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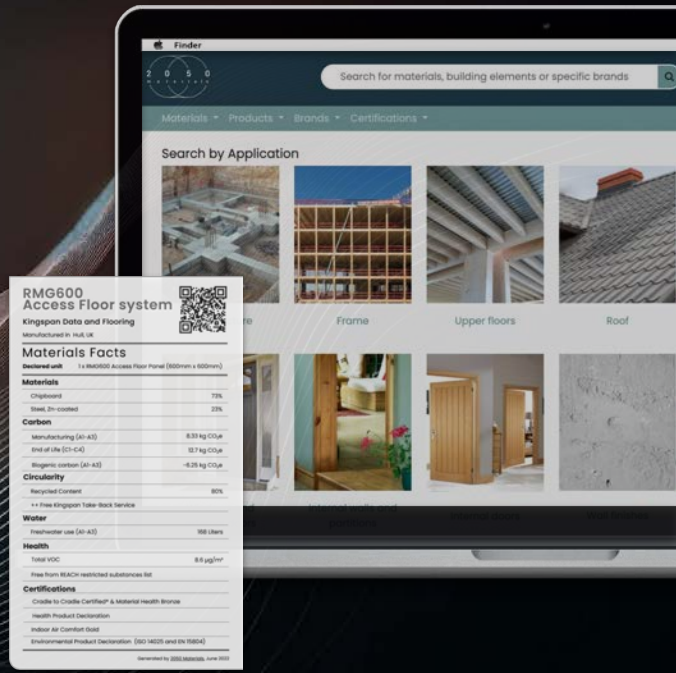
The Data Layer of Sustainable Construction



RMG600
Access Floor system
Kingspan Data and Flooring
Manufactured in Hull, UK
Materials Facts
Declared unit 1 x RMG600 Access Floor Panel (600mm x 600mm)
Materials
Chipboard 73%
Steel, Zn-coated 23%
Carbon
Manufacturing (A1-A3) 8.33 kg CO2e
End of Life (C1-C4) 13.7 kg CO2e
Biogenic carbon (A1-A3) -6.25 kg CO2e
Circularity
Recycled Content 80%
++ Free Kingspan Take-Back Service
Water
Freshwater use (A1-A3) 168 Liters
Health
Total VOC 8.6 µg/m³
Free from REACH restricted substances list
Certifications
Cradle to Cradle Certified® & Material Health Bronze
Health Product Declaration
Indoor Air Comfort Gold
Environmental Product Declaration (ISO 14025 and EN 15804)

Supported by

Funded by the European Union
NextGenerationEU

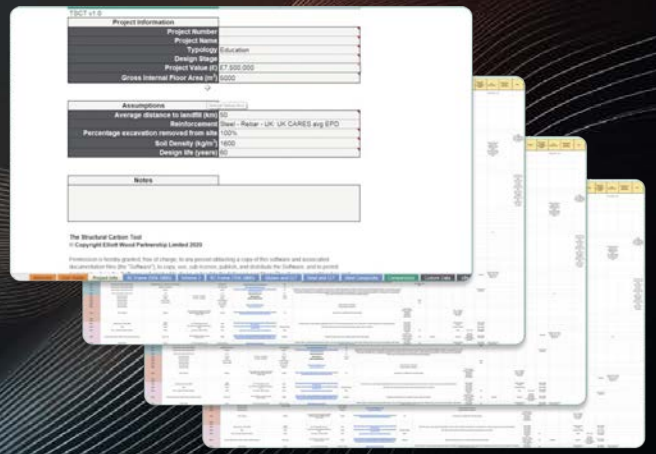
Cyprus tomorrow
RECOVERY AND RESILIENCE PLAN

Republic of Cyprus

RICS
Tech partner

Microsoft For Startups

The Climate Transition in construction creates a huge data problem



Carbon budgets are being defined by regulators and clients.

Data gathering and CO_2 calculations make up 2-15% of project costs

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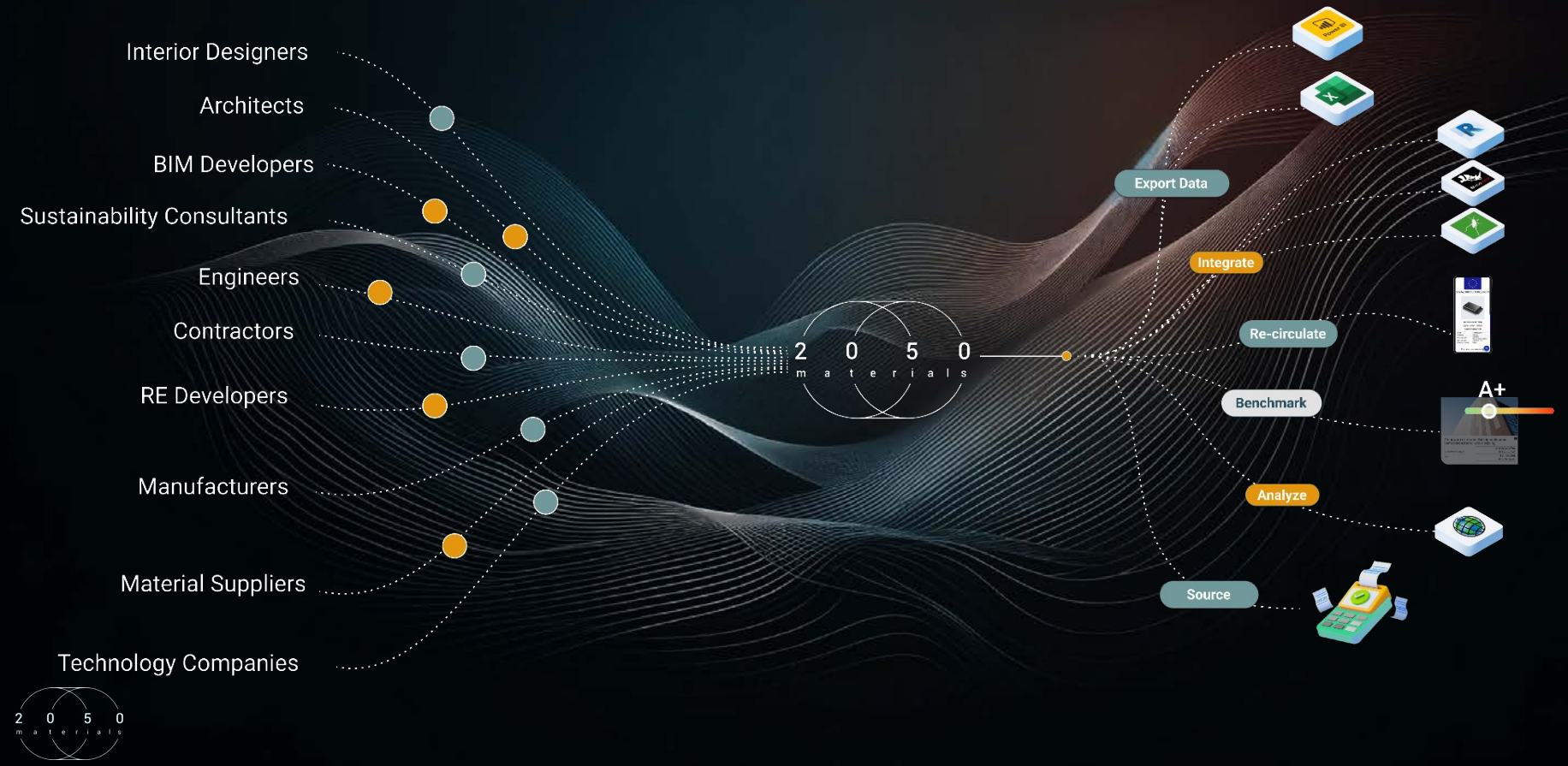
2050 Materials is the Global Climate Data Platform for the AEC Industry



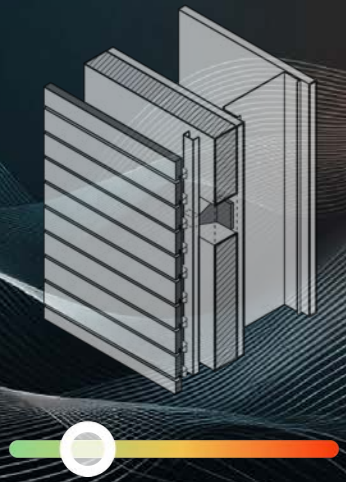
Types of Climate Data We Offer

Product/Material Data

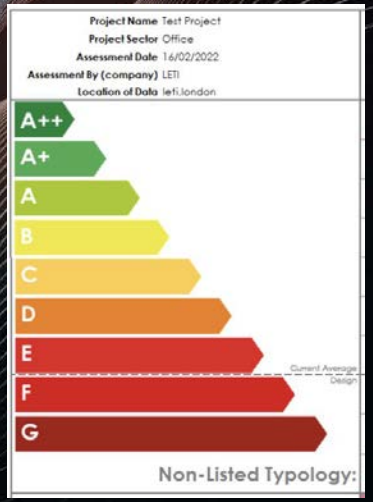
Product Passport

Materials	
Lime, Water, Calcium Carbonates	95-99%
Titanium Dioxide & Graphene	1-5%
Carbon	
Manufacturing (A1-A3)	0.178 kg CO_2e / m^2
End of Life (C1-C4)	0.002 kg CO_2e / m^2
++ Absorbs CO_2 in the curing process	
Water	
Percentage of recyclable water	100%
Health	
VOCs	< 1g / liter of paint
++ Air purifying photocatalytic reaction (NOx, SOx and VOCs)	

Assembly Data



Benchmark Data



Types of Climate Data We Offer - Coverage*

Product/Material Data

>200k products

**80% from EPDs*

>10k generic materials

83 countries covered

Assembly Data

>60 architectural systems

120 structural systems

+10 assemblies per month

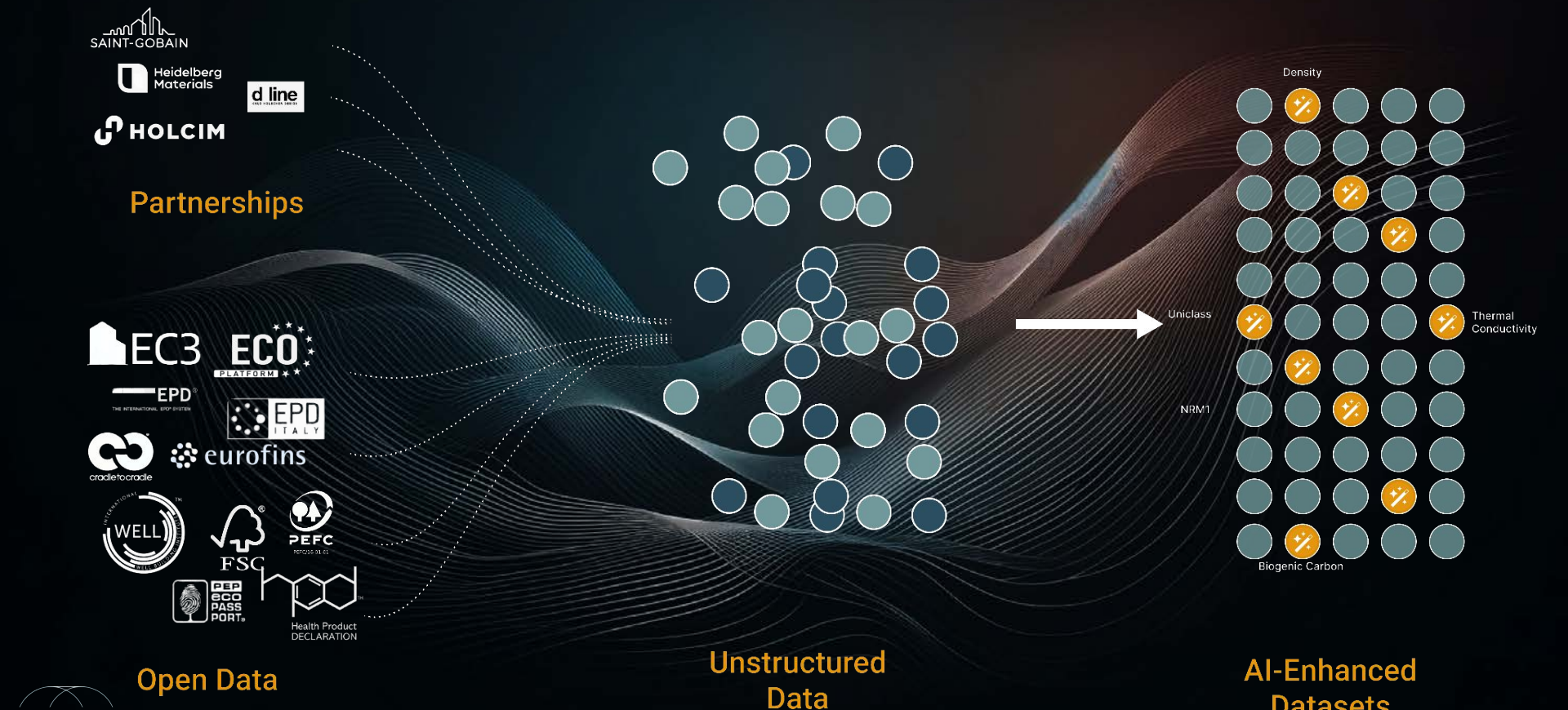
Benchmark Data

>20 white-paper datasets

Global regulations tracker

**Refer to our documentation for the full breakdown and sources*

5 Million data points for global coverage and compliance



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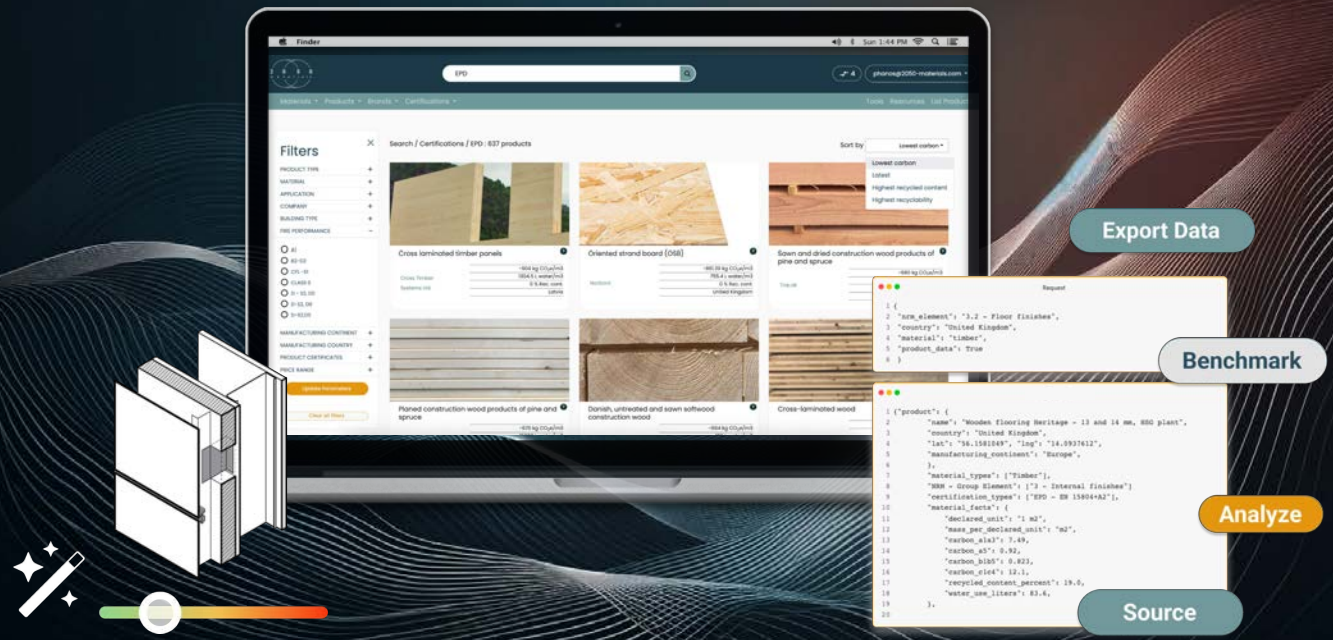
We offer a tier-based data platform to comply and prepare for the transition



Platform to cut research & calculation time by 30-90%

Data Licensing to enable integrations that scale decarbonization workflows.

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Our Customers are the Climate Action Drivers of the Industry

Specifiers / Architects

Hawkins\Brown

H&dM

Allies and Morrison

HENN

Foster + Partners

Engineering & Consulting

NEOM نيوم

ARUP

mace

Royal HaskoningDHV
Enhancing Society Together

Implenia

Software

RIB

AUTODESK

MOTT MACDONALD

MOATA

Causeway

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Work With Us to Unlock a New Era of AEC

- Education Dashboards
- Performance tracking
- Client Guidance
- Supply chain & procurement optimisation

- Performance tracking
- Data Analysis
- Value Engineering
- Cost plan alignment

- Digital take-off integrations
- Early stage Carbon Management
- Cost & Carbon models
- Multi Stage Life Cycle Assessment

*See examples in Appendix and case studies under our blog

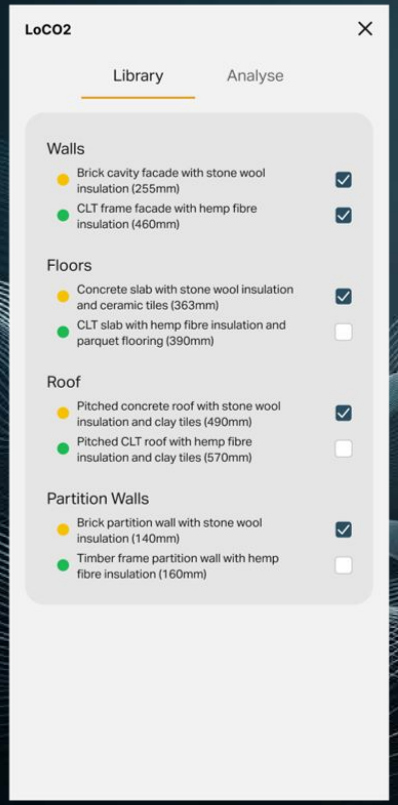
Thank you!

Phanos Hadjikyriakou

CEO & Co-founder
phanos@2050-materials.com

Appendix A
Examples of 2050 Materials API Integrations

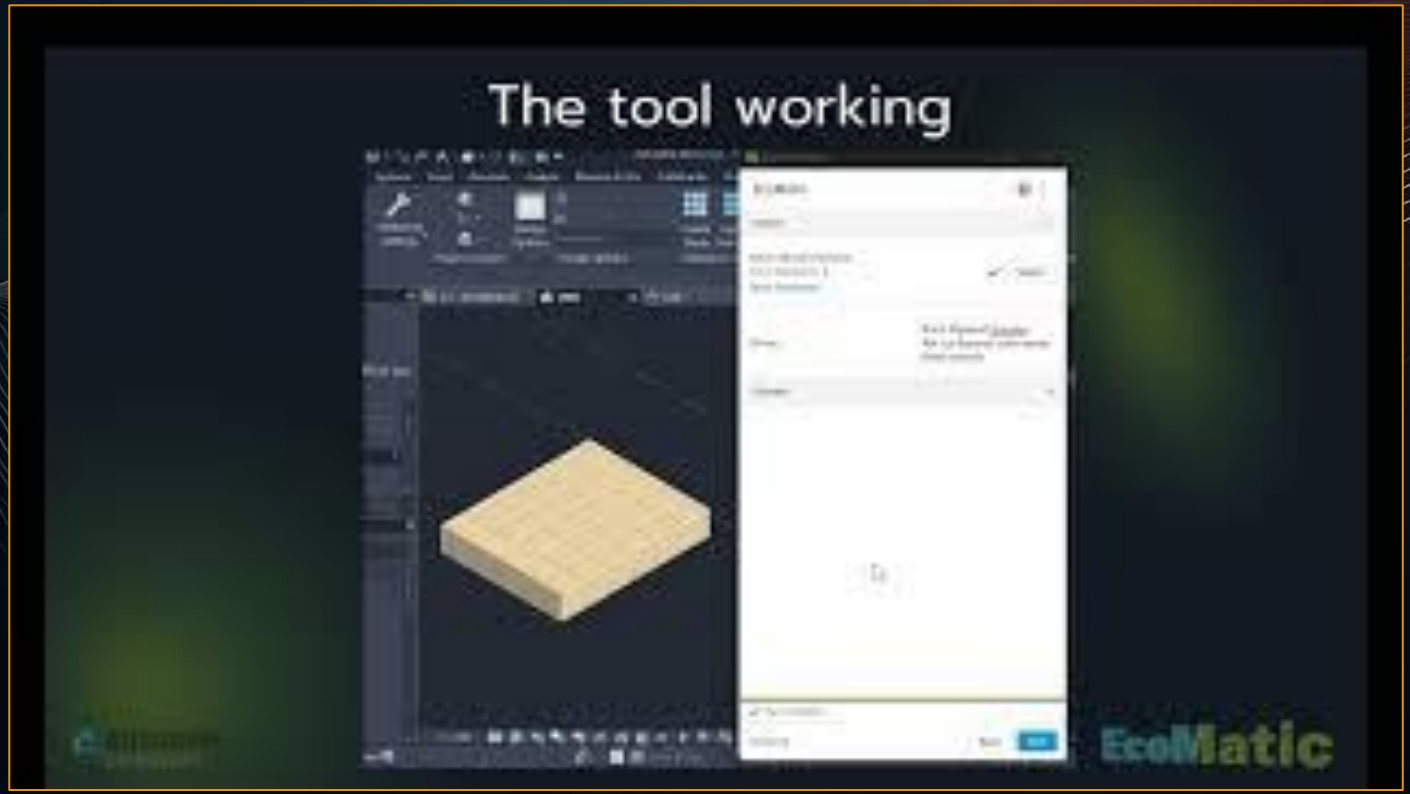
Designing in Revit with CO2e-labelled systems and buildups



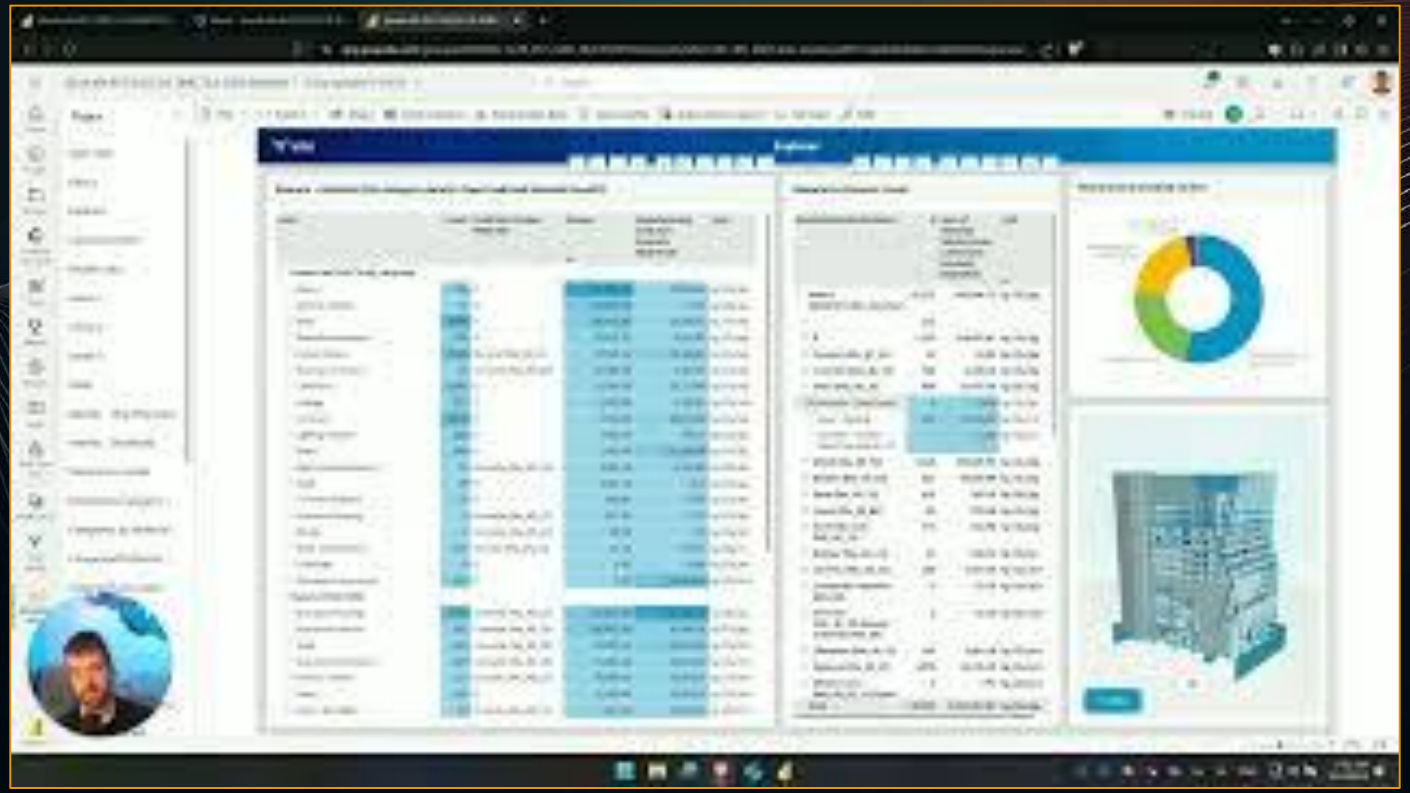
2050 materials

AutoDesk Forma Plug-in for master planning embodied carbon assessments

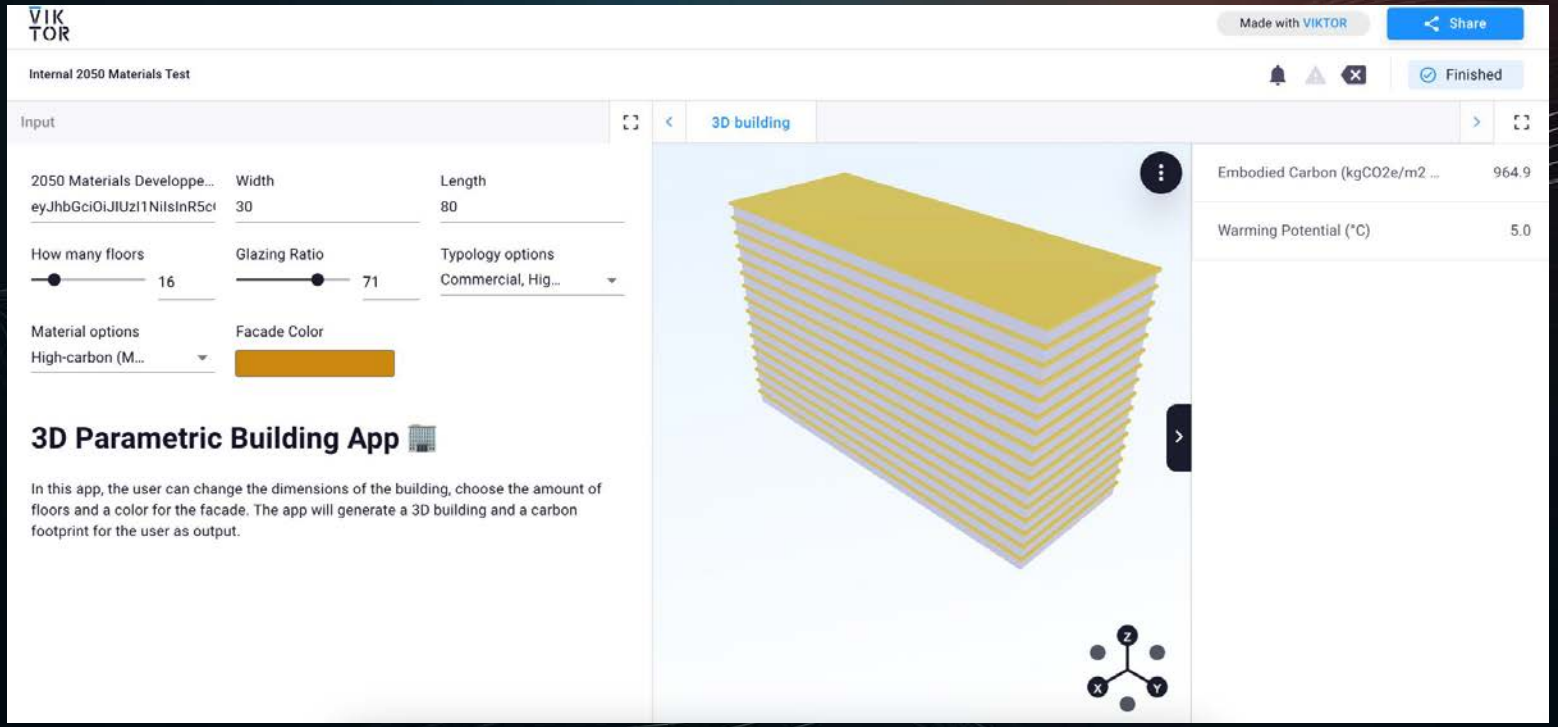
Dynamo-based AI-Driven Material Creation



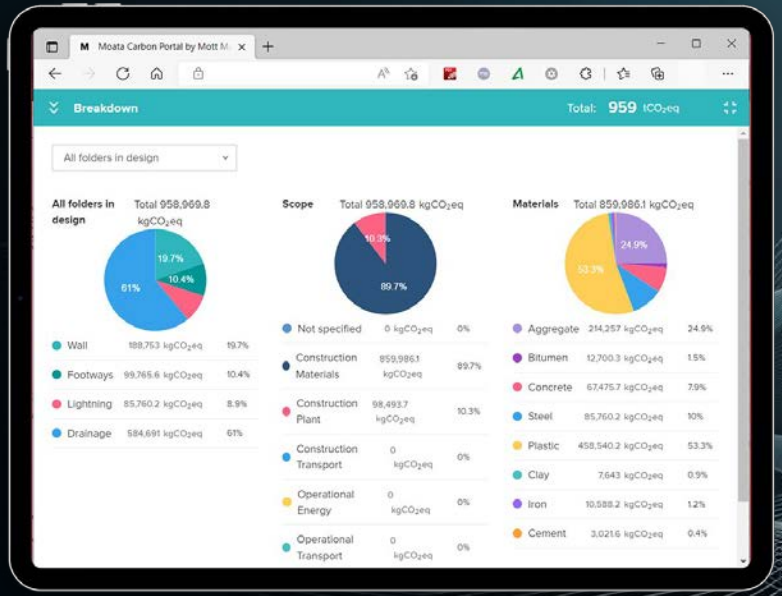
VIM / PowerBI visualization of embodied carbon for large BIM models

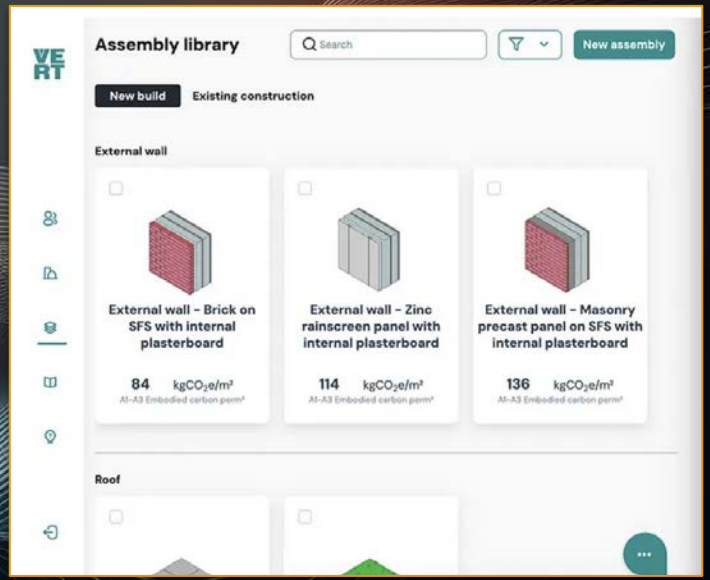


3D Embodied Carbon Visualizer for early-stage client engagement

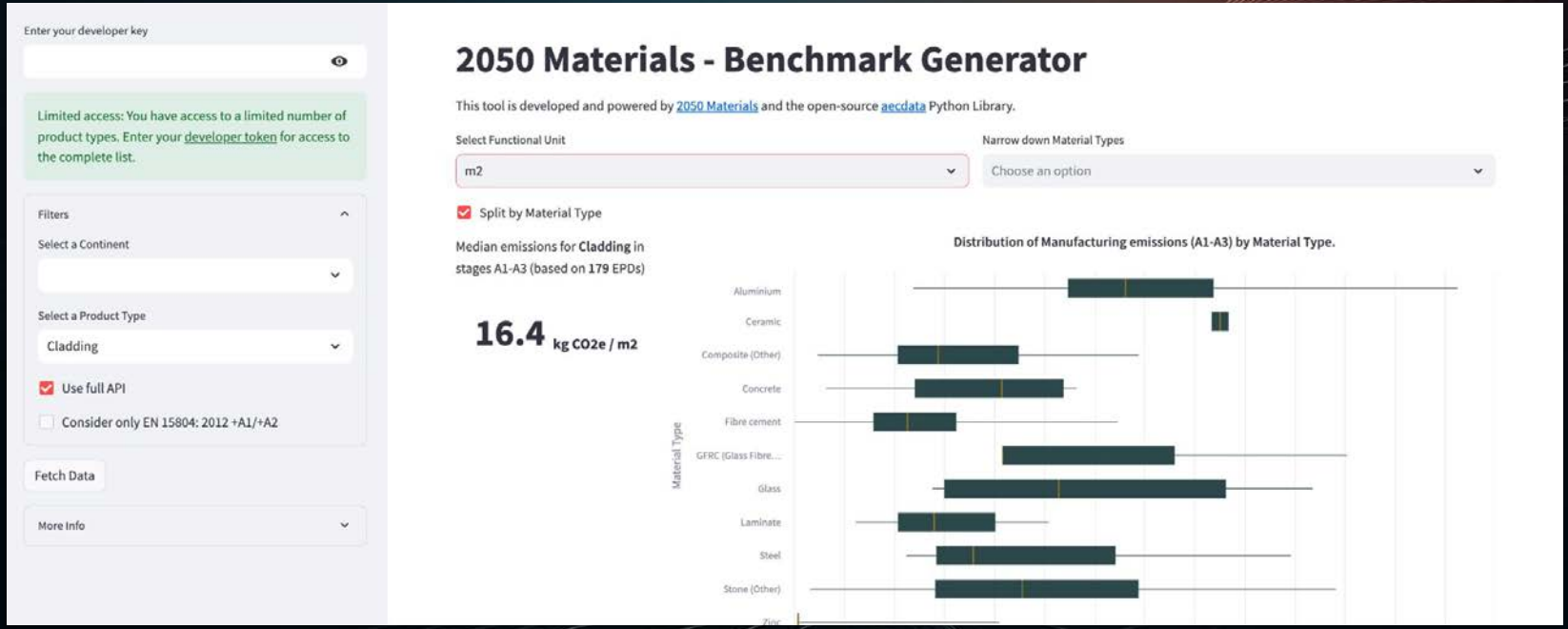


Whole Life Cycle Carbon Tools (MOATA & Hawkins Brown)



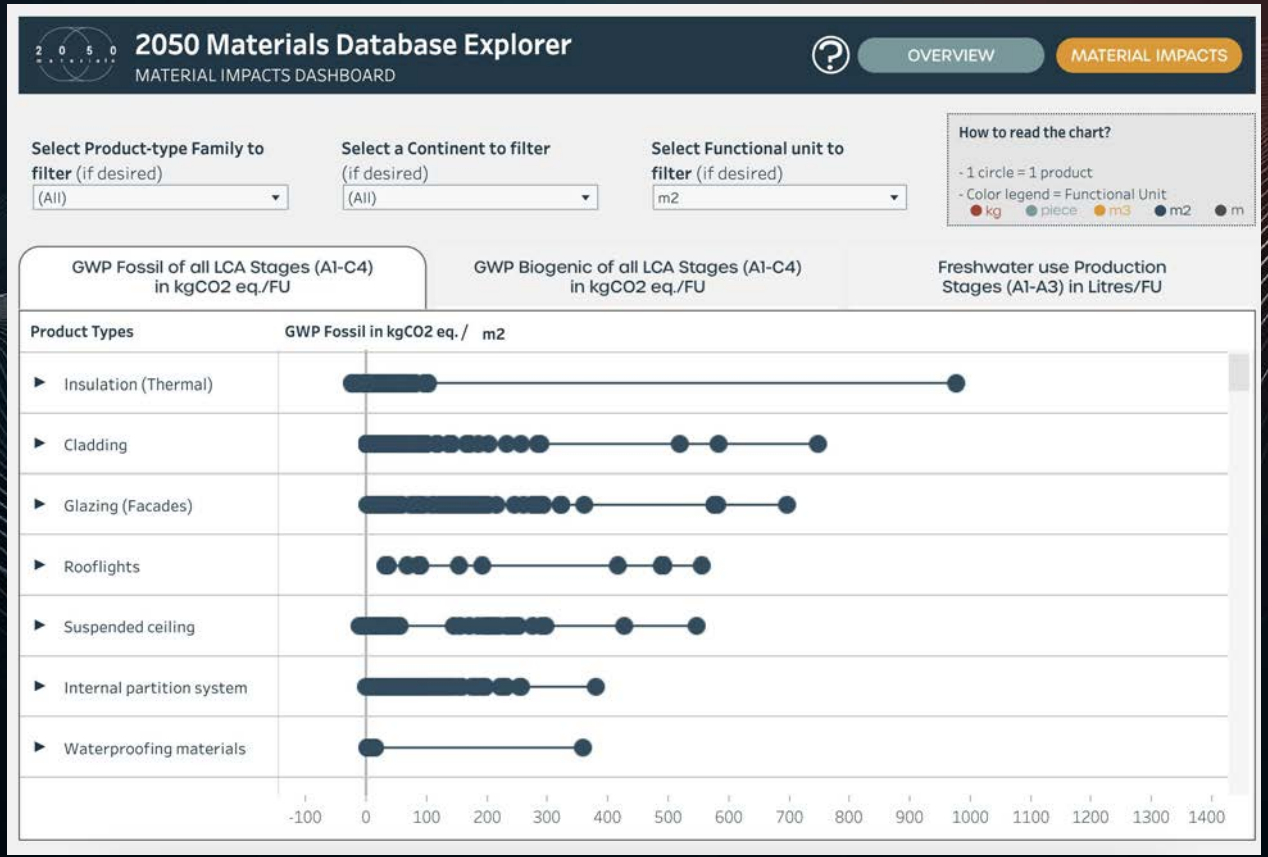


Python-based Data Analytics Tools

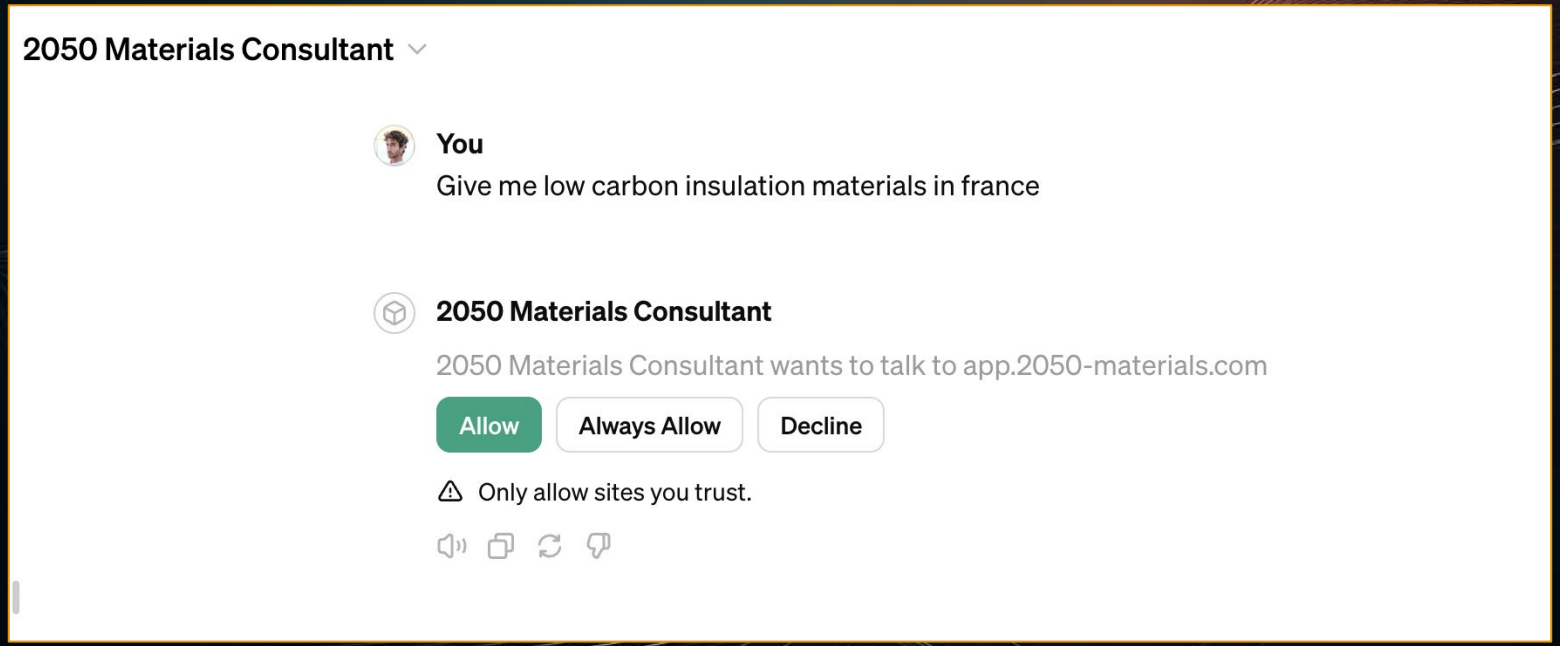


*Demo on streamlit

Tableau Dashboard for analytics and advisory services



LLM-based Agent - Sustainability Consultant

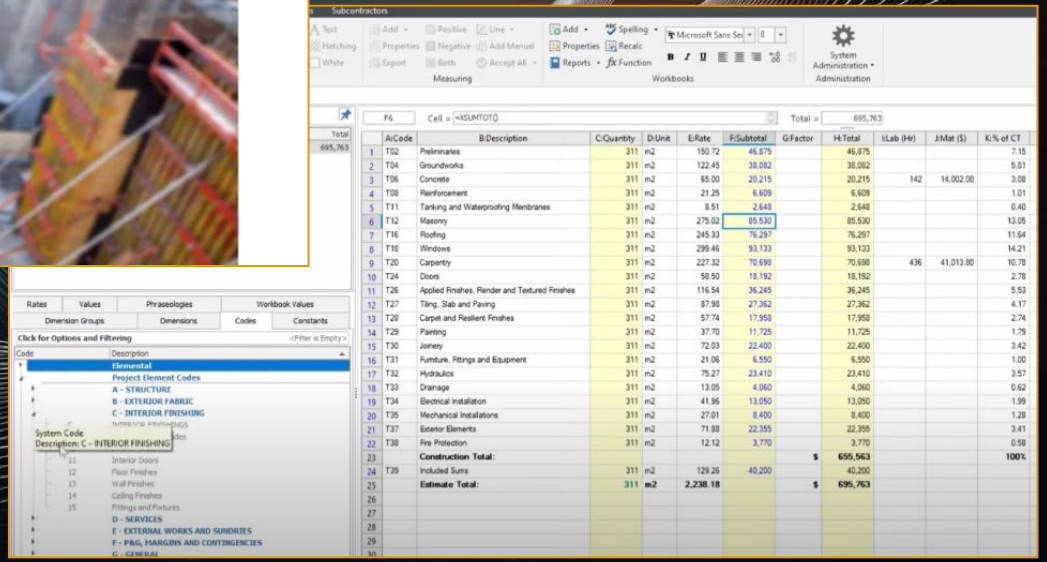


*Demo on GPT Store

CostX Data Integration to enable Cost & Carbon Estimates

GlobalData.

RIB Software partners with 2050 Materials for its CostX solution



	A:Code	B:Description	C:Quantity	D:Unit	E:Rate	F:Subtotal	G:Factor	H:Total	I:Lab (Hr)	J:Mat ($)	K:% of CT
1	T02	Preliminaries	311	m2	150.72	46,875		46,875			7.15
2	T04	Groundworks	311	m2	122.45	38,082		38,082			5.81
3	T06	Concrete	311	m2	65.00	20,215		20,215	142	14,002.00	3.08
4	T08	Reinforcement	311	m2	21.25	6,609		6,609			1.01
5	T11	Tanking and Waterproofing Membranes	311	m2	8.51	2,648		2,648			0.40
6	T12	Masonry	311	m2	275.02	85,530		85,530			13.05
7	T16	Roofing	311	m2	245.33	76,297		76,297			11.64
8	T18	Windows	311	m2	299.46	93,133		93,133			14.21
9	T20	Carpentry	311	m2	227.32	70,698		70,698	436	41,013.80	10.78
10	T24	Doors	311	m2	58.50	18,192		18,192			2.78
11	T26	Applied Finishes, Render and Textured Finishes	311	m2	116.54	36,245		36,245			5.53
12	T27	Tiling, Slab and Paving	311	m2	87.98	27,362		27,362			4.17
13	T28	Carpet and Resilient Finishes	311	m2	57.74	17,958		17,958			2.74
14	T29	Painting	311	m2	37.70	11,725		11,725			1.79
15	T30	Joinery	311	m2	72.03	22,400		22,400			3.42
16	T31	Furniture, Fittings and Equipment	311	m2	21.06	6,550		6,550			1.00
17	T32	Hydraulics	311	m2	75.27	23,410		23,410			3.57
18	T33	Drainage	311	m2	13.05	4,060		4,060			0.62
19	T34	Electrical Installation	311	m2	41.96	13,050		13,050			1.99
20	T35	Mechanical Installations	311	m2	27.01	8,400		8,400			1.28
21	T37	Exterior Elements	311	m2	71.88	22,355		22,355			3.41
22	T38	Fire Protection	311	m2	12.12	3,770		3,770			0.58
23		**Construction Total:**					$	655,563			100%
24	T39	Included Sums	311	m2	129.26	40,200		40,200			
25		**Estimate Total:**	311	m2	2,238.18		$	695,763			