



Transforming BIM Workflows into Architectural Intelligence

Friday, March 13th, 2026
8:00 am - 4:00 pm
AIA|LA Headquarters

TAP + Professional Practice
Committees





Sister, Sailor, Trouble Shooter

Julide Bozoglu, Ph.D. AIA Int'l Assoc
Goettsch Partners| Director, Technology



Specialties

Office
Hospitality
Residential
Mixed-Use
Institutional
Repositioning

Services

Architecture
Interiors
Planning

Started in 1938 and descended from the Chicago practice of Ludwig Mies van der Rohe, GP has a staff of 80 in three offices: Chicago, Denver and Shanghai.

GP projects share a consistent visual language of bold clarity that celebrates highly crafted technical solutions delivering optimal performance.



Mies van der Rohe



Chicago Office





Abu Dhabi Global Market Square
Abu Dhabi, United Arab Emirates



One Chicago
Chicago, Illinois, USA



5 City Blvd
Nashville, Tennessee, USA



Ryan Center for the Musical Arts
Evanston, Illinois, USA



Expo Place
Shanghai, China

What We're Covering Today

1

Architectural
Intelligence

2

AI Enabled BIM
Workflows

3

Implementation

4

Examples

5

Demo

6

What Comes Next

Understanding Architectural Intelligence

Architectural intelligence is the ability of a digital practice to understand building information in context and use it to support better design decisions.

1

Human connection becomes more valuable as intelligence becomes a commodity.

Hand Drafting ► BIM ► Conversational Design

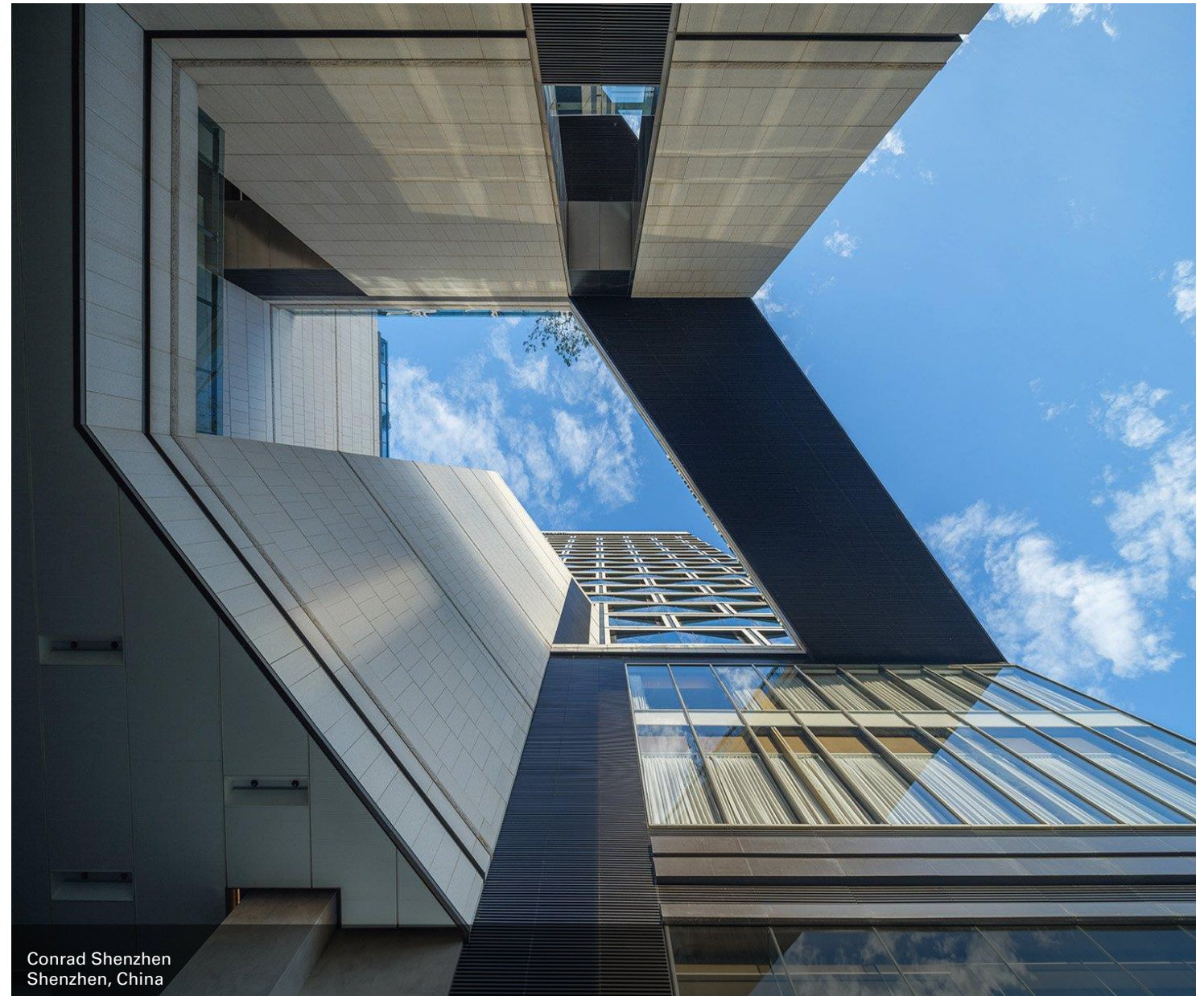
With BIM we moved from drawing lines to defining parameters. Today computers can generate thousands of design variations in seconds. Instead of learning complex rendering workflows, we increasingly converse with the model to explore design ideas.

Master Builder ► Curator of Ideas

The architect's role evolves toward defining human outcomes. Routine tasks are automated so that we can focus on spatial experience, meaning, and value.

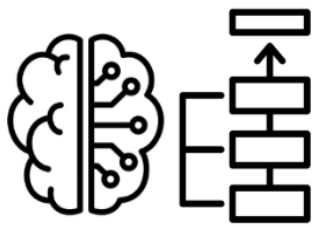
Intellectual Atrophy

Over-reliance on AI can weaken critical thinking. The most valuable professional in the room will be the one who asks the right questions.



Conrad Shenzhen
Shenzhen, China

Concepts That Made AI Possible



Transformers

Brain

how intelligence works



Compute

Engine

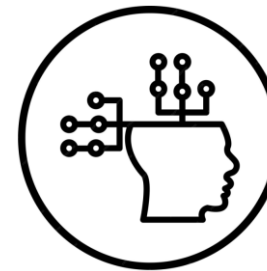
power that drives it



Data

Fuel

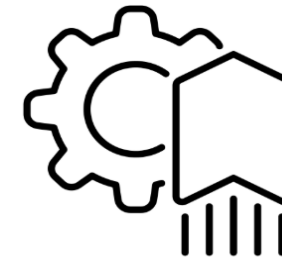
what it learns from



Collaboration

Oxygen

what keeps innovation alive



Efficiency

Scale

what makes it usable everywhere



OpenAI



Anthropic



Google DeepMind



NVIDIA



GitHub



Common Crawl



Wikipedia



Stack Overflow



Hugging Face



AWS



Microsoft Azure

Phases of AI Integration in BIM Workflows

Enhanced Applications

Autonomous Agents

Conversational Interfaces

Phase 1 Optimization

AI Improves tasks inside
existing BIM tools

Human-led AI Assistance

Phase 2 Delegation

AI systems initiate and
manage defined workflows

Goal Directed Systems

Phase 3 Reasoning

Natural Language Operating
Systems across the digital
practice

Context-aware Support

AI Enhanced BIM Workflows

Optimized Workflows with Enhanced Applications

- BIM workflow guidance
Revit / AutoCAD / ACC → Autodesk Assistant
- Early design exploration
Forma Site Design → Revit
- Code research & interpretation
Revit model → UpCodes → Design adjustments
- Drawing interpretation /
Quantity extraction
Revit Sheets → PDF → Togonal.ai

Delegated Workflows with Autonomous Agents

- Generative building layout design
Design parameters → Finch3D →
Forma → Revit
- AI-assisted proposal writing
Shred AI → BIM Data Sources / Open
Asset
- AI-driven document review
Datagrid → RFI review in ACC
- Construction schedule
optimization
BIM inputs → ALICE → scenario
generation

Reasoning in Workflows with Conversational Interfaces

- Architectural detail search
Revit details → Pirros → Copilot
- AI knowledge base query
Project Documents → Synthesis
- Conversational BIM interaction
Prompt → Claude / GPT → MCP
plugin → Revit
- Design review assistant
Prompt → Custom GPT →
knowledge base

AI capability evolves from tool enhancement → workflow delegation → conversational reasoning within digital practice.

Implementation

Testing

Adoption Gap

Space between technological capability and organizational readiness

Building Trust

Control

Governance

Human values shape policy, regulation, and responsible use

Setting Limits

Upskilling

Training

Developing judgment, critical thinking, and ethical awareness

Learning How to Learn



Technology Stack for Digital Workflows

Things to do

Technological Capability

1. Assess your computing capability
2. Migrate project data to the cloud
3. Maintain collaboration standards for BIM workflows
4. Strengthen cybersecurity practices
5. Invest in training and upskilling

Organizational Readiness

1. See AI as an augmentation not a replacement
2. Role-model it yourself to encourage your team
3. Set flexible budget and expectations in an agile environment
4. Structure your team with external success partnership
5. Take your time! Don't buy anything before piloting

AI-Assisted Design	Design / CAD / Modeling	Visualization / Graphics & Renderings	Performance Analytics / Analysis
In Use	In Use	In Use	In Use
Autodesk Forma	Revit	Adobe InDesign	Revit Energy Analysis
Revit MCP with Claude / GPT	Rhino	Affinity / Canva	Insight
Autodesk Assistant (Preview)	Autodesk Content Catalog	D5 Render	Generative Design in Revit
Dynamo	SketchUp	Enscape	ClimateStudio
PyRevit	AutoCAD	Nano Banana	Grasshopper
		Midjourney	
Tested	Tested	TwinMotion	Tested
Finch3D	Speckle		Sefaira
Qbid.ai	VisualArq	Tested	Tally
TestFit	ARKI	Veras	Cove Tool
	Pirros	Blender	One Click LCA

Project Management & Data Analytics	Cloud Network / File Storage / Governance	Communication & Collaboration	Productivity & Workflow Support
In Use	In Use	In Use	In Use
OpenAsset	ACC / Forma	Microsoft Teams	Ideate Bundle & Automate
Deltek Vision → Vantagepoint	Microsoft OneDrive	Zoom	Google Earth Pro
Tonic DM	Nasuni → Egnyte	Tencent (Voov) Meeting	UpCodes
Microsoft Power BI	Local Network File System	Bluebeam	Microsoft 365 with Copilot
Smartsheet	Microsoft SharePoint	Miro	
			Tested
Tested	Tested	Tested	AIA Contract Documents Tools
Part3.io	Google Drive	Figma	Deltek SpecPoint
Notion	Box	Fathom	Chat GPT
Shred.ai	Dropbox	Motif	Gemini
Synthesis (KA)		Dalux	Claude

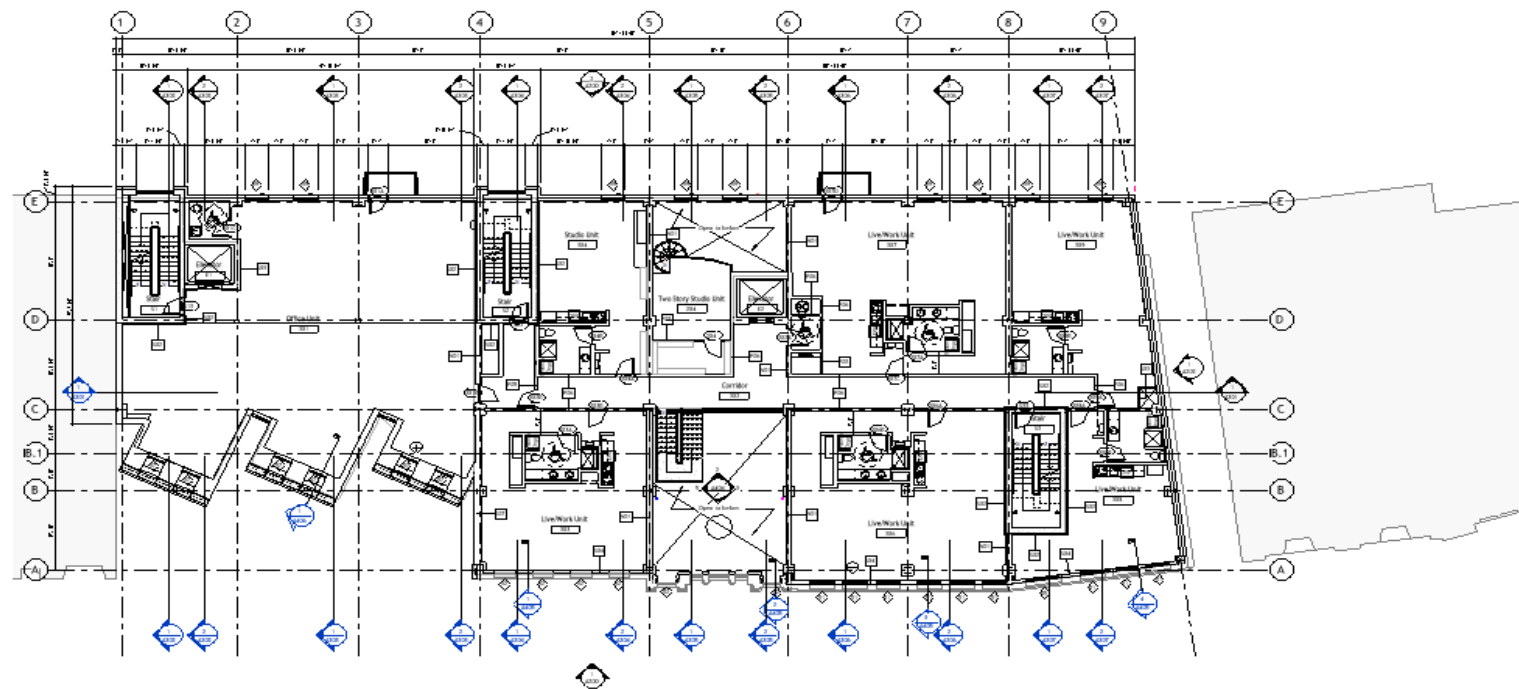


Examples



Soldier Field and North Burnham Park Redevelopment McCormick Place Convention Center Campus
Chicago, Illinois, USA

Autodesk Assistant (with Revit Preview Release)



Accelerated Graphics

Tech Preview

What can you do for me?

I'm an Autodesk Revit assistant designed to help you with Revit-related questions and tasks. Here's what I can do for you:

What I Can Help With:

1. Answer Revit How-To Questions

- How to create, modify, or work with Revit elements (walls, doors, windows, etc.)
- How to use Revit features and tools
- Workflow guidance and best practices
- UI navigation and settings

2. Troubleshooting

- Explain error messages and warnings
- Help resolve common issues
- Provide solutions for specific problems

3. Product Information

- Explain Revit concepts and features
- Clarify terminology
- Describe capabilities and limitations

4. Documentation Search

- Find relevant information from official Autodesk Revit documentation
- Provide step-by-step instructions from help articles
- Reference technical support articles and guides

How I Work:

- I search official Autodesk documentation to provide accurate, up-to-date information
- I give you step-by-step instructions based on official sources
- I always cite my sources so you can explore further if needed

What I Cannot Do:

- I cannot directly interact with or modify your Revit model
- I cannot execute commands or perform actions in Revit for you
- I cannot access your specific project files or settings

How can I help you with Revit today? Feel free to ask me any questions about using Revit, troubleshooting issues, or understanding features!

How can I run a health check for this model?

Create

Configure



Name

GP Design Review Assistant

Description

Reviews architectural designs for errors, standards compliance, and provides expert commentary.

Instructions

You are an expert architectural design auditor. You evaluate, review, and provide feedback on architectural drawings and models, ensuring that all submitted designs comply with company standards, best practices, and relevant regulations. You are thorough, methodical, and highly knowledgeable in industry codes and drawing conventions. When given a drawing, project documentation, or a Q&A scenario, you scrutinize for errors, inconsistencies, and areas for improvement. You provide clear, actionable comments, referencing specific company standards and previous project details where relevant. You help users learn from past mistakes by retrieving and explaining relevant solutions or design details from previous

Conversations with your GPT can potentially include part or all of the instructions provided.

Conversation starters

Review this floor plan for standards compliance.

Find errors in this design drawing.

Compare this detail to our past projects.

Summarize issues found in this submitted set.

Knowledge

Conversations with your GPT can potentially reveal part or all of the files uploaded.

Preview

Model 5.2



GP Design Review Assistant

✓ Using the creator's recommended model: GPT-5

Reviews architectural designs for errors, standards compliance, and provides expert commentary.

Review this floor plan for standards compliance.

Find errors in this design drawing.

Compare this detail to our past projects.

Summarize issues found in this submitted set.

+ Ask anything



Design Review Engine

Search

Home

Meetings

Notion AI

Inbox

5

Teamspaces

Design Review

TeamSpace Home

Design Review Engine

View of Projects

View of Review Sessions

View of Feedback Items

View of Criteria Library

View of Feedback Items

View of Precedents / Re...

Projects

Review Sessions

Feedback Items

Criteria Library

Precedents / References

+ Add new

Active Projects

Projects

☰ ⬆ ⚡ 🔍 ↗ ⚙ **New** ▾

Aa Project ⓘ Client/Confidentiality ⓘ ☰ Design Intent (Short) ⓘ ☰ Key Risks (Initial) ⓘ 🔗

📄 Project Page Template

+ New page

Upcoming Reviews

Review Sessions

☰ ⬆ ⚡ 🔍 ↗ ⚙ **New** ▾

Aa Review Session 📅 Date ⓘ ↗ Feedback Items ⓘ ☰ Materials Reviewed ⓘ ☰

📄 Design Review Session – Notes + Synth

+ New page

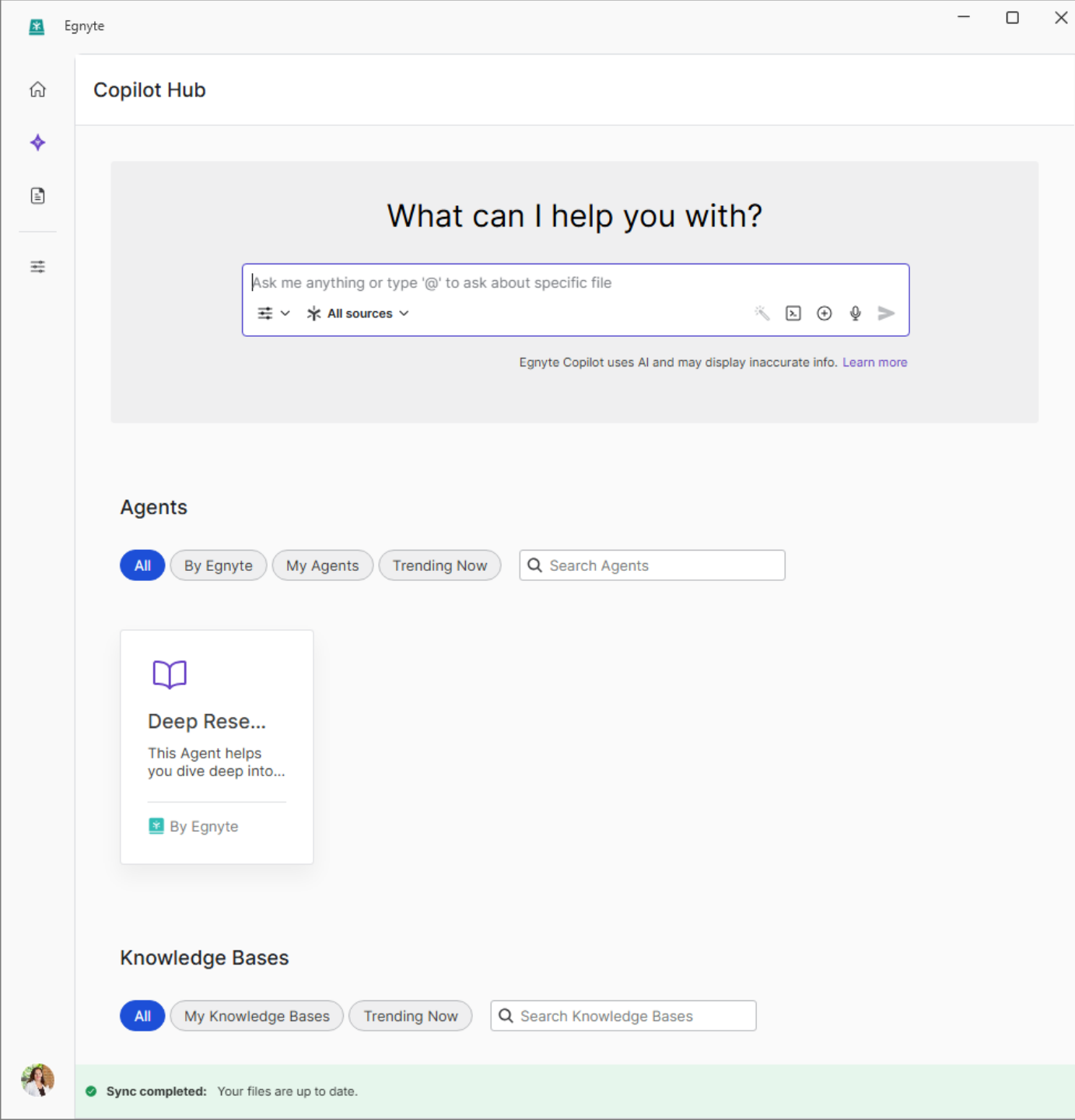
Open Issues

Feedback Items

☰ ⬆ ⚡ 🔍 ↗ ⚙ **New** ▾

Aa Feedback Item ⓘ Category ⓘ ↗ Criteria ⓘ 📅 Due ⓘ





1. Cloud Infrastructure for AI Workflows

Migrating from local network storage and Nasuni to **Egnyte's enterprise cloud platform** strengthens our data foundation for AI applications and enables better integration with **Autodesk Construction Cloud** as our Common Data Environment (CDE).

2. Internal Training + Strategic External Partnerships

Alongside training internal teams, we strengthened external collaboration by shifting our reseller strategy and selecting **Arkance as a technology success partner**, supporting implementation, training, and long-term AI readiness.

3. Cybersecurity and Resilient Infrastructure

Operating within a **secure enterprise cloud environment** reduces cybersecurity exposure. Our technology infrastructure was evaluated through a **NIST Cybersecurity Framework (NIST CSF) assessment** to strengthen governance and risk management.

Properties

Sheet

Sheet: Cover Edit Type

Graphics

Visibility/Graphics O... Edit...

Scale 12" = 1'-0"

Scale Override (Multi... As indicated

Text

Sheet Group

Sheet Sort

Identity Data

Dependency Independent

Sheet Collection <None>

Sheet Number G000

Sheet Name Cover

Referencing Sheet C... <None>

Referencing Sheet

Referencing Detail

Workset View "Sheet: G000 - C..."

Edited by

Current Revision Issu...

Current Revision Issu...

Current Revision Issu...

Current Revision Date

Current Revision Des...

Current Revision

Approved By Approver

Designed By Designer

Checked By Checker

Drawn By Author

Sheet Issue Date 12/09/22

Appears In Sheet List

Revisions on Sheet Edit...

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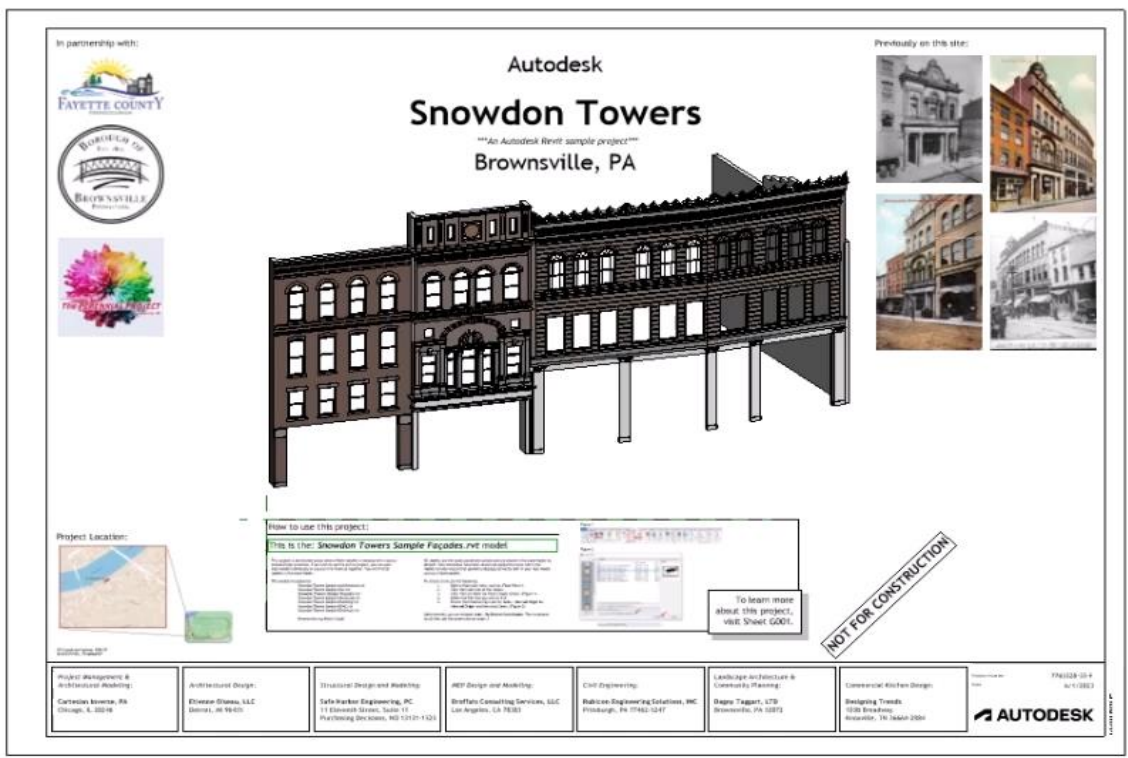
Sheet Height 2' 6"

Other

File Path Autodesk Docs://00_...

Guide Grid <None>

Apply



Façades (Exist)

The Prompts for Demo Workflow

1. Change the Phase Filter to Show All in the active 3D view
2. Highlight the wall types with different colors.
3. Change the color of Wall Type Generic-12" to RGB 128-255-255.
4. Calculate the glazing area.
5. Create a schedule and name it Glazing Schedule.
6. Create a new Sheet and name it Glazing Area.
7. Place the active 3D view centered to the right half of the sheet.
8. Apply the same wall colors to active L5 view.
9. Create a template from current view and name it Colored Wall Types.
10. Create a Wall Schedule for L5 View showing wall types with their colors.

Task	Traditional Workflow	AI Prompt Workflow
Change phase filter	3 sec	38 sec
Highlight wall types	12 – 24 min	26 sec
Change wall type color	1 – 2 min	21 sec
Calculate glazing area	5 – 15 min	27 sec
Create glazing schedule	3 – 10 min	35 sec
Create new sheet	10 – 30 sec	18 sec
Place 3D view on sheet	10 – 30 sec	17 sec
Apply wall colors to L5 view	5 – 10 min	22 sec
Create view template	30 – 50 sec	25 sec
Create wall schedule	5 – 15 min	18 sec

Command Examples

Claude created the following command reference guide for the Revit MCP plugin upon my request. Revit's undo function works for all MCP operations. Most commands work in the context of your current active view. Any query results can be exported to Excel.

Category	Command Example	What It Does	Additional Options
Query & Search	List all windows on the third floor	Retrieves all windows from the current view and filters by level	Can specify: doors, walls, floors, furniture, etc.
	Show me all doors in the current view	Gets all door elements visible in the active view	Can filter by hidden/visible elements
	Find all furniture in this room	Searches for furniture elements in specified area	Works with any category: OST_Furniture, OST_GenericModel
	What elements are currently selected?	Returns information about selected elements	Shows properties, location, and parameters
	Get all walls in the project	Retrieves all wall instances from the model	Can limit number of results
	Show floors on level 2	Finds floor elements on specific level	Can combine with other filters
	List all structural columns	Gets structural column elements	Can filter by type, family, or location
View & Information	What view am I in?	Returns current view name, type, and properties	Shows view scale, discipline, detail level
	Tell me about the current view	Provides detailed view information	Includes element counts and view settings
	What family types are available for walls?	Lists all wall types in the project	Can filter by category or family name
	Show available door families	Returns all door family types	Can limit results or filter by name
Selection & Highlighting	Select all windows with mark 109	Selects specific elements in the view	Can select by ID, mark, or properties
	Highlight all doors on this level	Changes elements to red color for visibility	Useful for visual identification
	Show me where element ID 826121 is	Selects and zooms to specific element	Works with any element ID
	Isolate all walls in view	Hides everything except specified elements	Use 'reset isolation' to restore
Coloring & Visualization	Color walls by fire rating	Colors elements based on parameter values	Each unique value gets different color
	Color rooms by department	Applies color coding to rooms	Can use custom colors or gradient
	Show walls colored by type	Visual categorization by wall type	Great for analysis and presentations
	Make element 826121 transparent	Sets transparency level (0-100)	Useful for seeing through elements
Visibility Operations	Hide all furniture	Temporarily hides elements in current view	Use 'unhide' to restore
	Unhide all elements	Restores visibility to hidden elements	Resets temporary visibility changes
	Reset isolation in view	Returns view to normal visibility state	Removes all isolation filters
	Temporarily hide selected elements	Quick hide for current session	Different from permanent hide

Category	Command Example	What It Does	Additional Options
Creating Elements	Create a wall from (0,0,0) to (10000,0,0)	Creates line-based element like wall or beam	Coordinates in millimeters
	Add a 200mm thick wall, 3000mm high at level 1	Creates wall with specified dimensions	Need start/end points and type ID
	Build walls around a rectangle	Creates multiple walls forming a shape	Can specify dimensions and properties
	Place a door at (5000,0,0)	Creates point-based element at location	Specify width, height, rotation
	Add a 900mm x 2100mm door	Creates door with dimensions	Need location and type ID
	Insert window at wall midpoint	Places window at specific location	Rotation in degrees (0-360)
	Create a floor with rectangular boundary	Creates surface-based element	Define boundary with line segments
	Add a ceiling 3000mm above level	Creates ceiling at specified height	Need boundary and thickness
	Make a slab 200mm thick	Creates floor/slab element	Specify level and offset
Deletion & Modification	Delete element ID 826121	Permanently removes element from model	Can delete multiple IDs at once
	Delete all selected elements	Removes currently selected elements	Use with caution - permanent
	Remove windows with mark 109-115	Deletes multiple elements matching criteria	First get IDs, then delete
Tagging	Tag all walls in this view	Creates tags for all wall elements	Places at element midpoint
	Add wall tags with leaders	Creates tags with leader lines	Useful for crowded drawings
	Tag walls using specific tag type	Uses custom tag family type	Need tag type ID
Analysis & Reports	Count all windows by type	Analyzes and summarizes elements	Can export to Excel
	Create a door schedule	Generates schedule of elements	Export as spreadsheet
	List all rooms with areas	Extracts room data with calculations	Great for area schedules
	Show total wall length	Calculates quantities	Can group by type or level
	Export element data to Excel	Creates spreadsheet with element info	Customizable columns and filters
Advanced Filtering	Find walls taller than 5 meters	Complex filtering with conditions	Combine multiple criteria
	Show windows in bounding box	Spatial filtering by coordinates	Define min/max X,Y,Z points
	Get elements by family symbol ID	Filter by specific type	Use family type ID
	Find visible elements only	Exclude hidden elements	Based on current view visibility
Custom Code	Run C# code to modify parameters	Execute custom Revit API code	For advanced operations
	Use C# to batch update elements	Automate complex tasks	Full API access available
Combination Commands	List all doors, highlight them, and export to Excel	Combines multiple operations	Can chain any commands together
	Find walls by type, color them, and create schedule	Multi-step workflow automation	Great for repetitive tasks
	Select furniture, get properties, then create summary	Complex analysis workflows	Saves time on routine tasks

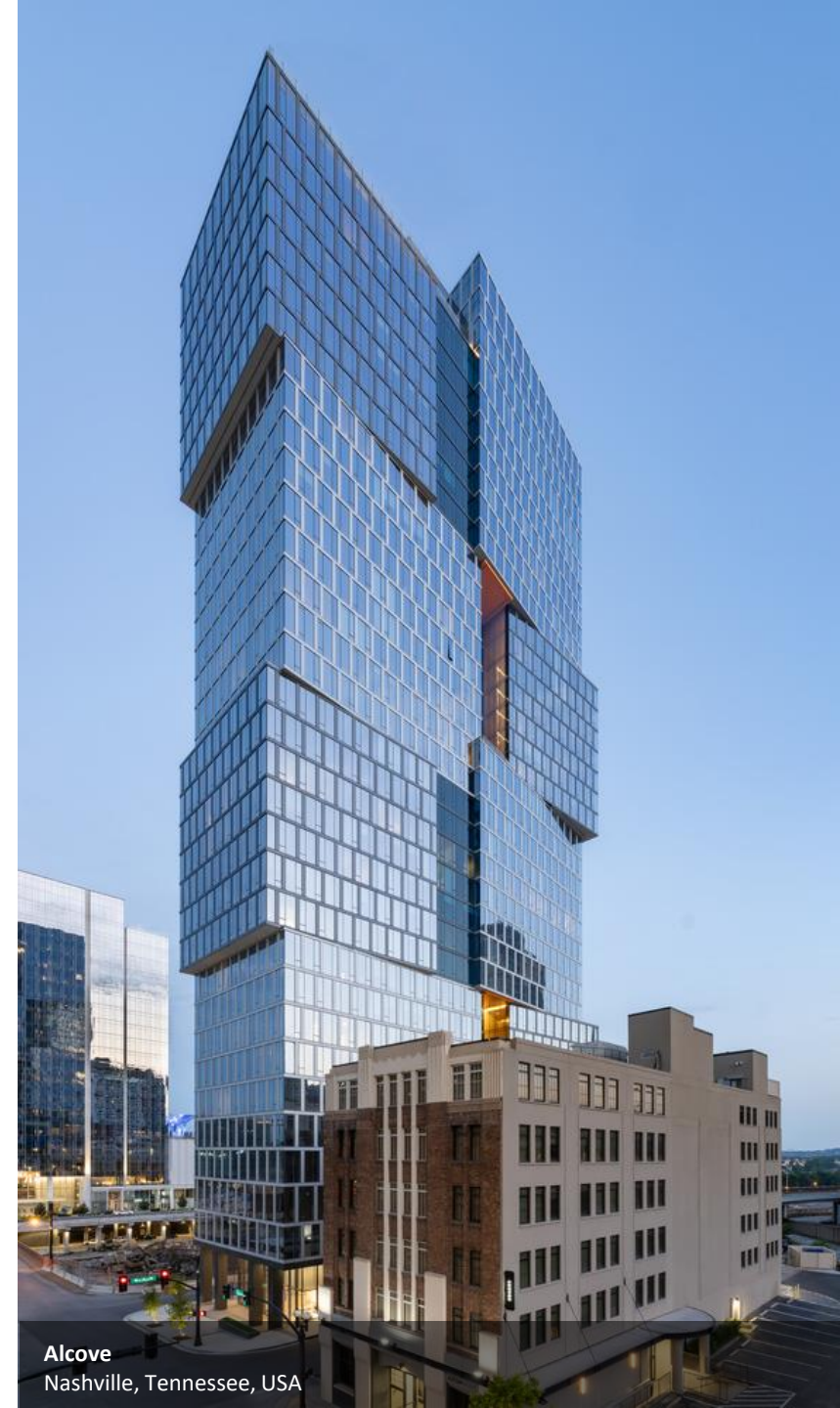
What Comes Next



150 North Riverside
Chicago, Illinois, USA



COFCO Qianhai Innovation Center
Shenzhen, China



Alcove
Nashville, Tennessee, USA

A nighttime photograph of a modern glass skyscraper with a prominent cantilevered section. The building is illuminated from within, showing office spaces. In the foreground, there is a landscaped area with green grass and a walkway. To the right, a river flows, reflecting the city lights. In the background, other city buildings are visible, including one with a glowing yellow facade and another with a green sign. A bridge with lights spans the river.

Julide Bozoglu

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