



CAD Data

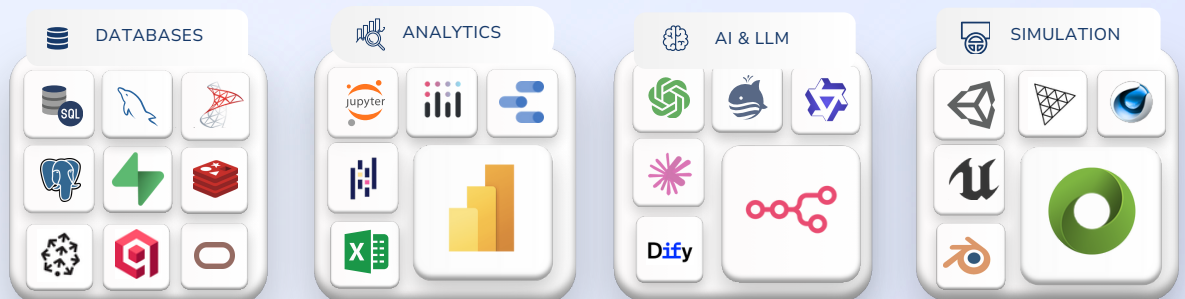
DDC DGN converter



DDC DGN converter allows you to access your MicroStation® projects and translate this data into popular and open format DataFrame - XLSX. Using the converter, without running CAD tools and without using the Internet (without third-party libraries and plugins), we extract project data from DGN files and present the MicroStation database as a structured Excel table, where each row represents a specific project element (with its own identifier), and columns represent related properties and parameters.



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

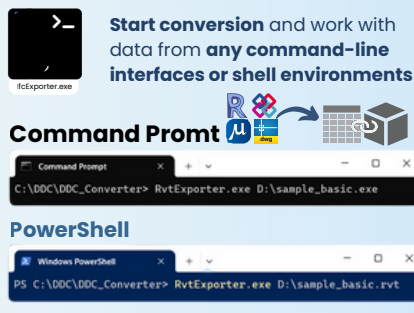


DDC UI Converter (Graphical Interface)

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



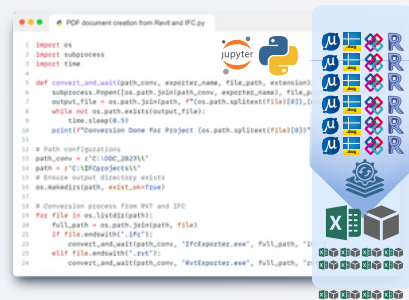
DDC Terminal-based Converter (Command-line Utility)

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



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



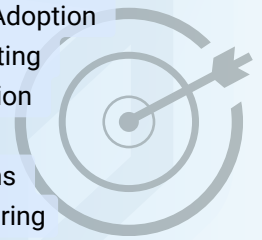
Open data and formats will inevitably become the standard in the construction industry – it's just a matter of time. This transition will accelerate if the professional community actively spreads information about open formats, database access tools, and SDKs for reverse engineering.

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

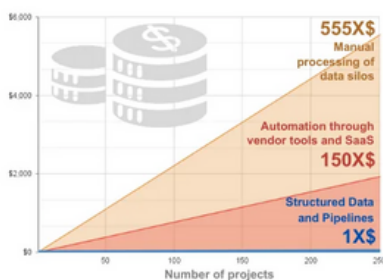
- Wide Accessibility
- Quick Reporting and Visualization
- Data Analysis Capabilities
- Broad Acceptance
- Flexibility and Customization
- Ease of Training and Adoption
- Automation and Scripting
- External Data Integration
- Cost Efficiency
- Wide Range of Add-ons
- Collaboration and Sharing



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

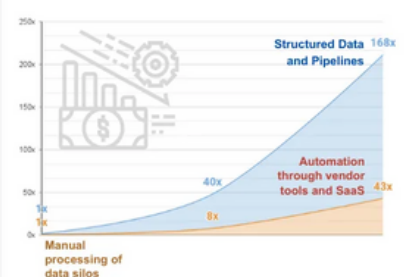
Comparison of the cost of automating the tasks of extracting data from construction projects



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.