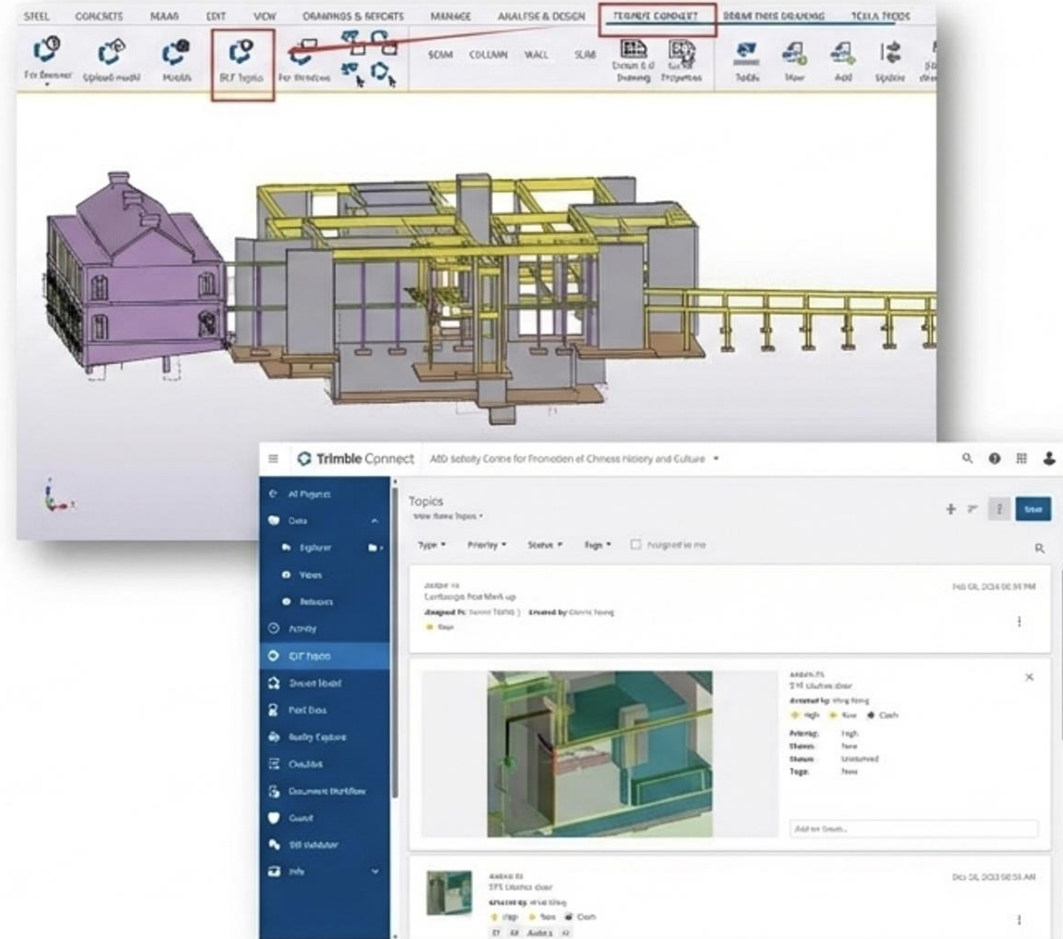
Generate BCF topics directly within Tekla. Issues are linked directly to specific GUIDs with precise camera viewpoints, eliminating heavy model exchanges.

Local vs. Server Workflows

Export BCF manually for offline coordination, or sync directly via BCF 3.0 to online servers (Trimble Connect, BIMcollab) for real-time resolution.

The Ideal Loop

Architect identifies clash -> BCF issue delivered to Structural Engineer -> Engineer clicks issue, Tekla jumps to exact viewpoint -> Engineer resolves -> Team is instantly notified.



B. Tekla Structures

Structural BIM Authoring Tool



The **BCF (BIM Collaboration Format) Manager** in Tekla Structures allows users to manage project-based issues and collaborate effectively using BCF topics. Below is the workflow for managing BCF topics locally in Tekla Structures:

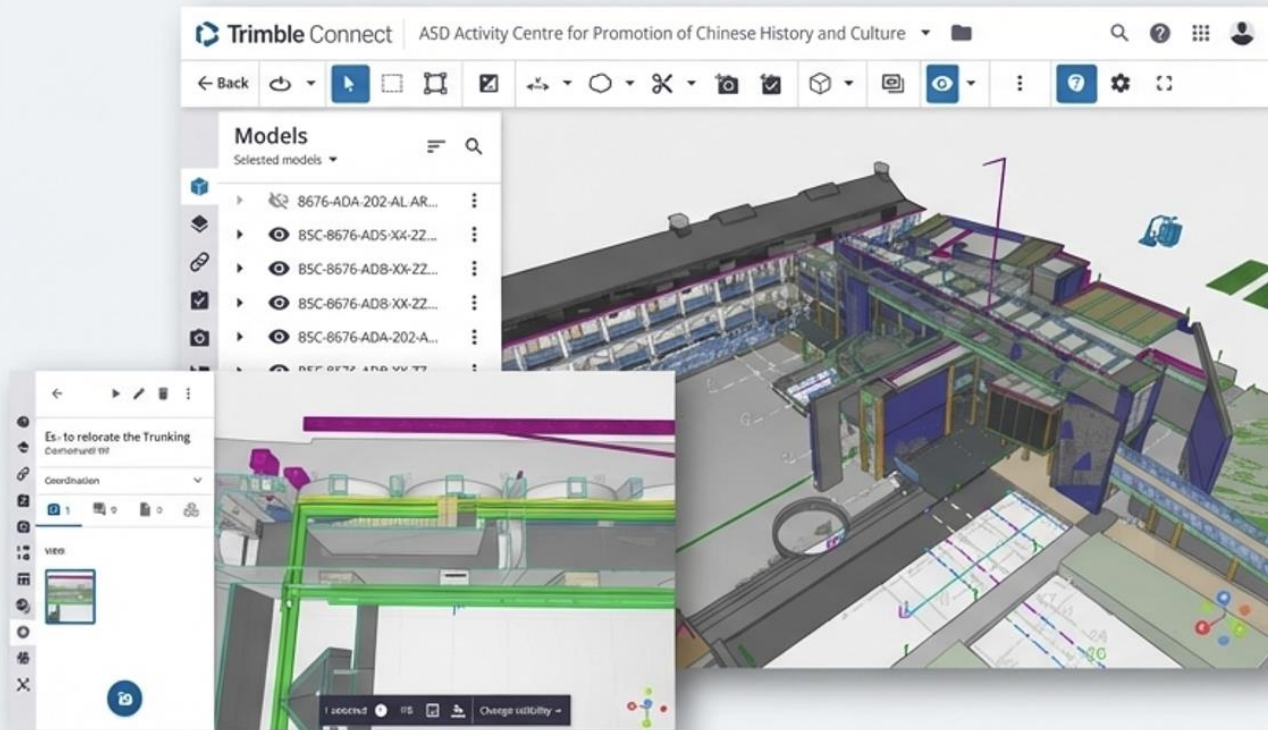
B. Tekla Structures

Structural BIM Authoring Tool

Federating Structural Data within the CDE

The Nexus Point

Trimble Connect fulfills the CIC functional requirements for EDMS, workflow management, and 2D/3D coordination across multiple disciplines.



The Golden Rule of Referencing

Shared IFC models are for Reference Only.

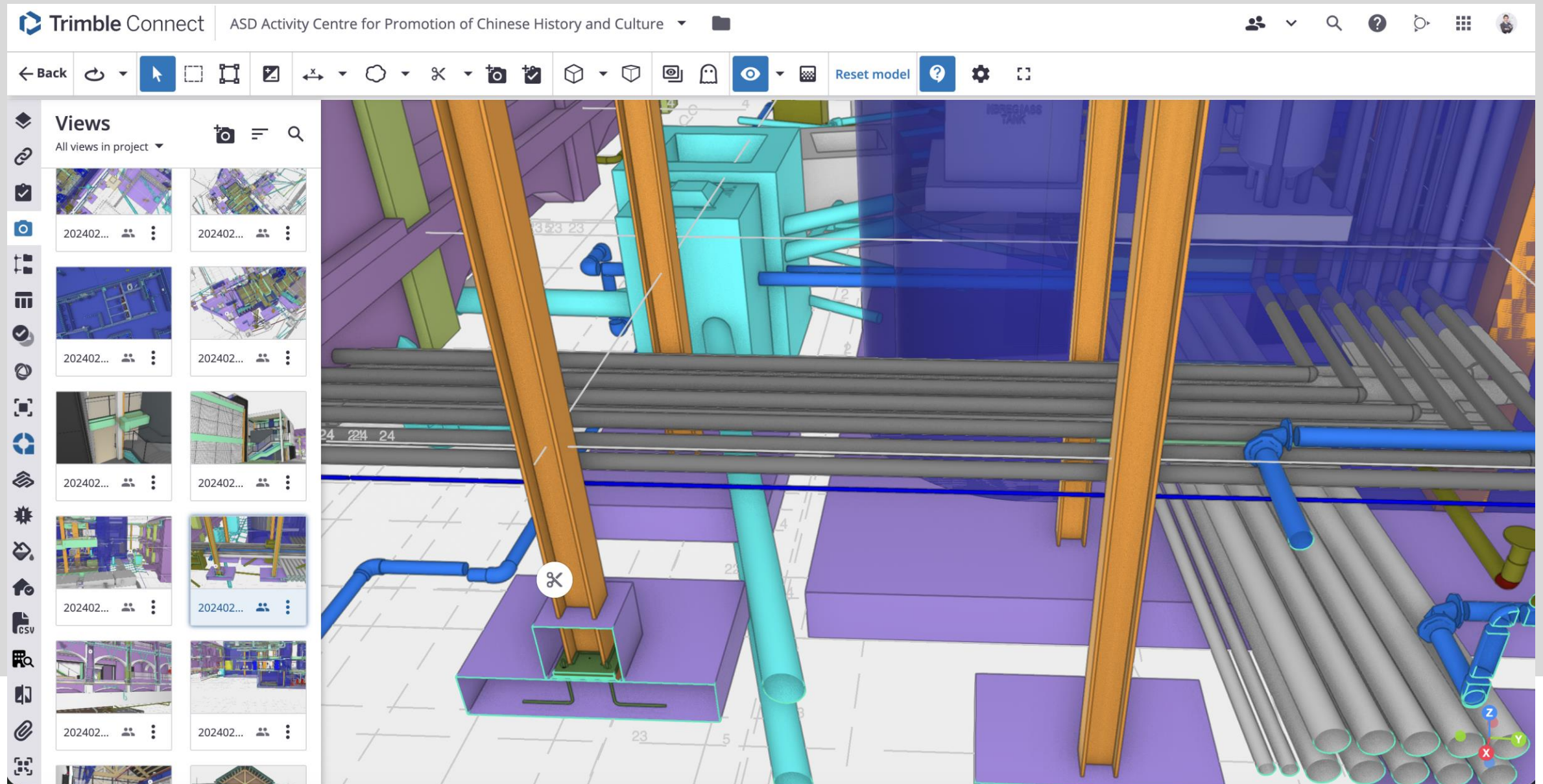
- Reference models strictly as-is in the native software.
- No geometry conversion, type mapping, or property mapping.
- Do not use federated IFCs to produce native 2D drawings.

Iterative Updating

Referenced IFCs must be easily replaceable with updated versions without breaking coordinate positioning or existing file linkages.

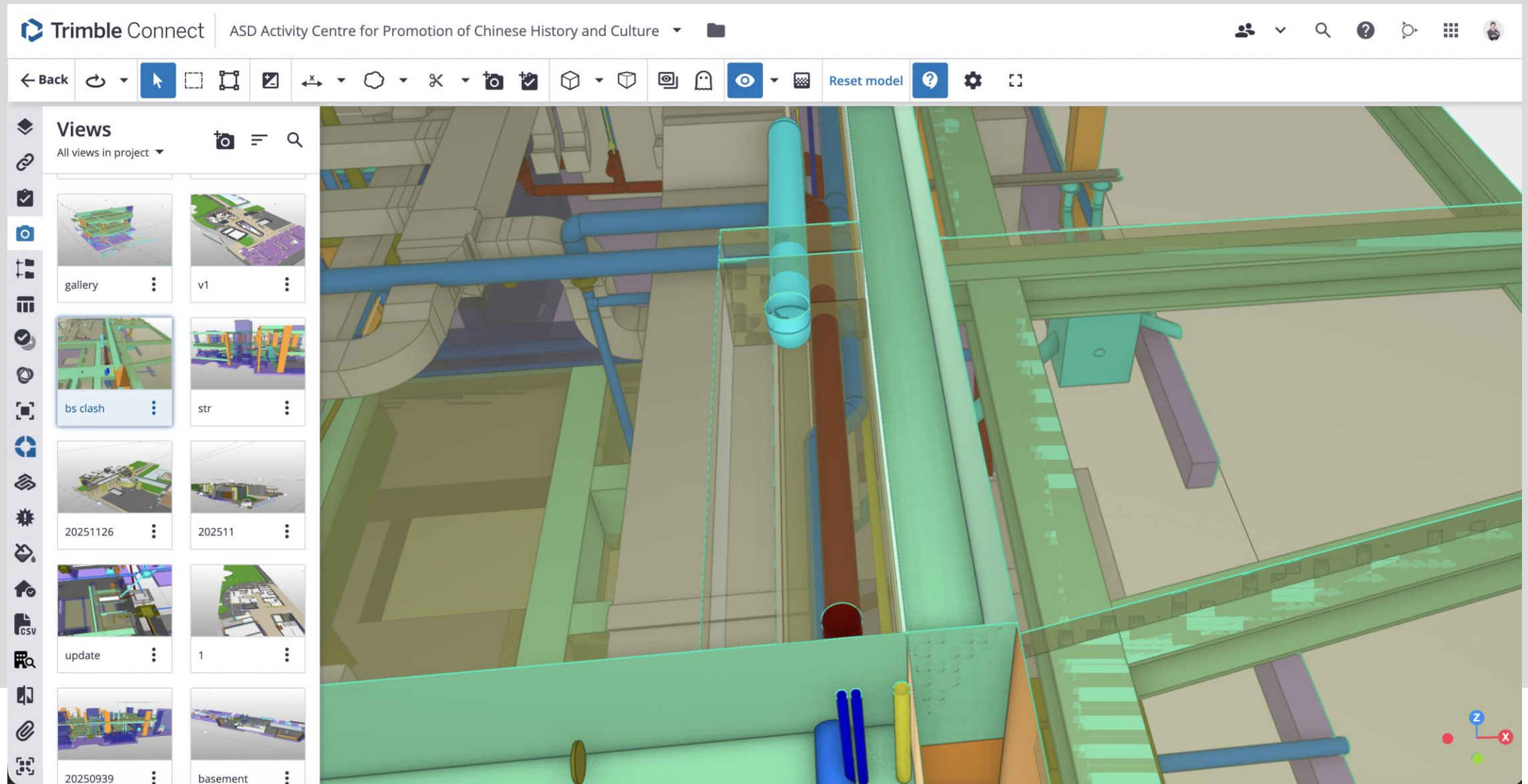
B. Tekla Structures

Structural BIM Authoring Tool



B. Tekla Structures

Structural BIM Authoring Tool



Section 3

A. OpenBIMate

SoA Checker – Introduction

Automating Schedule of Accommodation Compliance

The SoA Inspection Tool is a dedicated platform designed to verify Schedule of Accommodation (SoA) data directly against the coordinated BIM model.



Automated Validation

Programmatically checks compliance between required area provisions and modeled spaces.



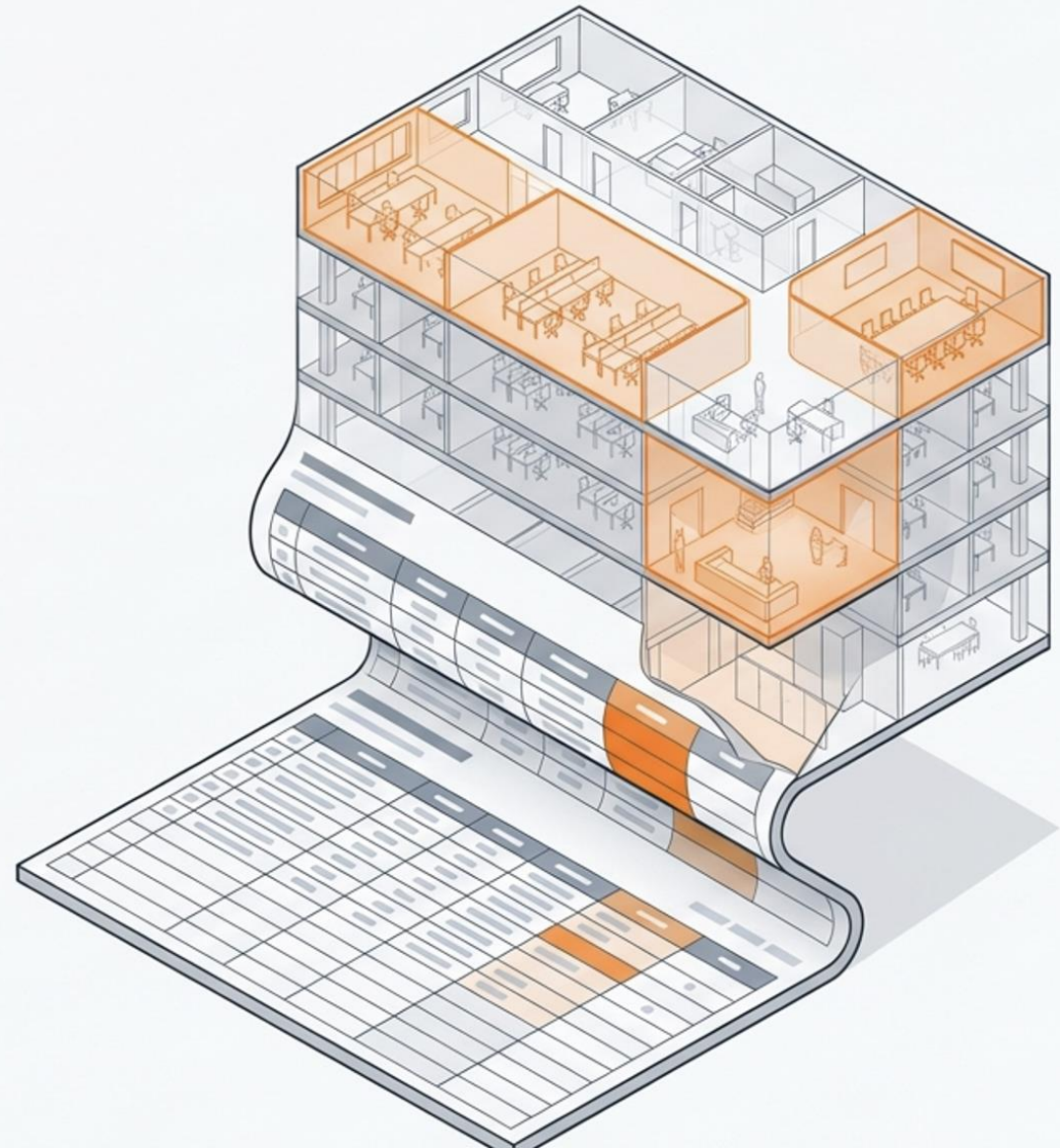
Discrepancy Highlighting

Instantly flags inconsistencies between the architectural design and the SoA requirements.



Iterative Design Support

Enables continuous, rapid design adjustments by processing updated model iterations seamlessly.



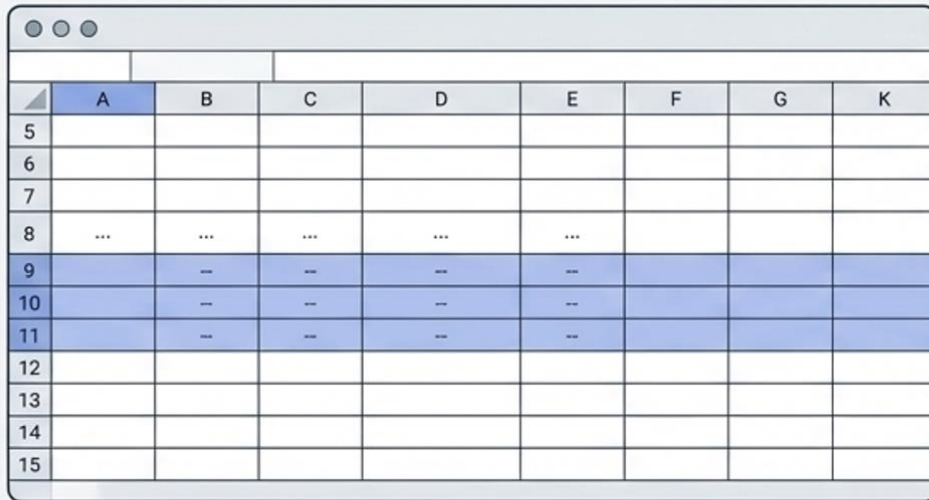
A. OpenBIMate

SoA Checker – Introduction

Prepare the Dual Inputs: Spreadsheet and 3D Model

The inspection engine relies on accurately formatted data from two distinct sources.

1. SoA Spreadsheets

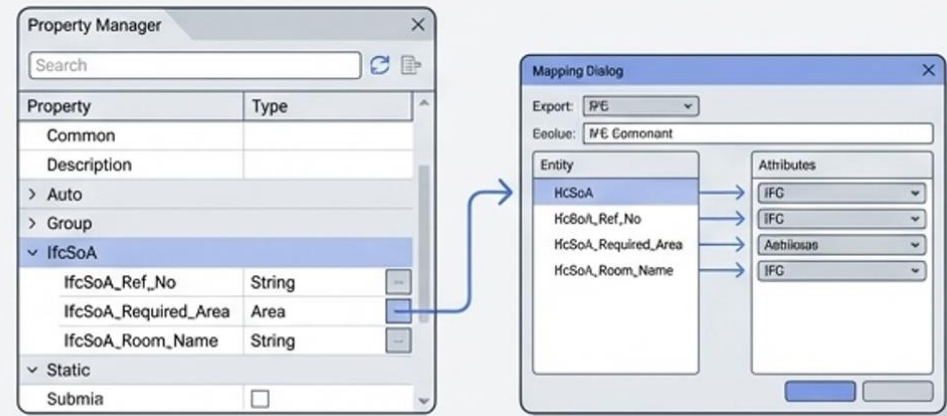


	A	B	C	D	E	F	G	K
5								
6								
7								
8	...	...	...	...	...			
9	...	...	...	...	...			
10	...	...	...	...	...			
11	...	...	...	...	...			
12								
13								
14								
15								

- **Static Formatting:** Rows 9 to 11 are strictly required and must remain unchanged from the reference template.
- **Data Extraction:** The program automatically reads and **extracts values** specifically from Columns A, C, D, E, F, G, H, and K.

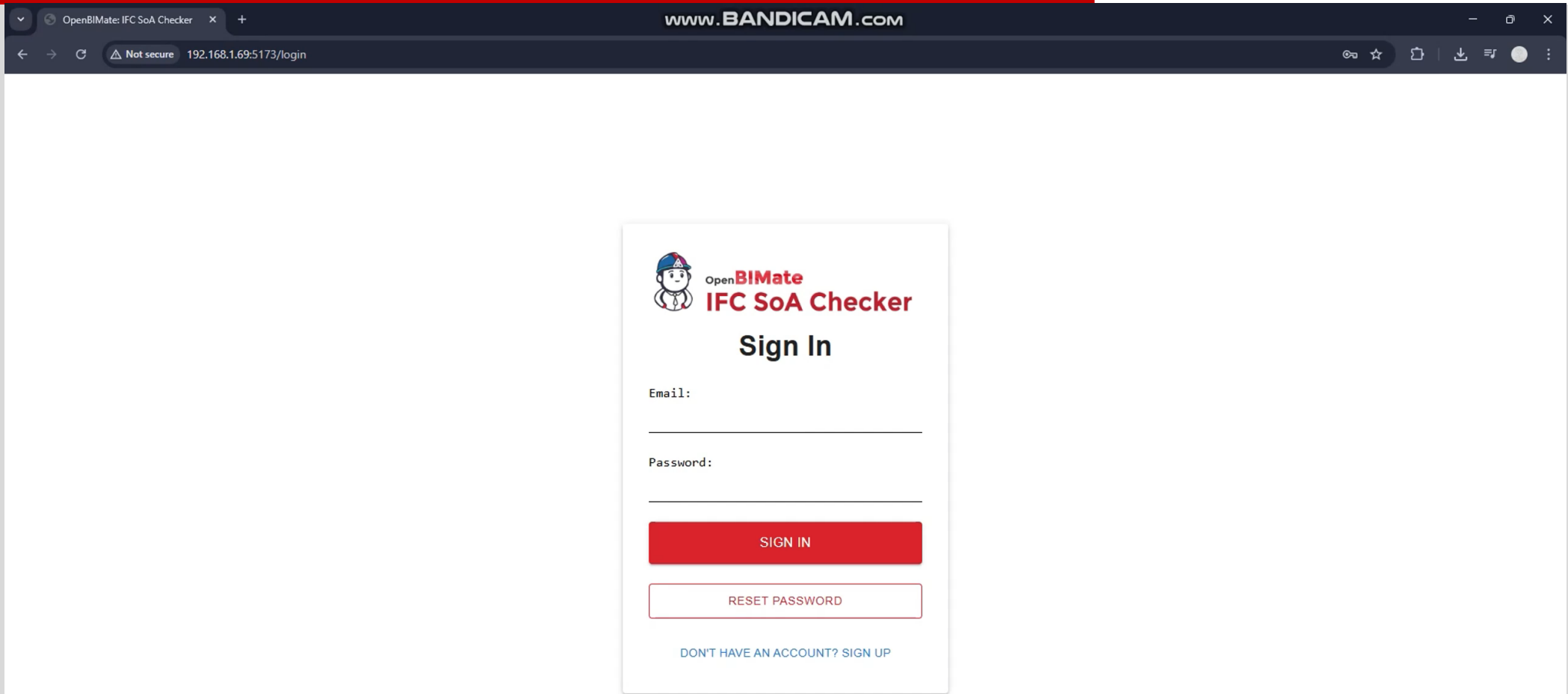
2. IFC Models

- **Target Entities:** The check requires IfcSpace entities to represent the rooms or provisions.
- **Required Metadata:** The native BIM authoring tool must map the following custom string and area properties to the exported IfcSpace elements:
 - IfcSoA_Ref_No
 - IfcSoA_Required_Area
 - IfcSoA_Room_Name



A. OpenBIMate

SoA Checker - Admin Dashboard



OpenBIMate: IFC SoA Checker x +

www.BANDICAM.com

← → ↻ ⚠ Not secure 192.168.1.69:5173/login

OpenBIMate
IFC SoA Checker

Sign In

Email:

Password:

SIGN IN

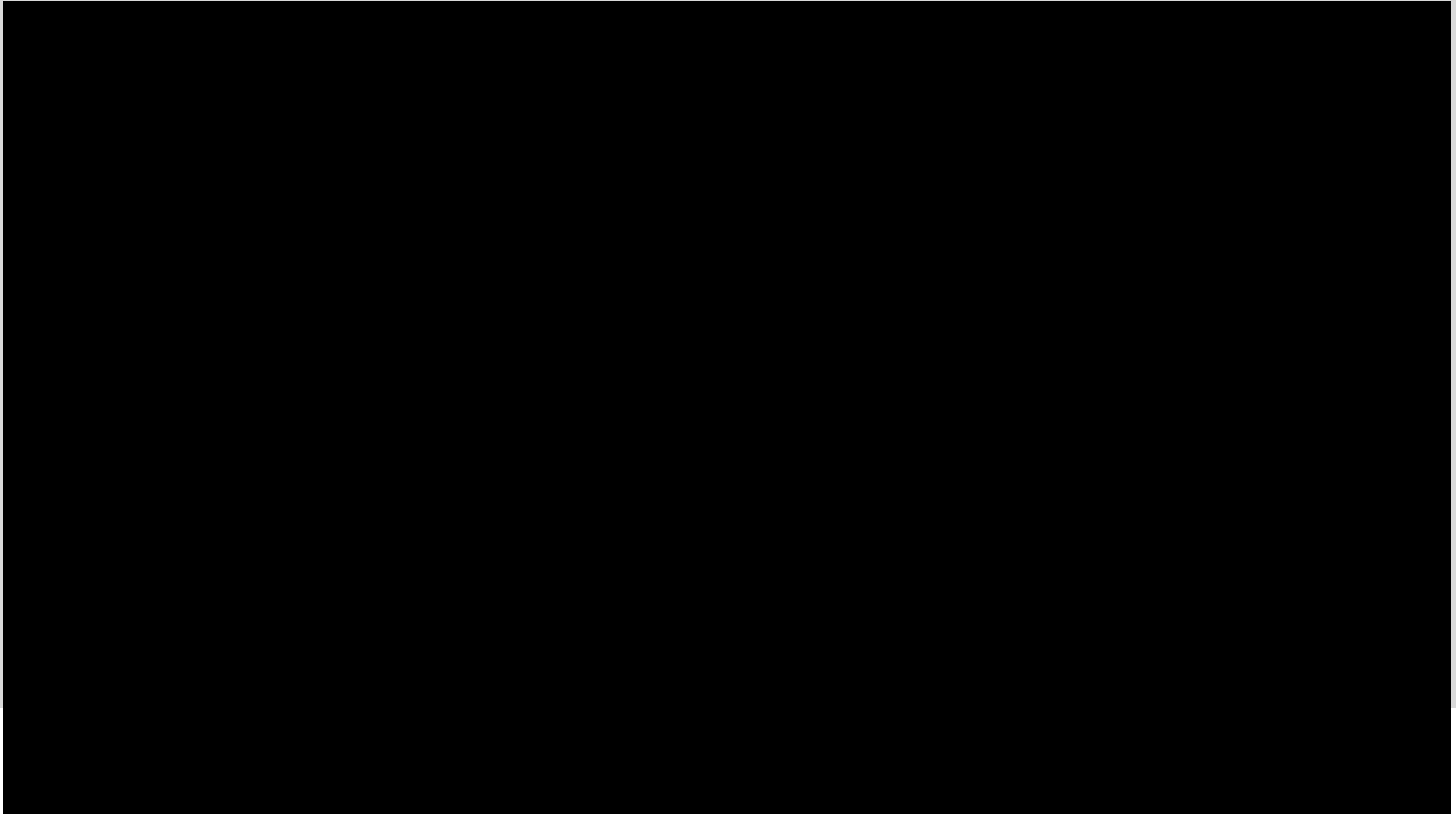
RESET PASSWORD

[DON'T HAVE AN ACCOUNT? SIGN UP](#)

1: Managing/ Admin Dashboard

A. OpenBIMate

SoA Checker – Project Creation and Data Sources



A. OpenBIMate

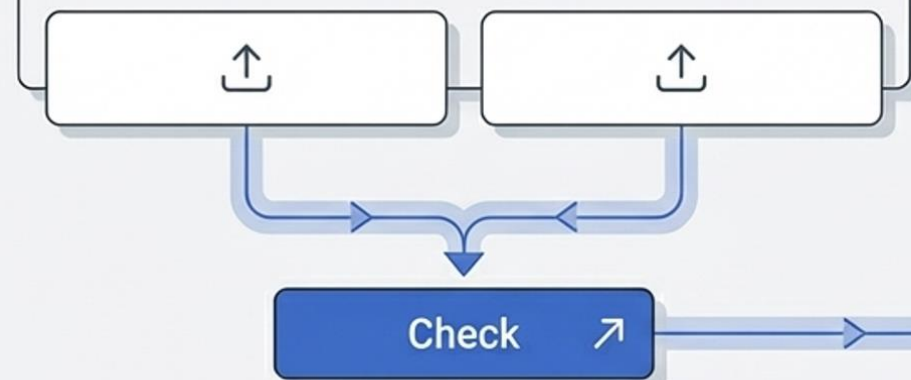
SoA Checker – Introduction

Execute the Inspection Engine

Run new validations or review historical data directly from the Input Data Page.

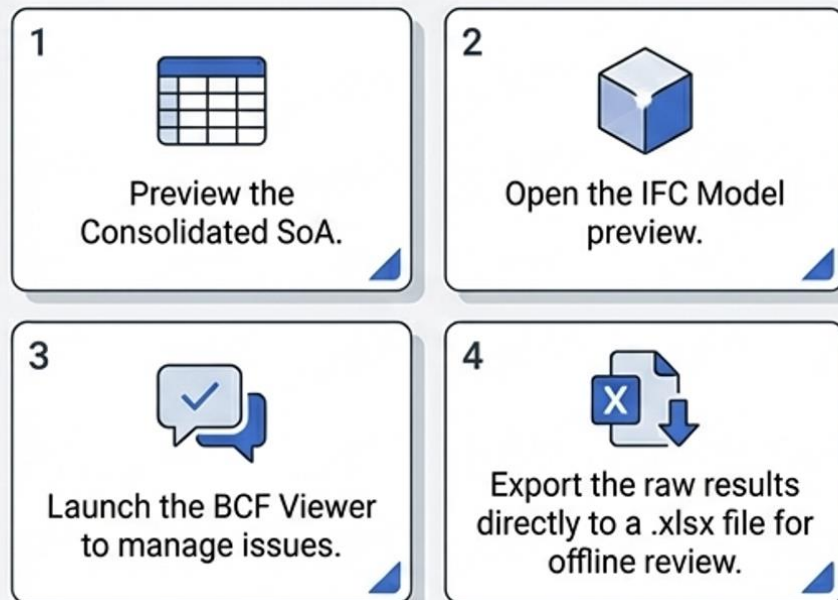
Running a New Check

1. Upload the prepared SoA Spreadsheet via the left upload prompt.
2. Upload the corresponding IFC Model via the right upload prompt.
3. Click **Check** to confirm the input files and initiate the engine.



Processing Outputs

Once the check is complete, the dashboard provides direct access to the results:



Note: Users can also load a previous check by selecting a backup version by timestamp from the main menu.

A. OpenBIMate

SoA Checker – Introduction

Analyze Data via the IFC Viewer

Navigate the 3D model and interact directly with the inspection results to isolate compliance issues.

Model Filtering

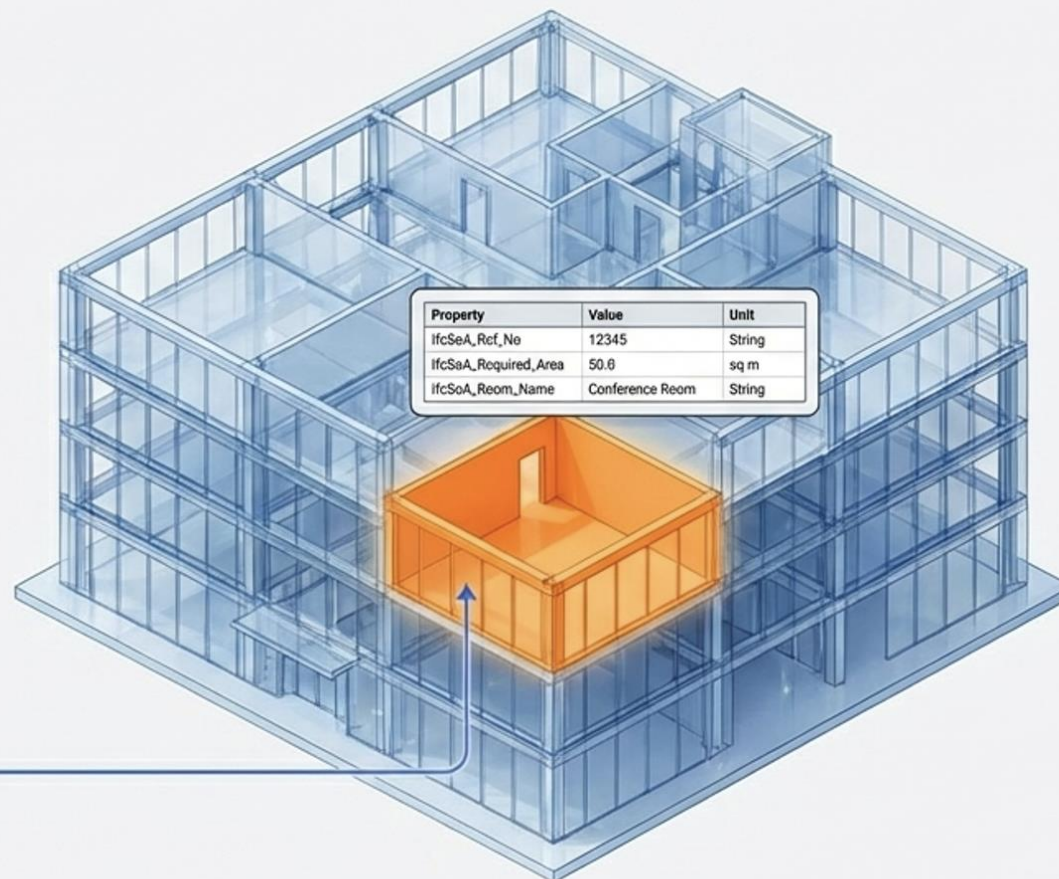
Isolate specific project zones by toggling visibility checkboxes for:



- ☒ **Floors:** Show or hide specific building levels.
- ☐ **IFC Categories:** Filter the model by specific element classifications.
- ☐ **Provision:** Display or hide individual IfcSpace elements.

Macro and Micro Inspection

- **Whole Project Check:** Click the **Check** button to calculate and display the total project compliance percentage within the notifications box.
- **Single Item Drill-Down:** Select any specific IfcSpace provision to reveal its detailed Entity Attributes and Item Information tables.



(Note: Non-provision categories or non-IFCspace items will yield an empty attributes table).

A. OpenBIMate

1 SoA Checker – Checking on SoA Automatically based on Excel and IFC model

The screenshot displays the OpenBIMate IFC SoA Checker web application. The browser address bar shows the URL `192.168.1.69:5173/2/Projects/aaa/ImportFile/back`. The application header includes the logo, user name 'tungns', and links for 'Change Password' and 'Logout'.

The interface is divided into two main sections:

- Step 1: Load SoA Forms** (Choose files)
 - Schedule of Accomodation (SoA) Form (.xlsx)**: A table with columns 'Name' and 'Action'. It contains one entry: 'SoA(Fair copy)_CPC_GPA rev (1).xls'. Below the table, there is a 'Page Size' dropdown set to 25, and pagination controls showing '1 to 1 of 1' and 'Page 1 of 1'. At the bottom of this section are buttons for 'PREVIEW CONSOLIDATED SOA' and 'CLEAR ALL'.
- Step 2: Load IFC models** (Choose files)
 - Open Format BIM Model (.ifc)**: A table with columns 'Name' and 'Action'. It contains one entry: '8676-ADA-Z01-ZZ_AL-AR-M3_SoA (1).ifc'. Similar to Step 1, it has a 'Page Size' dropdown set to 25 and pagination controls showing '1 to 1 of 1' and 'Page 1 of 1'. At the bottom of this section are buttons for 'PREVIEW IFC MODEL' and 'CLEAR ALL'.

At the bottom of the application, there are three main action buttons: 'CHECK', 'VIEW RESULTS IN BCF VIEWER', and 'VIEW RESULTS IN IFC VIEWER'. An 'EXPORT RESULTS TO .XLSX' button is also present.

The Windows taskbar at the bottom shows the system clock as 12:32 AM on 3/2/2026, along with various application icons and a weather widget indicating 24°C.

A. OpenBIMate

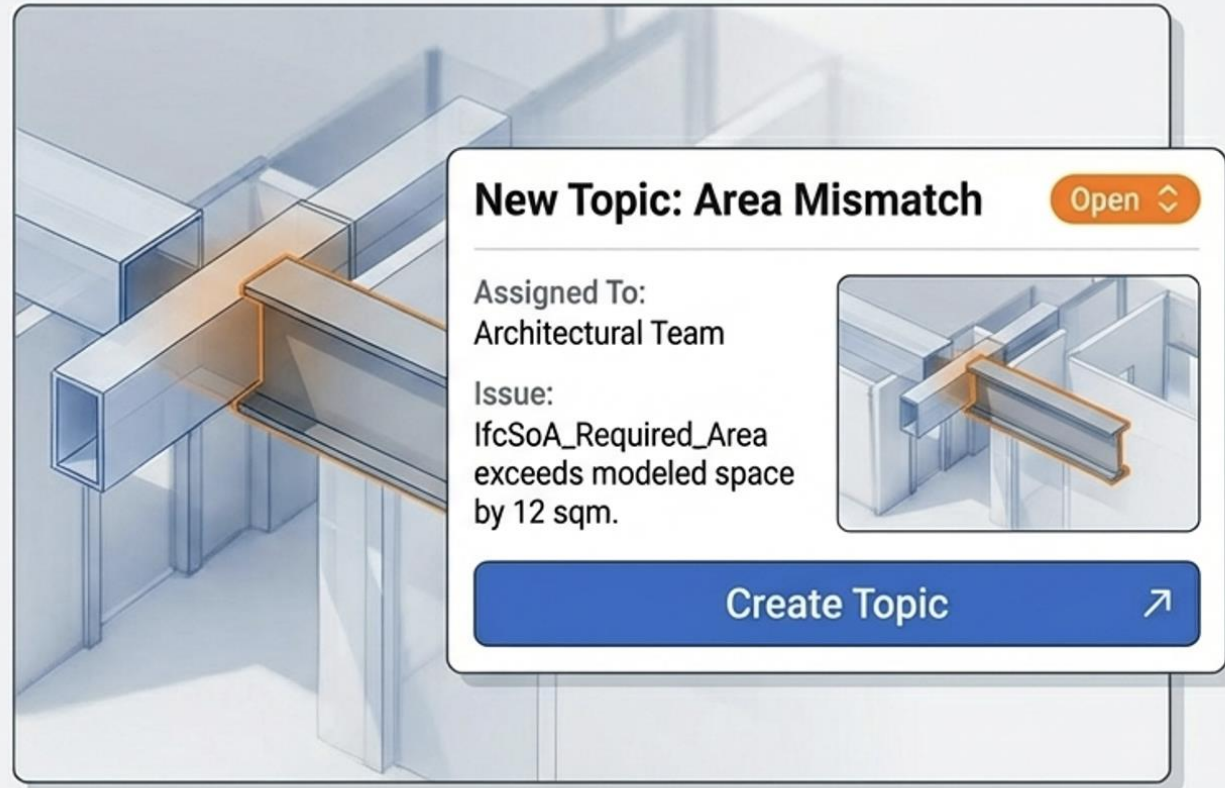
1 SoA Checker – Introduction

Resolve Discrepancies with BCF Collaboration

Transform identified design discrepancies into actionable, tracked tasks using the built-in BIM Collaboration Format (BCF) workflows.

Creating and Assigning Topics

- Navigate directly to the BCF Viewer Page from the results dashboard.
- Click **Create Topic** to launch the New Topic table.
- Assign specific SoA mismatches to the responsible design discipline (e.g., Architectural or MEP teams).
- Maintain an auditable trail of issue discovery, discussion, and resolution that synchronizes seamlessly with external BIM authoring tools and common data environments.



A. OpenBIMate

1 SoA Checker – BCF Export and Import

The screenshot displays the OpenBIMate IFC SoA Checker web application. The browser address bar shows the URL: 192.168.1.69:5173/8/Projects/43a8ef5d-a6cc-4bb0-ae1-f36fba0880d7/ImportFile/back. The application header includes the OpenBIMate logo, the text "IFC SoA Checker", and user information: "TestAccount", "Change Password", and "Logout".

The main interface is divided into two primary sections:

- Step 1: Load SoA Forms** (Choose files): This section is titled "Schedule of Accomodation (SoA) Form (.xlsx)". It contains a table with the following data:

Name	Action
SoA(Fair copy)_CPC_GPA rev.xls	[Delete icon]

Below the table, there are controls for "Page Size: 25" and "1 to 1 of 1". At the bottom of this section are buttons for "PREVIEW CONSOLIDATED SOA", "CHECK", and "CLEAR ALL".
- Step 2: Load IFC models** (Choose files): This section is titled "Open Format BIM Model (.ifc)". It contains a table with the following data:

Name	Action
No Edit.ifc	[Delete icon]

Below the table, there are controls for "Page Size: 25" and "1 to 1 of 1". At the bottom of this section are buttons for "PREVIEW IFC MODEL", "VIEW RESULTS IN BCF VIEWER", "VIEW RESULTS IN IFC VIEWER", "EXPORT RESULTS TO .XLSX", and "CLEAR ALL".

A small video thumbnail titled "Son Tung (Matsui)" is visible on the right side of the interface. The Windows taskbar at the bottom shows the system clock as 7:56 PM on 12/10/2025, along with various application icons and a weather widget indicating 21°C and "Trời quang".

Section 4

A. Q&A
