converters

FULL ACCESS
TO YOU DATA

download
without
registration

PRO version

- RVT 2023-2024
- IFC 4x1 - 4x3

ad-free

Buy Add-Free
Excel Plugin

community edition

- RVT 2015-2022
- DGN V7-V8
- IFC 2x3
- DWG 1983-2023

+ ads

Converter

terminal version

Hundreds of applications allow you to embed the conversion process into your use cases

Command Promt

PowerShell

VS Code

jupyter

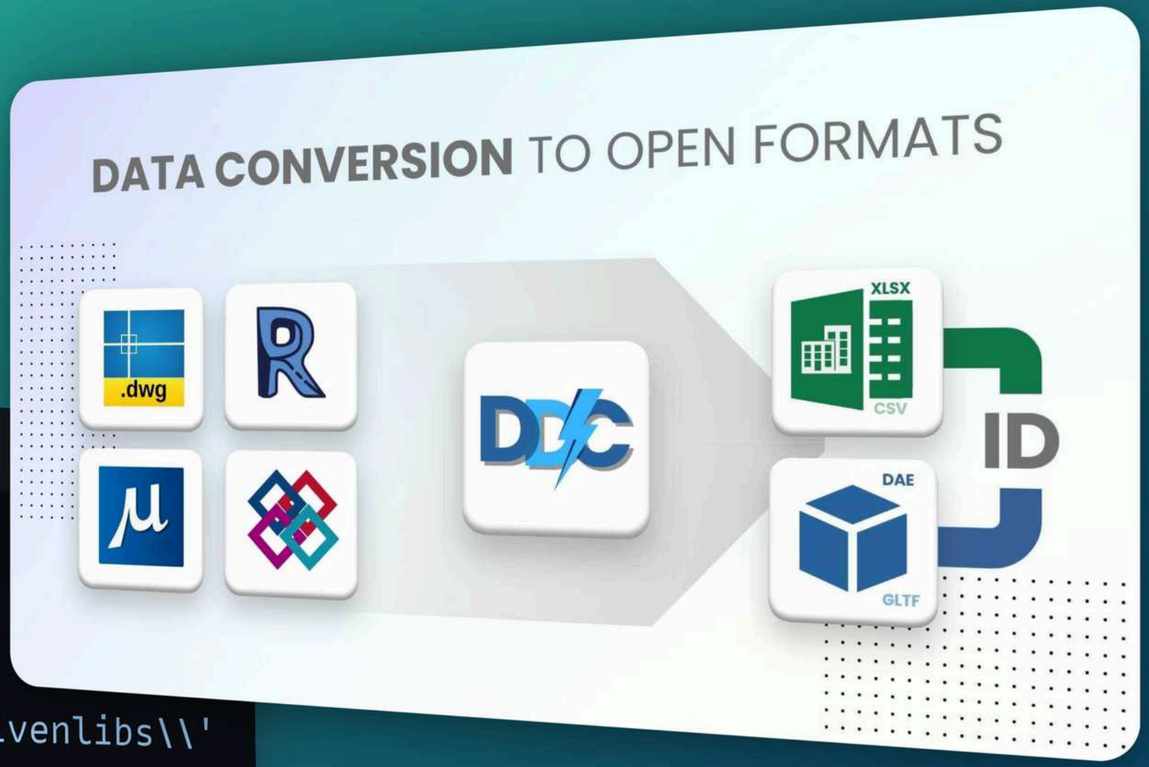
kaggle

Google colab

eclipse

Azure Notebooks

From **multi-format CAD (BIM)** data into a structured format 🤗



RVT | IFC | DWG conversion.py

```python
import os, subprocess

# Folder where the DDC converter is located
path_conv = r'C:\DDC_Revit_Community\datadrivenlibs\\'
# Path address RVT | IFC | DWG  project are located
file_path = r'C:\DDC\rstadvanced_sample.rvt'

# Conversion of one RVT project
process = subprocess.Popen([os.path.join(path_conv,
'RvtExporter.exe'), file_path], cwd=path_conv)

print("DDC Conversion process finished")
```

conversion in just 4 lines of code

data-driven construction.io

RVT | IFC | DWG as DataFrame.py

```python
# RVT | IFC | DWG project file name in XLSX format
output_file = file_path[:-4] + "_rvt.xlsx"
# Read the converted Excel file
df = pd.read_excel(output_file)
# Update column names to remove storage type in parameter
df.columns = [col.split(' : ')[0] for col in df.columns]
```

🚀 Structed format is ideal for analytics, visualization and automation

two-dimensional project data

.dwg

AS STRUCTURED DATA

Column names

Columns
axis = 1

	ID	Name	Category	Family Name	Height	BoundingBoxMin_X	BoundingBoxMin_Y	BoundingBoxMin_Z	Level
	431144	Single-Flush	OST_Doors	Single-Flush	6.88976378	20.1503	-10.438	9.84252	Level 1
	431198	Single-Flush	OST_Doors		6.88976378	13.2281	-1.1207	9.84252	Level 2
Index label	457479	Single Window	OST_Windows	Single Window	8.858267717	-11.434	-11.985	9.80971	Level 2
	485432	Single Window	OST_Windows	Single Window	8.858267717	-11.434	4.25986	9.80971	Level 2
	490150	Single-Flush	OST_Doors	Single-Flush	6.88976378	-1.5748	-2.9565	-1E-16	Level 1
	493697	Basic Wall	OST_Walls	Basic Wall		-38.15	20.1656	-4.9213	Level 1
	497540	Basic Wall	OST_Walls	Basic Wall		-4.5212	-0.0708	9.84252	Level 1

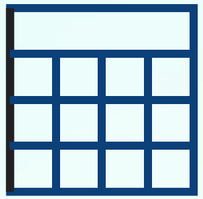
Index
axis = 0

Missing value

Data

data driven construction.io

AS STRUCTURED DATA



Column names

Columns
axis = 1

	ID	Name	Category	Family Name	Height	BoundingBoxMin_X	BoundingBoxMin_Y	BoundingBoxMin_Z	Level
	431144	Single-Flush	OST_Doors	Single-Flush	6.88976378	20.1503	-10.438	9.84252	Level 1
	431198	Single-Flush	OST_Doors		6.88976378	13.2281	-1.1207	9.84252	Level 2
	457479	Single Window	OST_Windows	Single Window	8.858267717	-11.434	-11.985	9.80971	Level 2
	485432	Single Window	OST_Windows	Single Window	8.858267717	-11.434	4.25986	9.80971	Level 2
	490150	Single-Flush	OST_Doors	Single-Flush	6.88976378	-1.5748	-2.9565	-1E-16	Level 1
	493697	Basic Wall	OST_Walls	Basic Wall		-38.15	20.1656	-4.9213	Level 1
	497540	Basic Wall	OST_Walls	Basic Wall		-4.5212	-0.0708	9.84252	Level 1

Index label

Index
axis = 0

Missing value

Data

IFC

STRUCTURED DATA

ID	Name	Category	version	pro	site	Parent	ObjectType
34	0001	IfcProject	IFC2X3				
38274	Default	IfcSite	IFC2X3	0001		0001	
36		IfcBuilding	IFC2X3	0001	Default	Default	
39	Level 1	IfcBuildingStorey	IFC2X3	0001	Default		
3797	Basic Wall:Exterior - Brick on Block:138(	IfcWallStandardC	IFC2X3	0001	Default	Level 1	Basic Wall:Exterior - Brick on B
3999	Basic Wall:Exterior - Brick on Block:1381	IfcWallStandardC	IFC2X3	0001	Default	Level 1	Basic Wall:Exterior - Brick on B
4043	Basic Wall:Exterior - Brick on Block:1382	IfcWallStandardC	IFC2X3	0001	Default	Level 1	Basic Wall:Interior - Partition (
4087	Basic Wall:Exterior - Brick on Block:1383	IfcWallStandardC	IFC2X3	0001	Default	Level 1	Basic Wall:Interior - Partition (
4131	Basic Wall:Interior - Partition (92mm Stu	IfcWallStandardC	IFC2X3	0001	Default	Level 1	Basic Wall:Interior - Partition (
4219	Basic Wall:Interior - Partition (92mm Stu	IfcWallStandardC	IFC2X3	0001	Default	Level 1	Basic Wall:Interior - Partition (
4287	Basic Wall:Party Wall - CMU Residential	IfcWallStandardC	IFC2X3	0001	Default	Level 1	Basic Wall:Party Wall - CMU R
4399	Basic Wall:Party Wall - CMU Residential	IfcWallStandardC	IFC2X3	0001	Default	Level 1	Basic Wall:Party Wall - CMU R
4465	Basic Wall:Party Wall - CMU Residential	IfcWallStandardC	IFC2X3	0001	Default	Level 1	Basic Wall:Party Wall - CMU R
4508	Basic Wall:Interior - Partition (92mm Stu	IfcWallStandardC	IFC2X3	0001	Default	Level 1	Basic Wall:Interior - Partition (
4553	Basic Wall:Interior - Partition (92mm Stu	IfcWallStandardC	IFC2X3	0001	Default	Level 1	Basic Wall:Interior - Partition (
4598	Basic Wall:Interior - Partition (92mm Stu	IfcWallStandardC	IFC2X3	0001	Default	Level 1	Basic Wall:Interior - Partition (
5165	Floor:127mm Slab on Grade:141232	IfcSlab	IFC2X3	0001	Default	Level 1	Floor:127mm Slab on Grade
5267	Floor:127mm Slab on Grade:143106	IfcSlab	IFC2X3	0001	Default	Level 1	Floor:127mm Slab on Grade
5642	Basic Wall:Interior - Partition (92mm Stu	IfcWallStandardC	IFC2X3	0001	Default	Level 1	Basic Wall:Interior - Partition (
5903	Basic Wall:Interior - Partition (92mm Stu	IfcWallStandardC	IFC2X3	0001	Default	Level 1	Basic Wall:Interior - Partition (
6426	M_Fixed:4835mm x 2420mm:4835mm x	IfcWindow	IFC2X3	0001	Default	Level 1	4835mm x 2420mm
6531	M_Fixed:4835mm x 2420mm:4835mm x	IfcWindow	IFC2X3	0001	Default	Level 1	4835mm x 2420mm
6652	M_Single-Flush:1250mm x 2010mm:125(	IfcDoor	IFC2X3	0001	Default	Level 1	1250mm x 2010mm
6757	M_Single-Flush:1250mm x 2010mm:125(	IfcDoor	IFC2X3	0001	Default	Level 1	1250mm x 2010mm
6921	M_Fixed:750mm x 2200mm:750mm x 22	IfcWindow	IFC2X3	0001	Default	Level 1	750mm x 2200mm

RVT

STRUCTURED DATA

ID	Name	Category	Design	IfcGUID	Type IfcGUID	Family and Type
198363	Window - PVC Coating - \	OST_Materials	None	3lLx0gNe59vvExhby0Bfj7		
198366	Single Window	OST_Windows	None		3lLx0gNe59vvExhby0Bfil2	
198367	Basic Wall	OST_Walls	None		3lLx0gNe59vvExhby0Bfil3	
198369	Finishes - Interior - Plaste	OST_Materials	None	3lLx0gNe59vvExhby0Bfiz		
198370	Wood - Stud Layer	OST_Materials	None	3lLx0gNe59vvExhby0Bfj_		
198372	Structure - Timber Insulat	OST_Materials	None	3lLx0gNe59vvExhby0Bfiu		
198373	Structure - Timber Insulat	OST_Materials	None	3lLx0gNe59vvExhby0Bfiv		
198374	Finishes - Exterior - Timb	OST_Materials	None	3lLx0gNe59vvExhby0Bfiw		
198694	Basic Wall	OST_Walls	None	3lLx0gNe59vvExhby0Bfew	38NbIWsDL18DIjLvn67Ze	SIP 202mm Wall - cor
198749	Basic Wall	OST_Walls	None	3lLx0gNe59vvExhby0Bff1	3lLx0gNe59vvExhby0Bfil3	Wall - Timber Clad
211306	Steel-Kohler-NA-Stainless	OST_Materials	None	28i3i5WDD8JuOYHnzXOtNd		
211807	Sink-Offset-Kohler-Vault-	OST_PlumbingFixtu	None		28i3i5WDD8JuOYHnzXOtVl	
211850	Sink-Offset-Kohler-Vault-	OST_PlumbingFixtu	None	28i3i5WDD8JuOYHnzXOtS7	28i3i5WDD8JuOYHnzXOtVl	Steel-Stainless-NA
212929	Chrome-Kohler-CP-Polish-	OST_Materials	None	28i3i5WDD8JuOYHnzXOtDC		
212930	Nickel-Kohler-SN-Vibrant_	OST_Materials	None	28i3i5WDD8JuOYHnzXOtDF		
212931	Steel-Kohler-VS-Vibrant_S	OST_Materials	None	28i3i5WDD8JuOYHnzXOtDE		
212932	Metal-Kohler-BL-Matte_E	OST_Materials	None	28i3i5WDD8JuOYHnzXOtD9		
213558	Faucet-Binch_Reach-Kohl	OST_PlumbingFixtu	None		28i3i5WDD8JuOYHnzXOmwx	
213811	Faucet-Binch_Reach-Kohl	OST_PlumbingFixtu	None	28i3i5WDD8JuOYHnzXOm__	28i3i5WDD8JuOYHnzXOmwx	Chrome-Polished_Ch
218358	Concrete - Cast-in-Place -	OST_Materials	None	28i3i5WDD8JuOYHnzXOnXx		
232682	Door - Frame	OST_Materials	None	28i3i5WDD8JuOYHnzXOy3d		
232683	Door - Panel	OST_Materials	None	28i3i5WDD8JuOYHnzXOy3c		
232754	Basic Wall	OST_Walls	None		28i3i5WDD8JuOYHnzXOy6S	
232758	System Panel	OST_CurtainWallPa	None		28i3i5WDD8JuOYHnzXOy6x	
232770	Rectangular Mullion	OST_CurtainWallM	None		28i3i5WDD8JuOYHnzXOy7F	
232780	Single-Flush	OST_Doors	None		28i3i5WDD8JuOYHnzXOy7I	
232827	Basic Wall	OST_Walls	None		28i3i5WDD8JuOYHnzXOy7s	

DWG

STRUCTURED DATA

ID	Description	Hand	Layer	Locked	Color	Max E	Linew	Backg	Min Extents	Max Extents
1185	<AcDbPolyline>	[4A1]	CL		[352.4 662.9 0.0]	ByLayer	KLnWtByLayer		[30.7 7.3 0.0]	[352.4 662.9 0.0]
1186	<AcDbPolyline>	[4A2]	ROW		[404.0 237.5 0.0]	ByLayer	KLnWtByLayer		[8.3 18.3 0.0]	[330.0 673.9 0.0]
1195	<AcDbPolyline>	[4AB]	PL		[421.9 167.5 0.0]	ByLayer	KLnWtByLayer		[70.9 -46.1 0.0]	[806.1 616.0 0.0]
1741	<AcDbBlockRefere	[6CD]	BUILDING		[424.8 307.5 0.0]	ByLayer	KLnWtByLayer		[364.0 167.5 0.0]	[404.0 237.5 0.0]
2057	<AcDbPolyline>	[809]	EASEMENT		[504.8 307.5 0.0]	ByLayer	KLnWtByLayer		[272.3 315.2 0.0]	[510.7 541.2 0.0]
2058	<AcDbPolyline>	[80A]	POND		ByLayer	ByLayer	KLnWtByLayer		[282.3 325.2 0.0]	[500.7 531.2 0.0]
2412	<AcDbLine>	[96C]	SETBACK		ByLayer	ByLayer	KLnWtByLayer		[346.1 167.5 0.0]	[421.9 167.5 0.0]
2422	<AcDbLine>	[976]	ROW		ByLayer	ByLayer	KLnWtByLayer		[148.6 190.8 0.0]	[374.9 651.9 0.0]
2423	<AcDbArc>	[977]	ROW		ByLayer	ByLayer	KLnWtByLayer		[145.5 147.5 0.0]	[175.5 190.8 0.0]
2433	<AcDbArc>	[981]	ROW		ByLayer	ByLayer	KLnWtByLayer		[89.8 70.8 0.0]	[116.7 87.5 0.0]
2434	<AcDbLine>	[982]	ROW		ByLayer	ByLayer	KLnWtByLayer		[53.2 -3.7 0.0]	[89.8 70.8 0.0]
2711	<AcDbLine>	[A97]	CL		ByLayer	ByLayer	KLnWtByLayer		[84.8 117.5 0.0]	[84.8 117.5 0.0]
3077	<AcDbLine>	[C05]	LOT		ByLayer	ByLayer	KLnWtByLayer		[344.8 147.5 0.0]	[344.8 307.5 0.0]
3078	<AcDbLine>	[C06]	LOT		ByLayer	ByLayer	KLnWtByLayer		[264.8 147.5 0.0]	[264.8 307.5 0.0]
3079	<AcDbLine>	[C07]	LOT		ByLayer	ByLayer	KLnWtByLayer		[424.8 147.5 0.0]	[424.8 307.5 0.0]
3080	<AcDbLine>	[C08]	LOT		ByLayer	ByLayer	KLnWtByLayer		[504.8 147.5 0.0]	[504.8 307.5 0.0]
3082	<AcDbLine>	[C0A]	LOT		ByLayer	ByLayer	KLnWtByLayer		[264.8 307.5 0.0]	[344.8 307.5 0.0]
3099	<AcDbLine>	[C1B]	EASEMENT		ByLayer	ByLayer	KLnWtByLayer		[352.3 147.5 0.0]	[352.3 307.1 0.0]
3100	<AcDbLine>	[C1C]	EASEMENT		ByLayer	ByLayer	KLnWtByLayer		[337.3 147.5 0.0]	[337.3 307.1 0.0]
3101	<AcDbLine>	[C1D]	ROW		ByLayer	ByLayer	KLnWtByLayer		[175.5 147.5 0.0]	[592.5 147.5 0.0]
3102	<AcDbLine>	[C1E]	ROW		ByLayer	ByLayer	KLnWtByLayer		[116.7 87.5 0.0]	[592.5 87.5 0.0]
3122	<AcDbRotatedDim	[C32]	*ADSK_CONSTRAINTS		ByLayer	ByLayer	KLnWtBy ByBlock			
3142	<AcDbLine>	[C46]	EASEMENT		ByLayer	ByLayer	KLnWtByLayer		[158.9 152.5 0.0]	[592.5 152.5 0.0]
3143	<AcDbLine>	[C47]	EASEMENT		ByLayer	ByLayer	KLnWtByLayer		[100.2 82.5 0.0]	[592.5 82.5 0.0]
3144	<AcDbRotatedDim	[C48]	*ADSK_CONSTRAINTS		ByLayer	ByLayer	KLnWtBy ByBlock			

DGN

STRUCTURED DATA

ID	Name	Category	Design	IfcGUID	Type IfcGUID	Family and Type
198363	Window - PVC Coating - \	OST_Materials	None	3lLx0gNe59vvExhby0Bfj7		
198366	Single Window	OST_Windows	None		3lLx0gNe59vvExhby0Bfil2	
198367	Basic Wall	OST_Walls	None		3lLx0gNe59vvExhby0Bfil3	
198369	Finishes - Interior - Plaste	OST_Materials	None	3lLx0gNe59vvExhby0Bfiz		
198370	Wood - Stud Layer	OST_Materials	None	3lLx0gNe59vvExhby0Bfj_		
198372	Structure - Timber Insulat	OST_Materials	None	3lLx0gNe59vvExhby0Bfiu		
198373	Structure - Timber Insulat	OST_Materials	None	3lLx0gNe59vvExhby0Bfiv		
198374	Finishes - Exterior - Timb	OST_Materials	None	3lLx0gNe59vvExhby0Bfiw		
198694	Basic Wall	OST_Walls	None	3lLx0gNe59vvExhby0Bfew	38NbIWsDL18DIjLvn67Ze	SIP 202mm Wall - cor
198749	Basic Wall	OST_Walls	None	3lLx0gNe59vvExhby0Bff1	3lLx0gNe59vvExhby0Bfil3	Wall - Timber Clad
211306	Steel-Kohler-NA-Stainless	OST_Materials	None	28i3i5WDD8JuOYHnzXOtNd		
211807	Sink-Offset-Kohler-Vault-	OST_PlumbingFixtu	None		28i3i5WDD8JuOYHnzXOtVl	
211850	Sink-Offset-Kohler-Vault-	OST_PlumbingFixtu	None	28i3i5WDD8JuOYHnzXOtS7	28i3i5WDD8JuOYHnzXOtVl	Steel-Stainless-NA
212929	Chrome-Kohler-CP-Polish-	OST_Materials	None	28i3i5WDD8JuOYHnzXOtDC		
212930	Nickel-Kohler-SN-Vibrant_	OST_Materials	None	28i3i5WDD8JuOYHnzXOtDF		
212931	Steel-Kohler-VS-Vibrant_S	OST_Materials	None	28i3i5WDD8JuOYHnzXOtDE		
212932	Metal-Kohler-BL-Matte_E	OST_Materials	None	28i3i5WDD8JuOYHnzXOtD9		
213558	Faucet-Binch_Reach-Kohl	OST_PlumbingFixtu	None		28i3i5WDD8JuOYHnzXOmwx	
213811	Faucet-Binch_Reach-Kohl	OST_PlumbingFixtu	None	28i3i5WDD8JuOYHnzXOm__	28i3i5WDD8JuOYHnzXOmwx	Chrome-Polished_Ch
218358	Concrete - Cast-in-Place -	OST_Materials	None	28i3i5WDD8JuOYHnzXOnXx		
232682	Door - Frame	OST_Materials	None	28i3i5WDD8JuOYHnzXOy3d		
232683	Door - Panel	OST_Materials	None	28i3i5WDD8JuOYHnzXOy3c		
232754	Basic Wall	OST_Walls	None		28i3i5WDD8JuOYHnzXOy6S	
232758	System Panel	OST_CurtainWallPa	None		28i3i5WDD8JuOYHnzXOy6x	
232770	Rectangular Mullion	OST_CurtainWallM	None		28i3i5WDD8JuOYHnzXOy7F	
232780	Single-Flush	OST_Doors	None		28i3i5WDD8JuOYHnzXOy7I	
232827	Basic Wall	OST_Walls	None		28i3i5WDD8JuOYHnzXOy7s	

STRUCTURED DATA

	Unnamed: 0	Unnamed: 0.1	Filename	IfcEntity	UniqueID	IFC version	GlobalId	OwnerHistory	ObjectPlacement	Representation	...	cpiFitMatchKey	Product code	ISOCD3766ShapeCode	ISOCD3766ShapeParameter_b
0	0	1000	beams_ifc	OdIfc4::IfcBeamStandardCase	1000.0	IFC4	0juf4qyggSI8rxA20Qwnsj	0.0	1001.0	1010.0	...	NaN	NaN	NaN	NaN
1	1	1100	beams_ifc	OdIfc4::IfcBeamStandardCase	1100.0	IFC4	0juf4qyggSI8rxA20sznsj	0.0	1101.0	1110.0	...	NaN	NaN	NaN	NaN
2	2	1200	beams_ifc	OdIfc4::IfcBeamStandardCase	1200.0	IFC4	0juf4qyggSI8s4A20sznsj	0.0	1201.0	1210.0	...	NaN	NaN	NaN	NaN
3	3	1300	beams_ifc	OdIfc4::IfcBeamStandardCase	1300.0	IFC4	0juf4qyggSI8s4A20sznw6	0.0	1301.0	1310.0	...	NaN	NaN	NaN	NaN
4	4	1400	beams_ifc	OdIfc4::IfcBeamStandardCase	1400.0	IFC4	0juf4qyggSI8rxA20Qwnsw	0.0	1401.0	1410.0	...	NaN	NaN	NaN	NaN


Excel


PowerBI


Sheets


Google Colab


Python


Kaggle


Pandas


ChatGPT

STRUCTURED DATA

Pandas: The leading library for data manipulation and a key tool for building pipelines

8811040

Number of downloads of the Pandas Pipeline library each day

70%

Data engineers using Pandas Pipeline as their primary tool

200k

Questions on Stack Overflow tagged with Pandas Pipeline

LOAD

Input

Importing Revit and IFC data.py

```python
# Importing data for processing

import pandas as pd
df = pd.read_csv('C:\Revit_Sample.csv')
```

Output

	Id	Category	Type	Length	Volume
0	12577	Wall	Wall WD100	3200	1.0
1	15889	Wall	Wall STB 200	5400	6.0
2	76554	Door	Glazed Back Door	1300	0.3
3	74456	Window	Window 1700w	1700	0.5

FILTER

Input

Filtering data in Revit and IFC projects.py

```python
# Whether each element contains the values

df[df['Category'].isin(['Wall', 'Window'])]
```

Output

	Id	Category	Type	Length	Volume
0	12577	Wall	Wall WD100	3200	1.0
1	15889	Wall	Wall STB 200	5400	6.0
3	74456	Window	Window 1700w	1700	0.5

GROUP

Input

GroupBy Revit IFC.py

```python
# Grouping a Revit or IFC project by parameters

df.groupby('Category')['Volume', 'Length'].sum()
```

Output

Category	Volume	Length
Door	0.3	1300
Wall	7.0	8600
Window	0.5	1700

PIE chart

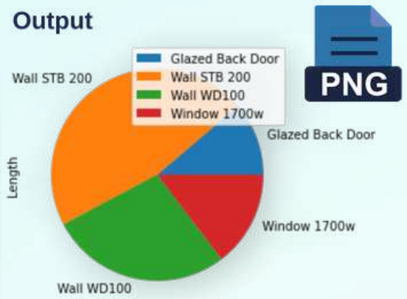
Input

Pie chart.py

```python
# Create a basic pie chart

df.groupby(['Type']).sum().plot.pie(y='Length')
```

Output



BAR chart

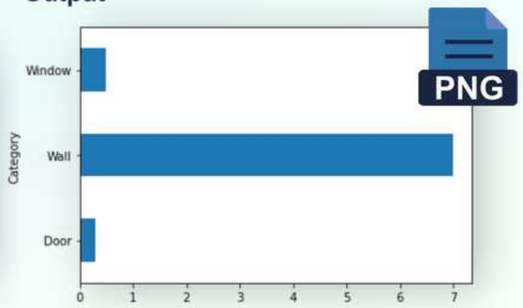
Input

Bar plot.py

```python
# The bar plot can be created as follows

dfp = df.groupby('Category')['Volume'].sum()
dfp.plot(kind='barh')
```

Output



Regular **Ex**pression

Input

RegEx.py

```python
#Regular expression in Revit and IFC

df[df['Category'].str.match('Wal*')]
```

Output

	Id	Category	Type	Length	Volume
0	12577	Wall	Wall WD100	3200	1.0
1	15889	Wall	Wall STB 200	5400	6.0

QTO TakeOff

Input

QTO by RegEx.py

```python
#QTO - Finding volumetric quantities for the group

dfq = df[df['Category'].str.match('Wal*')]
dfq = dfq.groupby('Category')['Volume', 'Length'].sum()
```

Output

Category	Volume	Length
Wall	7.0	8600

EXCEL Data Export

Input

Export to Excel.py

```python
# Creating a grouping and saving as Excel

dfe = df.groupby(['Category'])['Length'].agg(['sum', 'count'])
dfe.to_excel("output.xlsx",sheet_name='Category_estimate')
```

Output

	A	B	C	D
2	Door	1300	1	
3	Wall	8600	2	
4	Window	1700	1	
5				

Category_estimate

PDF Document

Input

Creating a PDF document.py

```python
from fpdf import FPDF

# Determining the volumetric characteristics of the group
s_cat = 'Window'
dfq= df[df['Category'].str.match(s_cat)]
dfq = dfq.groupby('Category')['Volume', 'Length'].sum()
cat_len = str(dfq.iloc[0]['Length'])
cat_vol = str(dfq.iloc[0]['Volume'])

# Creating a PDF document based on the parameters found
pdf = FPDF()
pdf.add_page()
pdf.set_font('Arial', 'B', 16)
pdf.cell(190, 8, 'Category: ' + s_cat, 2, 1, 'L')
pdf.set_font('Arial', '', 14)
pdf.cell(190, 8, 'Sum of volumes: ' + cat_vol, 2, 1, 'L')
pdf.cell(190, 8, 'Sum of lengths: ' + cat_len, 2, 1, 'L')

# Saving a document in PDF format
pdf.output(' c:\Report_DataDrivenConstruction.pdf ', 'F')
```

Output

Report_OpenDataBIM.pdf - Adobe Acrobat Reader DC (...

File Edit View Sign Window Help

Home Tools Report_Op... Sign ...

1 / 1 125%

Category: Window

Sum of volumes: 0.5

Sum of lengths: 1700.0

8.27 x 11.69 in

FILTER

Input

Filtering data in Revit and IFC projects.py

```python
# Whether each element contains the values

df[df['Category'].isin(['Wall', 'Window'])]
```

	Id	Category	Type	Length	Volume
0	12577	Wall	Wall WD100	3200	1.0
1	15889	Wall	Wall STB 200	5400	6.0
3	74456	Window	Window 1700w	1700	0.5

Filter the data in the project to keep the wall category items in the project

GROUP

Input

GroupBy Revit IFC.py

```python
# Grouping a Revit or IFC project by parameters

df.groupby('Category')['Volume', 'Length'].sum()
```

Output

Category	Volume	Length
Door	0.3	1300
Wall	7.0	8600
Window	0.5	1700

Group the project by the "Type Name" parameter and show the volume of each group

PDF

Input

Creating a PDF document.py

```python
from fpdf import FPDF

# Determining the volumetric characteristics of the group
s_cat = 'Window'
dfq= df[df['Category'].str.match(s_cat)]
dfq = dfq.groupby('Category')['Volume', 'Length'].sum()
cat_len = str(dfq.iloc[0]['Length'])
cat_vol = str(dfq.iloc[0]['Volume'])

# Creating a PDF document based on the parameters found
pdf = FPDF()
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pdf.set_font('Arial', '', 14)
pdf.cell(190, 8, 'Sum of volumes: ' + cat_vol, 2, 1, 'L')
pdf.cell(190, 8, 'Sum of lengths: ' + cat_len, 2, 1, 'L')

# Saving a document in PDF format
pdf.output('c:\Report_DataDrivenConstruction.pdf', 'F')
```
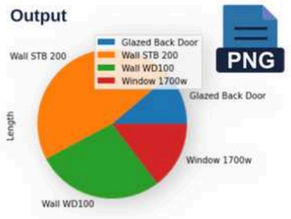

Output



Choose the first 20 types by volume and show the result as a Pie chart

PDF

Create a PDF report with a table and a graph

ChatGPT
LLmA, Alpaca

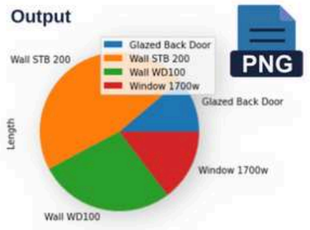
Output

	Id	Category	Type	Length	Volume
0	12577	Wall	Wall WD100	3200	1.0
1	15889	Wall	Wall STB 200	5400	6.0
3	74456	Window	Window 1700w	1700	0.5

Output

Category	Volume	Length
Door	0.3	1300
Wall	7.0	8600
Window	0.5	1700

Output



PDF

Show the differences between the new version of the project and the latest version

Filter the data in the project to keep the wall category items in the project

Group the project by the "Type Name" parameter and show the volume of each group

Choose the first 20 types by volume and show the result as a Pie chart

Create a PDF report with a table and a graph

PANDAS

1 Line of code

IDE

QTO.py

```
df[df['Category'].isin(['OST_Walls',
'OST_Columns'])].groupby('Type')['Volume'].sum()
```

Milliseconds

1.5" x 1.5"	0.00
Lamelle 11.5	74.82
MW 11.5	141.28
MW 17.5	67.43
STB 20.0	173.78
STB 25.0 WD 12.0	7.33
STB 30.0	88.57
STB 30.0 Rot	16.82
Standard	0.00
WC Trennwand 5.0	1.61

Effort

Input

Time

Output

1 Sentence

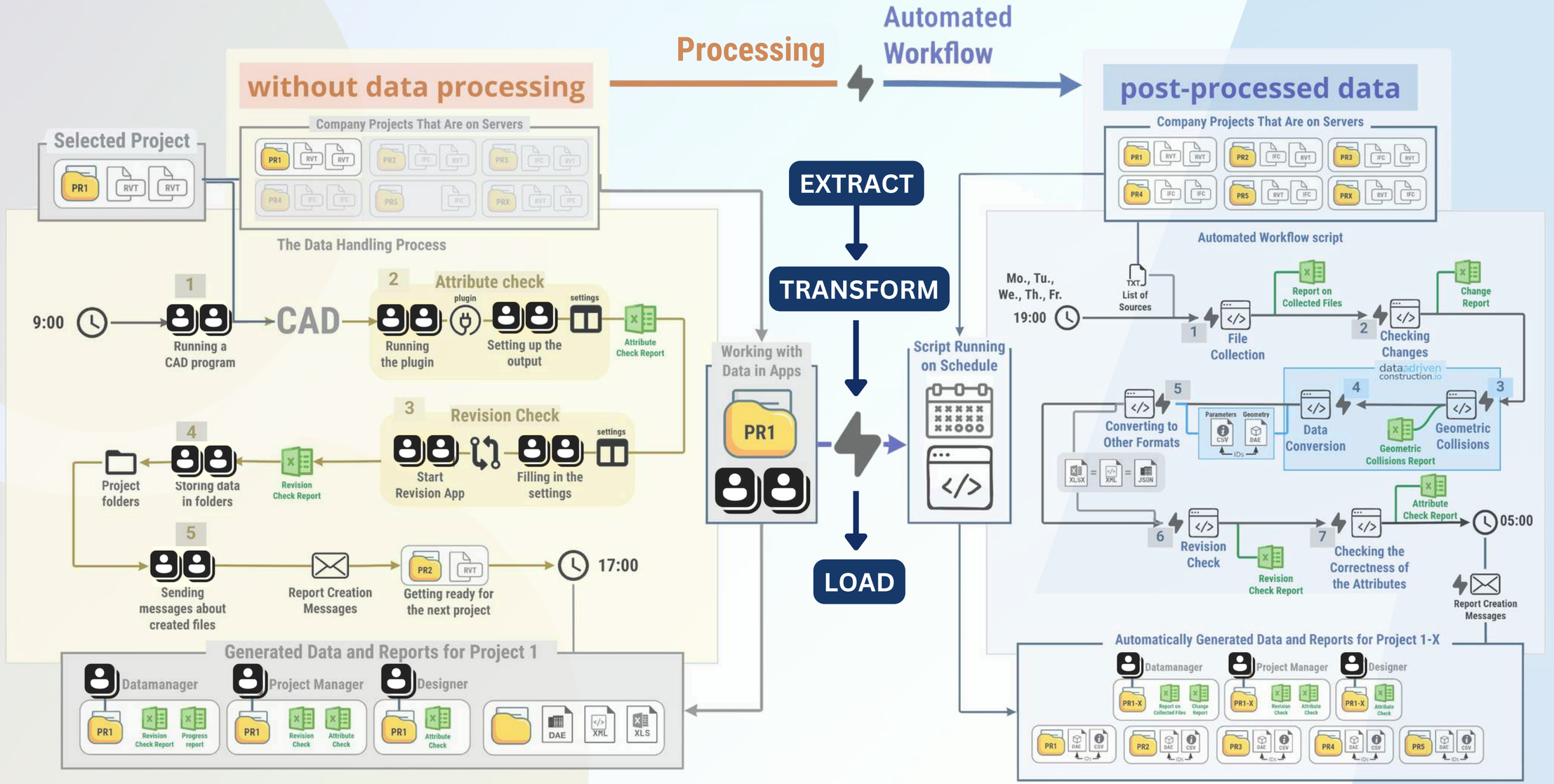
LLM Chat

Sum the 'Volume' column, grouped by 'Type', but only for rows where 'Category' is either 'OST_Walls' or 'OST_Columns'

Seconds

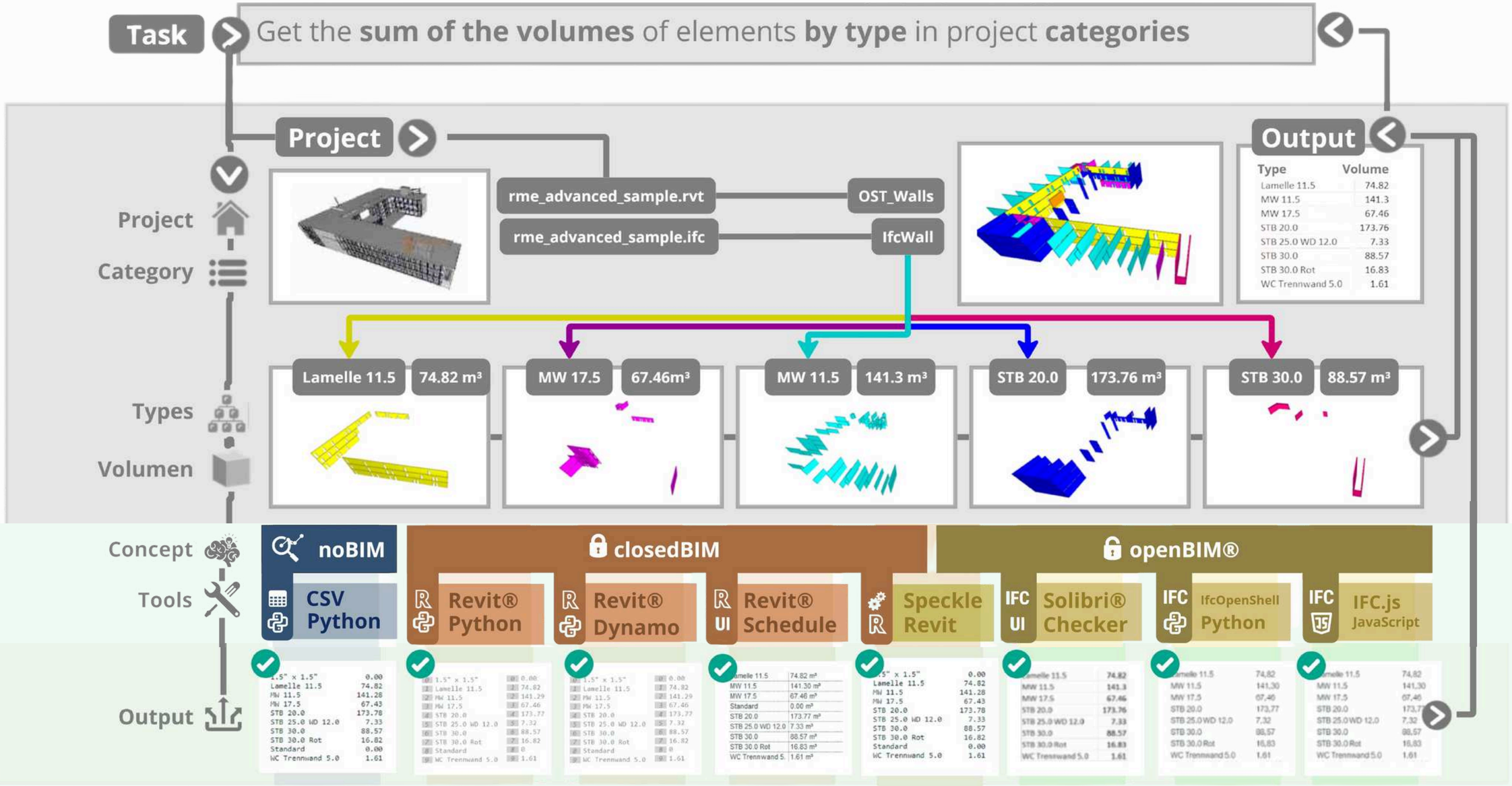
1.5" x 1.5"	0.00
Lamelle 11.5	74.82
MW 11.5	141.28
MW 17.5	67.43
STB 20.0	173.78
STB 25.0 WD 12.0	7.33
STB 30.0	88.57
STB 30.0 Rot	16.82
Standard	0.00
WC Trennwand 5.0	1.61

CHATGPT

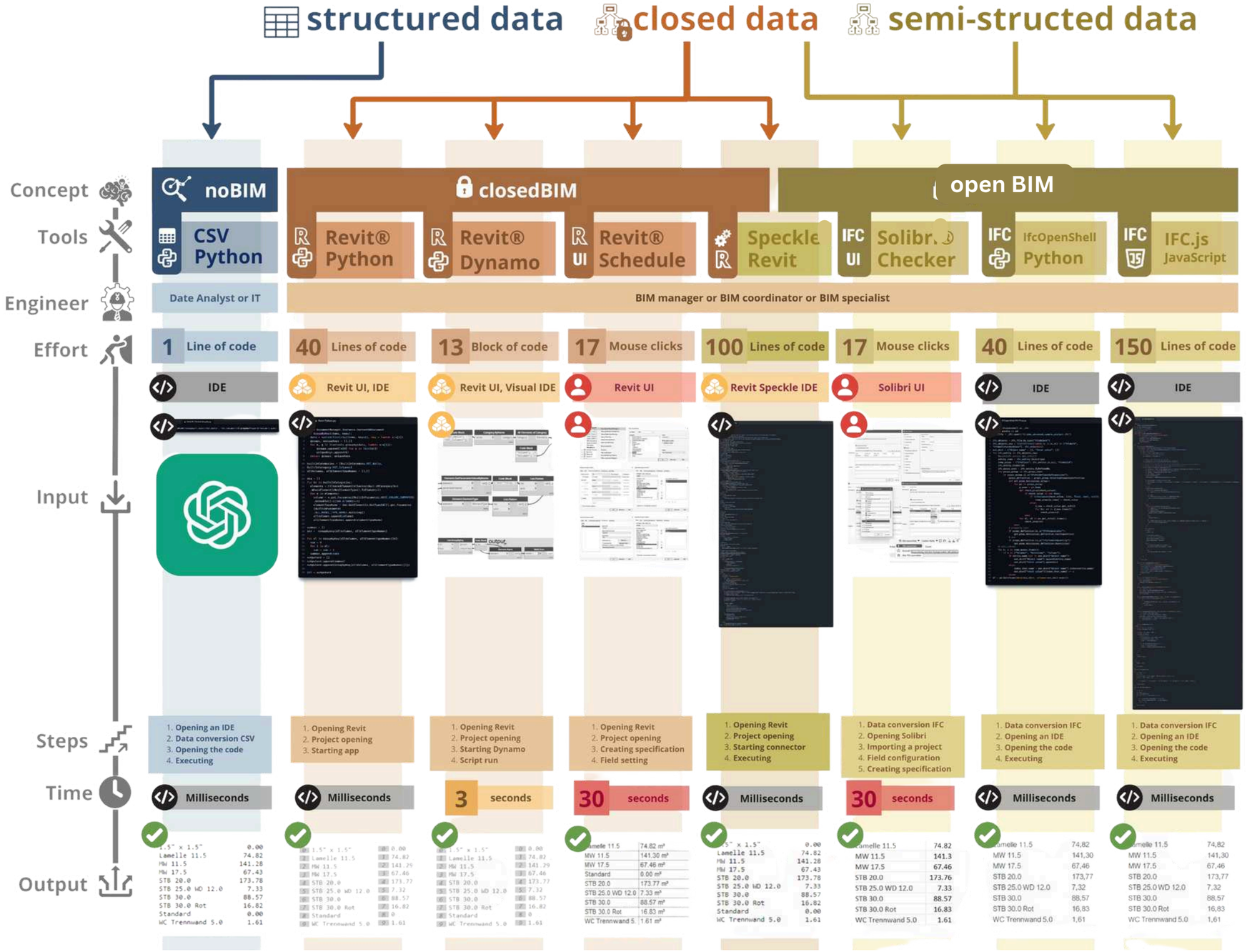

Processing
Automated Workflow
without data processing
post-processed data
Selected Project
Company Projects That Are on Servers
The Data Handling Process
EXTRACT
TRANSFORM
LOAD
Working with Data in Apps
Script Running on Schedule
1
Running a CAD program
9:00
CAD
2
Attribute check
Running the plugin
plugin
Setting up the output
settings
Attribute Check Report
3
Revision Check
Start Revision App
Filling in the settings
settings
Revision Check Report
4
Storing data in folders
Project folders
5
Sending messages about created files
Report Creation Messages
Getting ready for the next project
17:00
Generated Data and Reports for Project 1
Datamanager
Project Manager
Designer
Revision Check Report
Progress report
Revision Check
Attribute Check
DAE
XML
XLS
Automated Workflow script
Mo., Tu., We., Th., Fr.
19:00
List of Sources
1
File Collection
Report on Collected Files
2
Checking Changes
Change Report
data-driven construction.io
3
Geometric Collisions
Geometric Collisions Report
4
Data Conversion
Parameters
Geometry
5
Converting to Other Formats
6
Revision Check
Revision Check Report
7
Checking the Correctness of the Attributes
Attribute Check Report
05:00
Report Creation Messages
Automatically Generated Data and Reports for Project 1-X
Datamanager
Project Manager
Designer

GET DATA FROM A MODEL

The popular case study “Quantitative Takeoff



Structured data leads the way: simpler, faster, more efficient



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