

DDC Revit2IFC

All-in-One Converter

Database

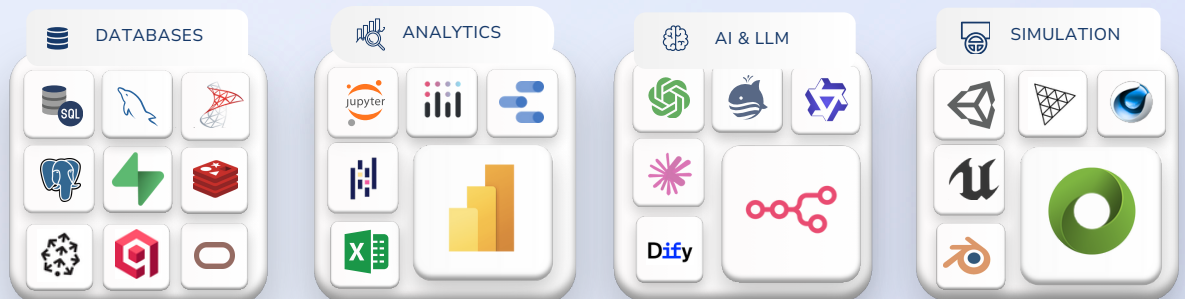
Geometry



The **DDC Revit2IFC converter** allows you to access your Revit® projects and convert this data into the popular and open IFC format. Using the converter, without running Autodesk® tools and without using the Internet (without third-party libraries and plugins), we extract project data from RVT files and present the Revit database in IFC format with various settings that allow you to display the entire conversion process as simply and completely as possible.



After the conversion, data can be utilized in thousands of tools that are ready to work with databases and triangular geometry:



Requirements:

- Windows 7, Windows 8, Windows 8.1, Windows 10, Windows 11, Windows Server 2008 R2, Windows Server 2012, Windows Server 2012 R2, Windows Server 2016, Windows Server 2019
- Internet Connection: Not required
- Independence: No reliance on Forge or other CAD (BIM) Tools



If you encounter any issues, have feedback, or ideas for improvement, feel free to send an email to info@datadrivenconstruction.io

1 STANDALONE APPLICATION



DDC UI Converter (Graphical Interface)

Process: Select a folder with CAD (BIM) files in the graphical interface, choose whether to include subfolders, and start the conversion with a single click. The tool automatically creates Excel output files in the chosen directory.

- **Best suited for:** Non-technical users, quick one-off conversions.
- **Key advantage:** Intuitive interface with no setup required – immediate access to structured Excel data.

2 TERMINAL APPLICATION



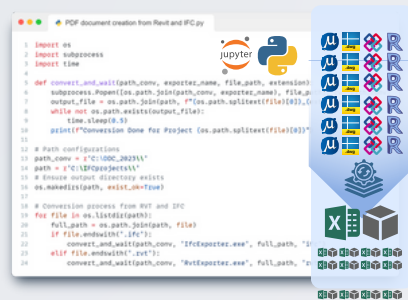
DDC Terminal-based Converter (Command-line Utility)

Process: Open Command Prompt or PowerShell, run the converter by pointing to the executable and the target CAD (BIM) file.

- **Best suited for:** Advanced users, developers, and technical teams.
- **Key advantage:** Flexible, scriptable, and easily integrated into batch processes or automation scripts.

```
1. # CMD or PowerShell
2. > C:\DDC\IfcExporter.exe C:\Example.ifc
```

3 BATCH CONVERSION



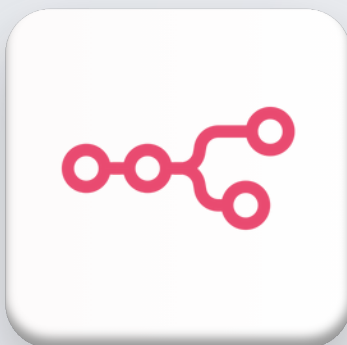
DDC Bulk Conversion (High-volume Data Processing)

Process: Run preconfigured scripts from the DDC_Pipelines folder to process multiple CAD (BIM) files simultaneously. The converter handles large datasets in parallel and produces consolidated Excel outputs.

- **Best suited for:** Enterprises and organizations handling large datasets.
- **Key advantage:** Scalable processing of hundreds of CAD (BIM) files with ready-to-use pipelines for workflow integration.

Examples and ready-made Python scripts for stream processing can be found in the "DDC_Python_pipelines" folder

4 BATCH CONVERSION

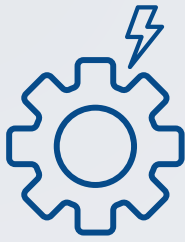


DDC Conversion via n8n (Workflow Automation)

Process: Use n8n workflows to call the terminal-based converter inside a Windows environment. Once data is extracted, subsequent n8n nodes automatically process, filter, and load results into databases, dashboards, or third-party systems.

- **Best suited for:** Companies seeking full automation and system integration.
- **Key advantage:** End-to-end automated workflows – CAD (BIM) conversion becomes part of a seamless data pipeline.

Examples and ready-made n8n Workflow for stream processing can be found in the "DDC_n8n_workflows" folder

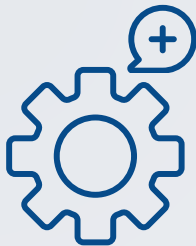


Standard Mode (Basic Export)

Optimal solution for interdisciplinary coordination and model exchange with contractors. Exports only essential geometry and key element properties, ensuring compact file size and fast performance in viewing applications.

Best suited for:

- Coordination meetings
- Clash detection
- Visual model review
- Quick exchange with partners

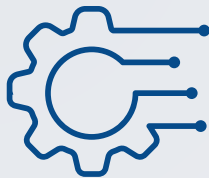


Extended Mode (Comprehensive Export)

Complete solution for detailed model analysis, including all available properties, quantities, and classifications. Provides data completeness for cost estimation and specialized validation checks.

Best suited for:

- Quantity Take-Off (QTO)
- Cost estimation
- Detailed model quality checks
- Facility management system integration
- Model handover for operations



Custom Mode (Flexible Export)

Fully configurable export mode that allows fine-tuning of every parameter to match specific project requirements. Provides complete control over what data is exported and how it's structured.

Best suited for:

- Specific client requirements
- Specialized software integration
- Optimized workflows for particular use cases
- Testing and validation purposes
- Non-standard project deliverables

File: DDC_Rvt2Ifc_custom_option_control.html

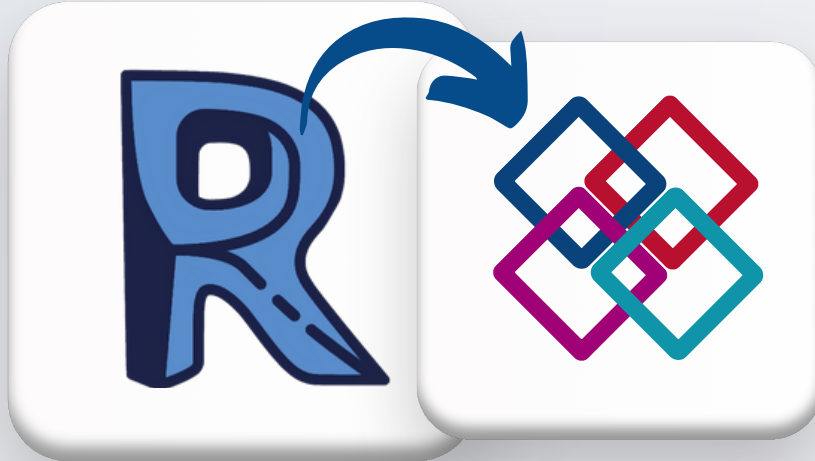
With the configurator, you can fine-tune your Revit export through **52 customizable parameters**, ensuring full control over data structure and content.

ENABLE	PARAMETER	TYPE & VALUES	EXAMPLE	CURRENT VALUE
<input type="checkbox"/>	FileVersion	enum (2x48) 0/0/0/0/0/0/0/0 → #C2d1 C2d1 1/0/0/0/0/0/0/0 → #C2d1 Reference View 2/0/0/0/0/0/0/0 → #C2d1 Design Transfer View 3/0/0/0/0/0/0/0	1/0/0/0	**
<input type="checkbox"/>	FileType	enum (2x48) 0/0/0, 1/0/0/0/0/0, 2/0/0/0/0/0, 3/0/0/0	1/0/0	**
<input type="checkbox"/>	LevelOfDetail	UInt8 (0..255) 0 - minimum, 255 - maximum detail	3	
<input type="checkbox"/>	IfcCommonPropSets	boolean y/yes/true/1 or n/no/false/0	y	**
<input type="checkbox"/>	BaseQuantities	boolean y/yes/true/1 or n/no/false/0	y	**
<input type="checkbox"/>	BldgPropSets	boolean y/yes/true/1 or n/no/false/0	y	**

Revit2IFC Export Modes

Parameter Group	Standard Mode	Extended Mode	Custom Mode
IFC Version & Format	IFC4 Reference View, standard IFC file	IFC4 Design Transfer View, standard IFC file	🔧 User-defined (IFC2X3/IFC4/IFC4X3, various formats)
Geometry Detail Level	Medium detail	High detail	🔧 Selectable (Extra Low to High)
IFC Common Property Sets	✅ Enabled	✅ Enabled	🔧 Optional
Base Quantities	❌ Disabled	✅ Enabled	🔧 Optional
Revit Properties	❌ Disabled	✅ Enabled	🔧 Optional
Material Properties	❌ Disabled	✅ Enabled	🔧 Optional
Schedules	❌ Disabled	✅ Enabled with filtering	🔧 Optional with filter choice
Project Address	Minimal data (city, country)	Complete address data linked to building and site	🔧 Configurable fields and assignments
File Metadata	Basic description and author	Extended description with versions, exchange schemas	🔧 All fields customizable
Element Visibility	Only visible in specified view	All model elements	🔧 Choice of view or all elements
Rooms & Spaces	❌ Not included	✅ Included in 3D	🔧 Optional
2D Elements	❌ Not exported	✅ Exported with room boundaries	🔧 Optional with boundary control
Bounding Boxes	❌ Disabled	✅ Enabled	🔧 Optional
Tessellation	❌ Optimized geometry	✅ Preserved triangulation	🔧 Optional
Geometry Analyzers	✅ Enabled	✅ Enabled	🔧 Can be disabled
Element Selection	All visible elements	All elements	🔧 Can specify element IDs
Category Mapping	Default mapping	Default mapping	🔧 External mapping table support
IFC Type Exclusion	None	None	🔧 Can exclude specific IFC types
Classifications	❌ Not used	✅ Complete classifiers	🔧 Optional with custom setup
Geographic Reference	Current shared coordinates	Survey point or project base point with CRS/EPSSG	🔧 Multiple origin options with custom CRS
File Size	● Compact	● Large	🔧 Depends on configuration
Export Speed	● Fast	● Slow	🔧 Varies with settings
Compatibility	● Maximum	● May require specialized software	🔧 User-controlled
Configuration Complexity	● Simple	● Simple	● Requires expertise

Flexible, Full-Depth Data Conversion Revit to IFC



Configure
your Revit2Ifc
export with
**52 flexible
parameters**

You can receive IFC also configure the depth of export from your Revit project both through the application interface and through the command line (Command line, PowerShell, in a workflow, or in your code):



To view all available options, run the following command in your terminal:

```
C:\DDC_Converter_RVT2IFC> RVT2IFCconverter.exe
```

This will display the usage information with all supported parameters:

```
Usage:
Rvt2IfcConverter <input.rvt> [<output.ifc>] [preset|mode=<name>] [config="..."] [key=value ...]

Positional:
<input.rvt>      - Revit file (.rvt/.rfa)
[<output.ifc>]   - Output IFC path (optional)

Presets:
standard | extended | custom | preset=<name> | mode=<name>
- custom requires config="..." or at least one key=value pair

Custom config:
config="K=V; K=V; ..." (semicolon-separated inside quotes). You may also pass K=V tokens as separate args.
Press Enter to continue...
```



You can find an even more convenient conversion configuration process using various options in the folder with the free workflow set for n8n



Use data from CAD (BIM) projects in an unlimited number of tools



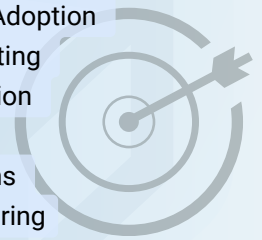
Open data and formats will inevitably become the standard in the construction industry – it's just a matter of time. This transition will accelerate if the professional community actively spreads information about open formats, database access tools, and SDKs for reverse engineering.

Comparative Analysis Structured Data vs BIM

Feature	Structured Data (XLSX, CSV, DF)	closedBIM and openBIM Tools
Reporting & Visualization	High	Moderate
Customization	High	Moderate
Data Analysis	Robust	Limited
Industry Acceptance	Broad	NBC
Learning Curve	Moderate	Steep
Automation & Scripting	Yes (VBA & Macros)	Limited
External Data Integration	High	Moderate
Cost Efficiency	High	Moderate to Low
Add-ons & Extensions	Wide Range	Limited Range
Collaboration & Sharing	High (M365)	Structured Environment
Accessibility	Widely Accessible	Specialized Access

Advantages of switching from CAD (BIM) to in data processing

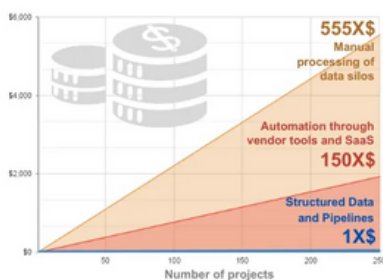
- Wide Accessibility
- Quick Reporting and Visualization
- Data Analysis Capabilities
- Broad Acceptance
- Flexibility and Customization
- Ease of Training and Adoption
- Automation and Scripting
- External Data Integration
- Cost Efficiency
- Wide Range of Add-ons
- Collaboration and Sharing



The world of workflow automation and artificial intelligence is changing the industry: More and more specialists – from engineers to estimators – will use these digital tools. Instead of spending hours manually reviewing and mapping data, teams will work with automated systems, focusing on decision making and value creation rather than routine processing.

ROI, and Productivity Comparison of Data Automation Approaches

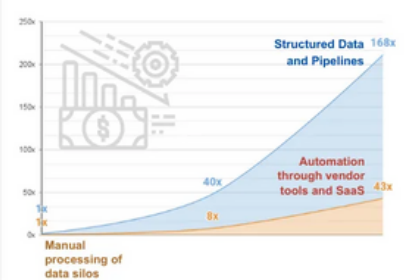
Comparison of the cost of automating the tasks of extracting data from construction projects



Comparison of ROI of different automation concepts



Reducing the cost of work and increasing productivity over time



Workflows driven by automation and AI are not just tools. They are becoming an integral part of everyday activities, requiring new skills and opening up new opportunities for efficiency and innovation across the industry.