ASBP The Alliance for Sustainable Building Products

THE ENGINEERS REUSE COLLECTIVE

AI for Steel Reuse

ASBP The Alliance for Sustainable Building Products

THE ENGINEERS REUSE COLLECTIVE

Welcome

Andy Yates, The Engineers Reuse Collective



Building Resilience Through Reuse

Wednesday 4th November 2026
09:45-16:15, followed by drinks and networking
The British Library Knowledge Centre, London

ASBP The Alliance for Sustainable Building Products
UK GBC
A! ARCHITECTS! CLIMATE ACTION NETWORK
ISEP Institute of Sustainability & Environmental Professionals
UK Architects Declare Climate and Biodiversity Emergency
THE ENGINEERS REUSE COLLECTIVE
FIS FINISHES & INTERIORS SECTOR
circular do tank

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Agenda

- Asselia Katenbayeva: **Introduction to the project**
- Roy Fishwick: **How AI helps stockholders to inventory steel and make decisions**
- Megan Greig: **How AI helps structural engineers**
- Kostas Tsavdaridis: **Demo and reflections on how the AI works**
- Q&A (via Slido)



Asselia Katenbayeva
ASBP



Roy Fishwick
Cleveland Steel and Tubes



Megan Greig
Elliott Wood



Kostas Tsavdaridis
Efestos Hub

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Introduction to the project

Asselia Katenbayeva
ASBP

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Steel Reuse



Dr Asselia Katenbayeva

Sustainability Research Lead

The challenge: every member is unique









Every reclaimed steel member carries signs of its previous life life (attachments, penetrations, paint degradation, dents, welds, welds, and plates).

For reuse to scale, industry players need clear answers:

- **Is this steel member worth recovering?**
- **What reprocessing work is needed?**
- **Where can it be re-used efficiently?**

AI for steel reuse: the team and the projects

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Dr Asselia Katenbayeva
ASBP



Roy Fishwick
Cleveland Steel & Tubes



Dr Michael Sansom
BCSA



Andy Taylor
Thirsk Fabrications



Prof Konstantinos Tsavdaridis
Efestos Hub

AI for Steel Reuse

Previous project
RE-CELL

RE-CELL

Previous project
HARNESS

HARNESS

Current project
STEEL TRIAGE

STEEL TRIAGE

Current project
ReFACTOR

ReFACTOR

AI for steel reuse: the team and the projects

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Alliance for Sustainable Building Products

ASBP The Alliance for Sustainable Building Products

ASBP members working on steel reuse

Steel stockholder
Cleveland Steel & Tubes

Designers
Heyne Tillet Steel
Elliott Wood
Whitby Wood
Engenuiti

Main contractors
McLaren
Morgan Sindall

Demolition contractors
John F Hunt
Coleman Group

Reuse specialists
Efestos Hub
Reusefully
Material Index



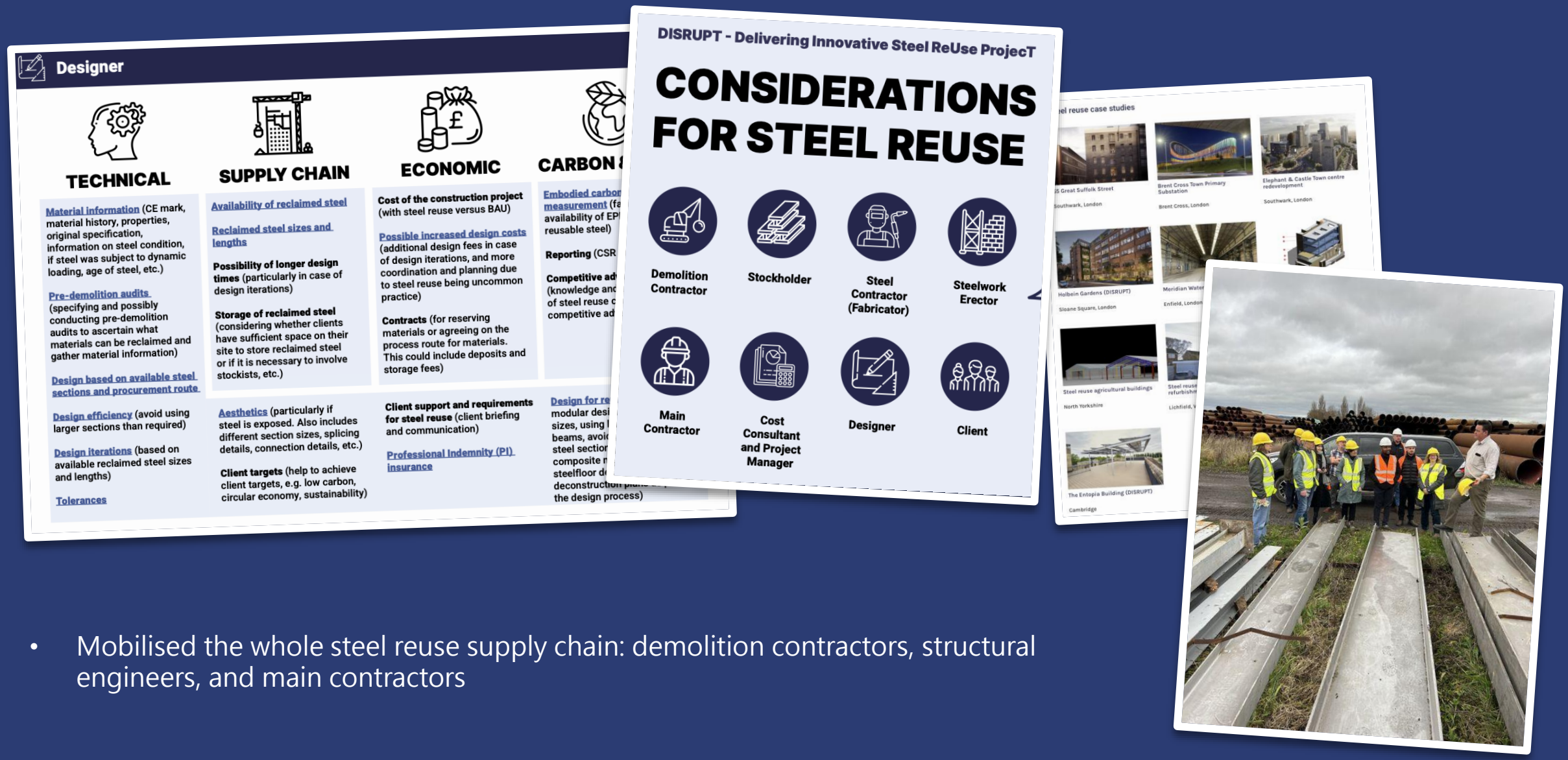
Dr Asselia Katenbayeva, ASBP

8 Innovate UK projects in 4 years

- 2022 **ARMOUR** steel reuse for marine artificial reefs
- 2023 **DISRUPT** whole steel reuse supply chain focus
- 2023 **E-TRACS** markings & traceability of reclaimed steel
- 2024 **DISRUPT 2** focus on demolition contractors
- 2026 **RE-CELL** cellular beam reuse (AI / computer vision)
- 2026 **HARNESS** AI in the fabrication workflow
- 2026 **STEEL TRIAGE** AI for steel processing
- 2027 **ReFACTOR** AI for steel processing

DISRUPT project

The Alliance for Sustainable Building Products



- Mobilised the whole steel reuse supply chain: demolition contractors, structural engineers, and main contractors

DISRUPT II project

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AI for steel reuse: the team and the projects

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Cleveland Steel & Tubes



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Efestos Hub

AI for Steel Reuse

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STEEL TRIAGE

Current project
ReFACTOR

ReFACTOR

Roy Fishwick, Cleveland Steel & Tubes



Roy Fishwick

Managing Director, Cleveland Steel & Tubes

- Long-standing supporter of steel reuse, sharing data and knowledge
- Cleveland Steel & Tubes: the UK's largest stockholder of reusable steel, with over 45 years' experience in reprocessing surplus steel
- Reused steel supplied to projects including the London Olympic Stadium and the Wimbledon No. 1 Court roof

Michael Sansom, BCSA



Dr Michael Sansom

Sustainability Director, BCSA

- Co-author of SCI P427
- EU-funded steel reuse research, including REDUCE and PROGRESS
- Earlier work with Roy, ASBP, and others on a platform matching supply and demand for reclaimed steel (Innovate UK, 2015 to 2016)
- Leads the Steel Reuse Working Group at BCSA

Andy Taylor, Thirsk Fabrications



Andy Taylor

Commercial Manager, Thirsk Fabrications

- SME fabricator, and an early adopter of steel reuse, including in temporary works and propping
- Co-located with Cleveland Steel & Tubes in Thirsk, so material can be shared for the trials and tests
- Brings the SME perspective: reclaimed steel often needs bespoke treatment, which may suit SME fabricators well

Efestos Hub



Professor Konstantinos Tsavdaridis

Founder, Efestos Hub; Chair of Structural Engineering, City St George's, University of London

- Award-winning tech SME (e.g. TechFest), with R&D backed by Innovate UK and Horizon Europe projects
- A team of AI engineers and structural engineers; the only digital platform endorsed by BCSA for steel reuse
- Konstantinos is among the world's top 2% of scientists (Stanford University and Elsevier list), with 250+ papers and international patents

AI for steel reuse: the team and the projects

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Prof Konstantinos Tsavdaridis
Efestos Hub

AI for Steel Reuse

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RE-CELL

RE-CELL

Previous project
HARNESS

HARNESS

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STEEL TRIAGE

STEEL TRIAGE

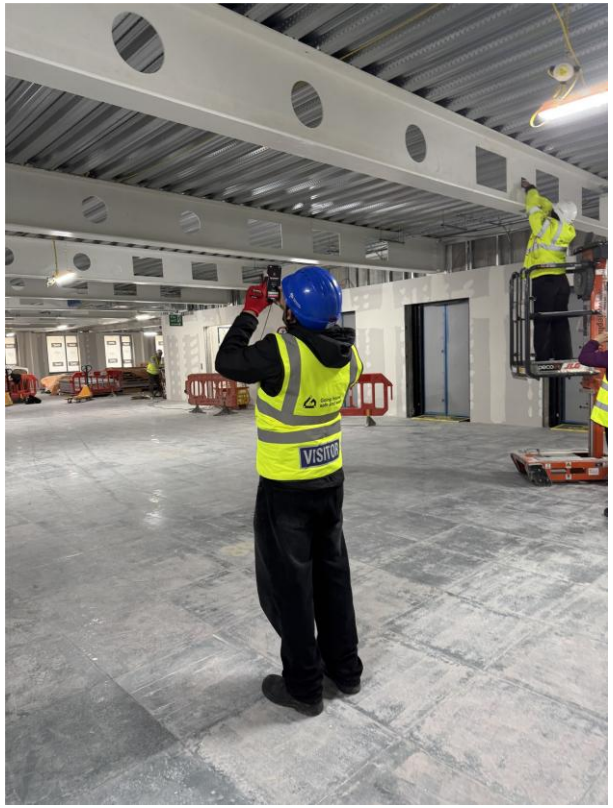
Current project
ReFACTOR

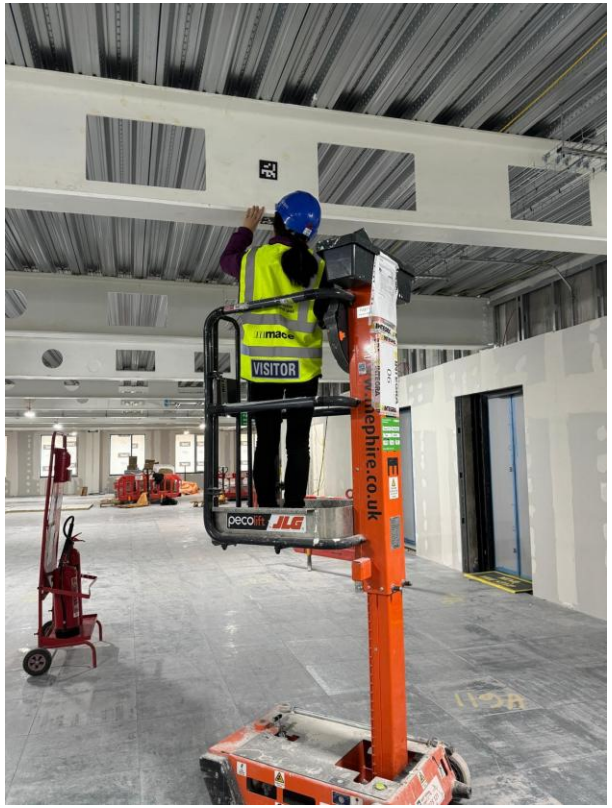
ReFACTOR

RE-CELL project

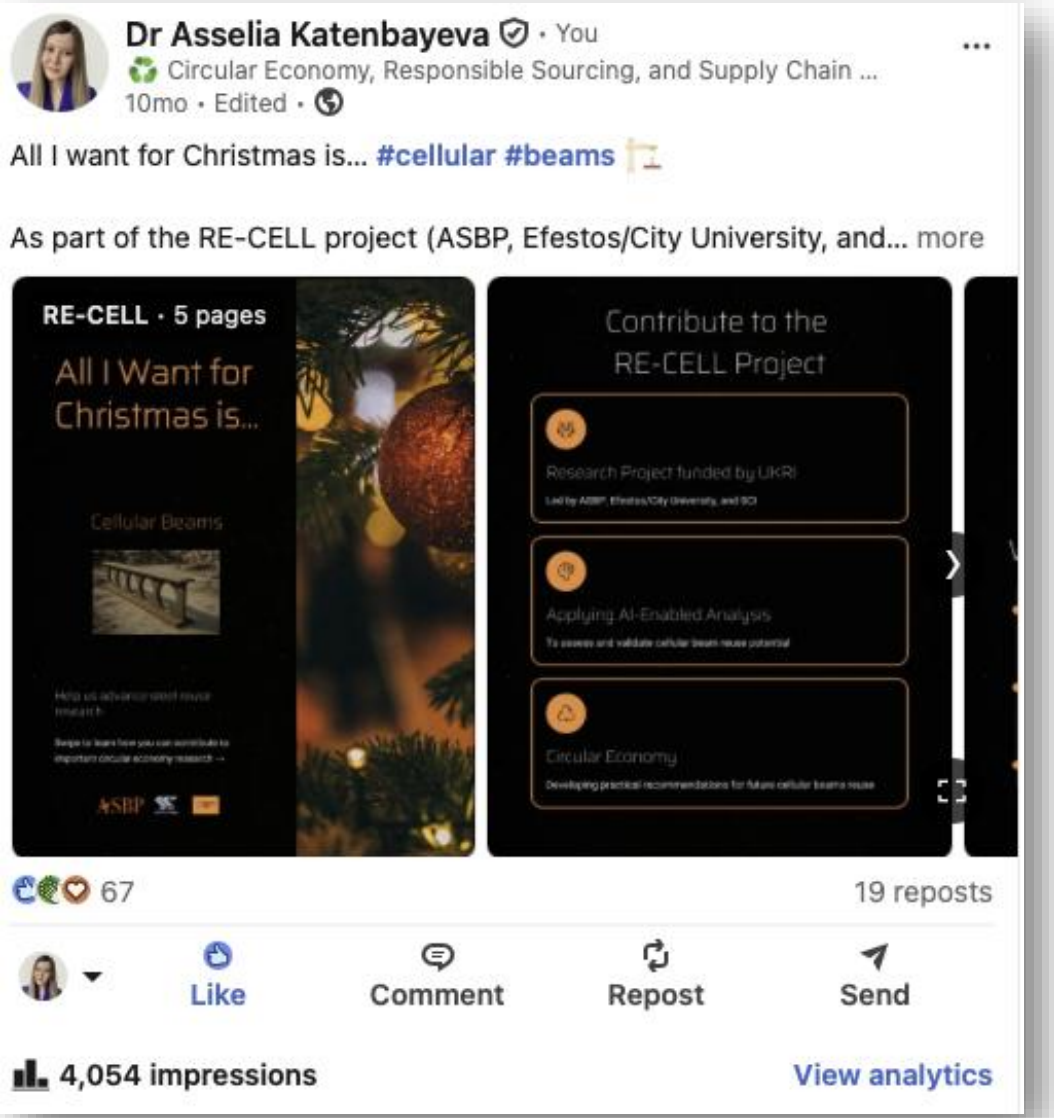
- Conducted **5 site visits** and collected image datasets of cellular beams
- Thankful to Elliott Wood, Severfield, Whitby Wood, and Bywater







RE-CELL project

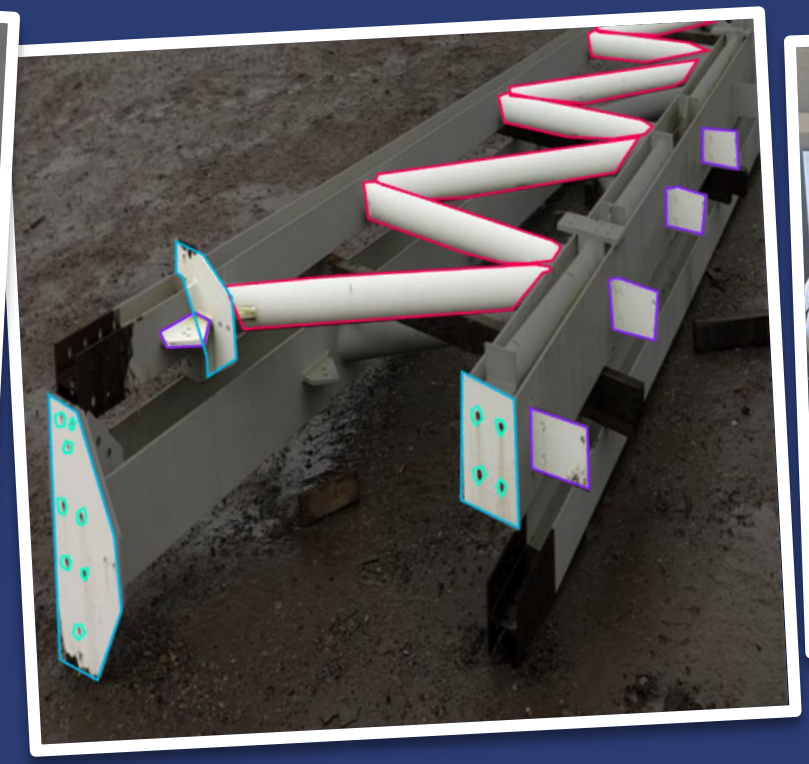






HARNESS project









The AI model was trained to recognise attachments, openings, and steel members

Where this leads

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The ecosystem we have built, the work we have focused on, and our cumulative experience as a team now lead to 2 current projects

THE TEAM



PREVIOUS PROJECTS

DISRUPT Delivering Innovative Steel ReUse ProjecT

DISRUPT 2 Delivering Innovative Steel ReUse ProjecT

RE-CELL

HARNESS

CURRENT PROJECTS

STEEL TRIAGE

AI ReFACTOR

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THE ENGINEERS REUSE COLLECTIVE

How AI helps stockholders to inventory steel and make decisions

Roy Fishwick
Cleveland Steel and Tubes



AI and Steel Reuse

Roy Fishwick BSC MBA

Managing Director
Cleveland Steel and Tubes Ltd

roy@cleveland-steel.com

CLEVELAND STEEL & TUBES LTD

Current Process?

- Years of experience
- Trial and error
- Inconsistent outcomes
- Steel and scrap price volatility means costs need to be accurate
- Complex decision tree
- Labour intensive

Finger in the Air



Trust your Gut?



Inconsistent outcomes

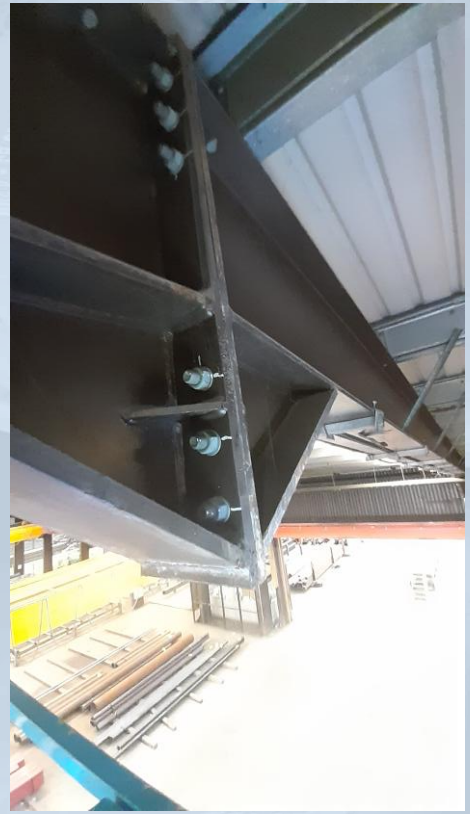
- Different answers each time
- Very hard to teach
- Conservative, low risk approach
- More material lost

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What Have We Got?

- Pre-demolition Audit
- Material on floor prepurchase/reprocessing
- Material in yard
- Material pre despatch for fabrication

Inaccessible



“Features”



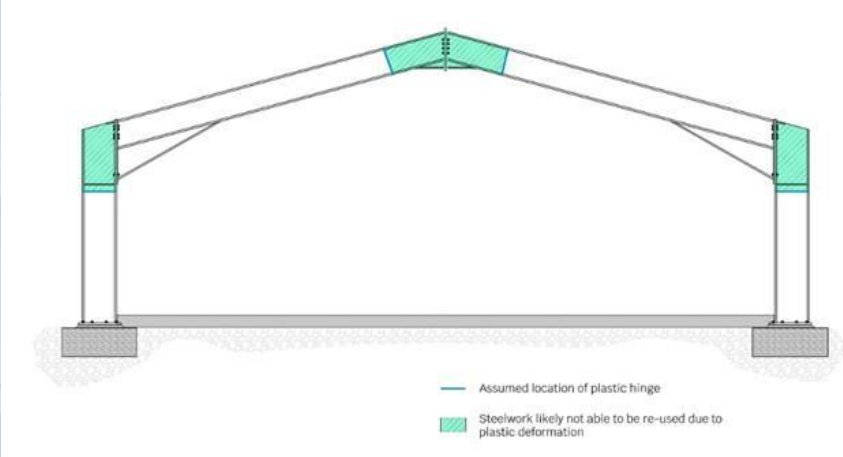
Quantity/Quality



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What is it Worth?

Is It Usable?



Is it Some of it Usable?



What is the Cost – Labour?







What is Cost – Waste?

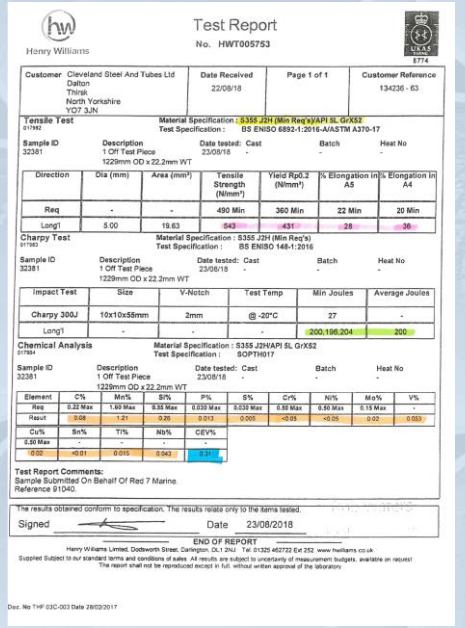




CLEVELAND STEEL & TUBES LTD

Can I Sell It?

Test Data?



Test Report

No. HWT005753

Henry Williams

Customer	Date Received	Page 1 of 1	Customer Reference
Cleveland Steel And Tubes Ltd Dalton Thirsk North Yorkshire YO7 3JN	22/08/18		134236 - 63

Tensile Test — Material Specification : S355 J2H (Min Req's)/API 5L GrX52 — Test Specification : BS EN ISO 6892-1:2016-A/ASTM A370-17

Sample ID	Description	Date tested:	Cast	Batch	Heat No
32381	1 Off Test Piece 1229mm OD x 22.2mm WT	23/08/18	-	-	-

Direction	Dia (mm)	Area (mm²)	Tensile Strength (N/mm²)	Yield Rp0.2 (N/mm²)	% Elongation in 5 A5	% Elongation in A4
Req	-	-	490 Min	360 Min	22 Min	20 Min
Long'l	5.00	19.63	643	431	28	36

Charpy Test — Material Specification : S355 J2H (Min Req's) — Test Specification : BS EN ISO 148-1:2016

Sample ID	Description	Date tested:	Cast	Batch	Heat No
32381	1 Off Test Piece 1229mm OD x 22.2mm WT	23/08/18	-	-	-

Impact Test	Size	V-Notch	Test Temp	Min Joules	Average Joules
Charpy 300J	10x10x55mm	2mm	@ -20°C	27	-
Long'l	-	-	-	200,196,204	200

Chemical Analysis — Material Specification : S355 J2H/API 5L GrX52 — Test Specification : SOPTH017

Sample ID	Description	Date tested:	Cast	Batch	Heat No
32381	1 Off Test Piece 1229mm OD x 22.2mm WT	23/08/18	-	-	-

Element	C%	Mn%	Si%	P%	S%	Cr%	Ni%	Mo%	V%
Req	0.22 Max	1.60 Max	0.55 Max	0.030 Max	0.030 Max	0.50 Max	0.50 Max	0.15 Max	-
Result	0.08	1.21	0.26	0.013	0.005	<0.05	<0.05	0.02	0.053

Cu%	Sn%	Ti%	Nb%	CEV%
0.50 Max	-	-	-	-
0.02	<0.01	0.015	0.043	0.31

Test Report Comments:
Sample Submitted On Behalf Of Red 7 Marine.
Reference 91040.

The results obtained conform to specification. The results relate only to the items tested.

Signed _____ Date 23/08/2018

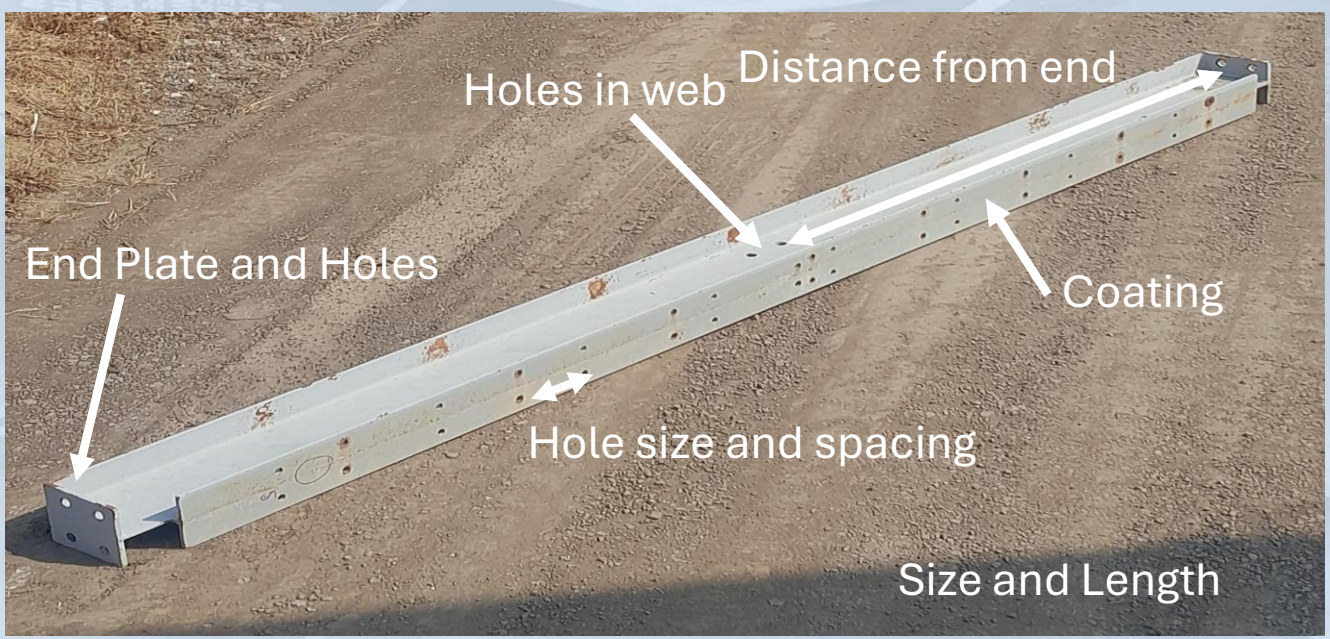
END OF REPORT

Henry Williams Limited, Dodsworth Street, Darlington, DL1 2NJ Tel: 01325 462722 Ext 252 www.hwilliams.co.uk

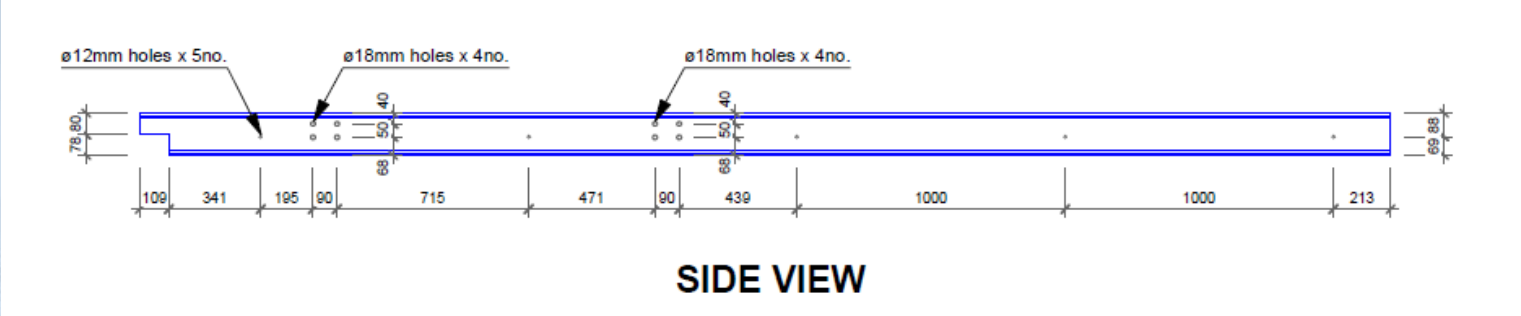
Supplied Subject to our standard terms and conditions of sales. All results are subject to uncertainty of measurement budgets, available on request. The report shall not be reproduced except in full, without written approval of the laboratory.

Doc. No THF 03C-003 Date 28/02/2017

Accurate Details



CAD/CAM Details



SIDE VIEW

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The Tool and Progress so Far

What Have We Got?

1. An App that is quick and easy to use?
2. Detailed output from app inputs
3. Cost model that will allow interactive decision making on recovery and cost, benefit & return
4. Consistent approach to offset variability in steel and scrap prices

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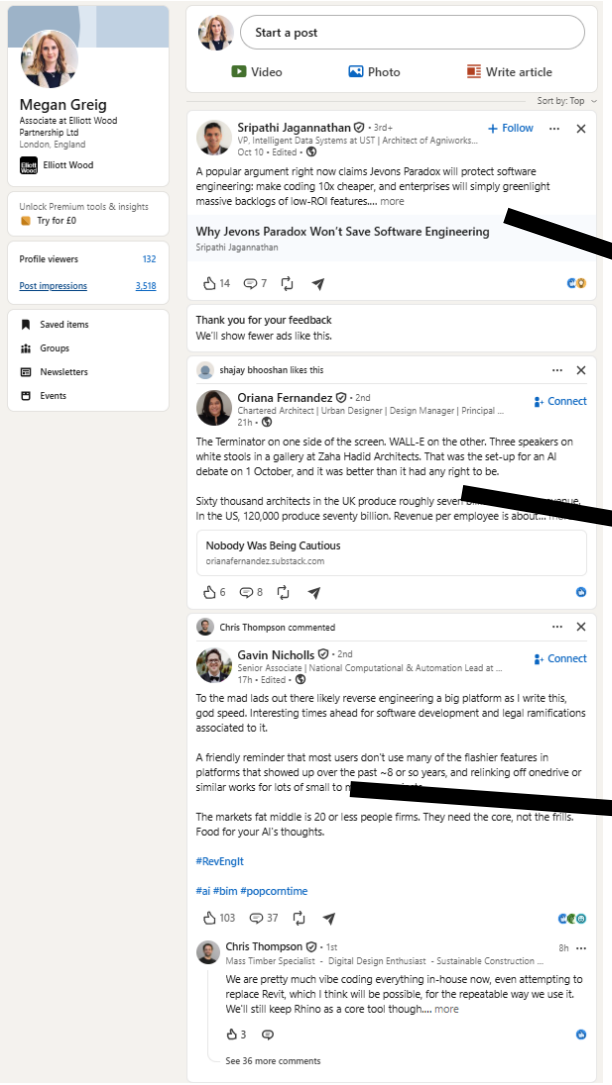
How AI helps structural engineers

Megan Greig
Elliott Wood

ElliottWood

AI in Steel Reuse

AI AI AI AI AI AI AI AI AI



A popular argument right now claims Jevons Paradox will protect software engineering: make coding 10x cheaper, and enterprises will simply greenlight massive backlogs of low-ROI features.

It's a comforting narrative. It's also fundamentally flawed.

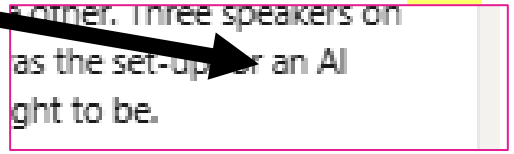
Jevons Paradox assumes the nature of the work—and the final product—remains static. But in software, code is not the product; the outcome is.

When autonomous agents satisfy user intent dynamically, the intermediate build—bespoke UI flows, custom endpoints, and integration code—is bypassed entirely. The backlog doesn't expand; it evaporates.

In this article, I unpack:

Why treating software like steam engines is a category error

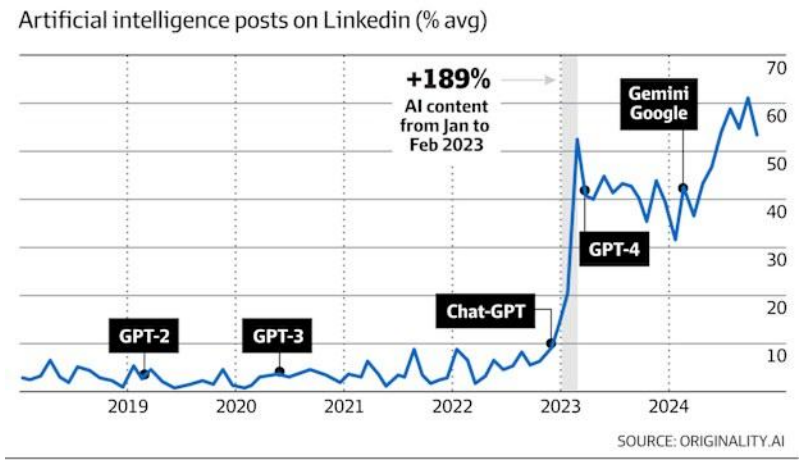
Where technical leverage actually lives today: Structured control planes, semantic

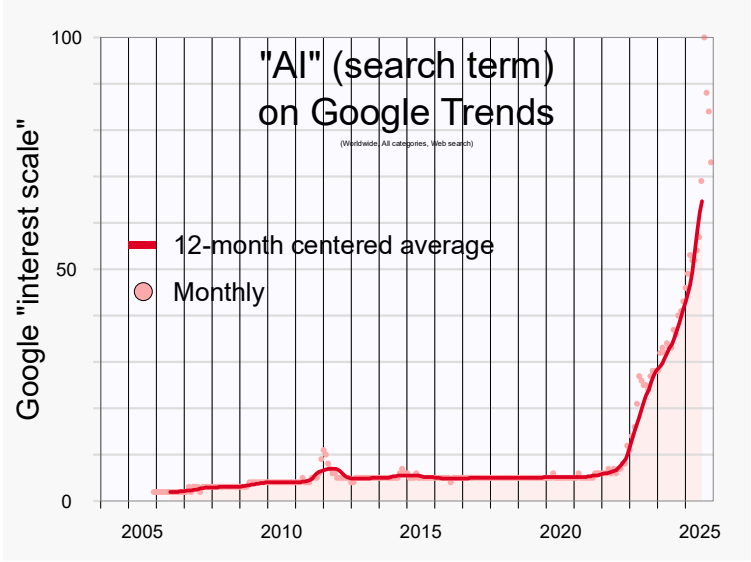


The markets fat middle is 20 or less people firms. They need the core, not the frills. Food for your AI's thoughts.

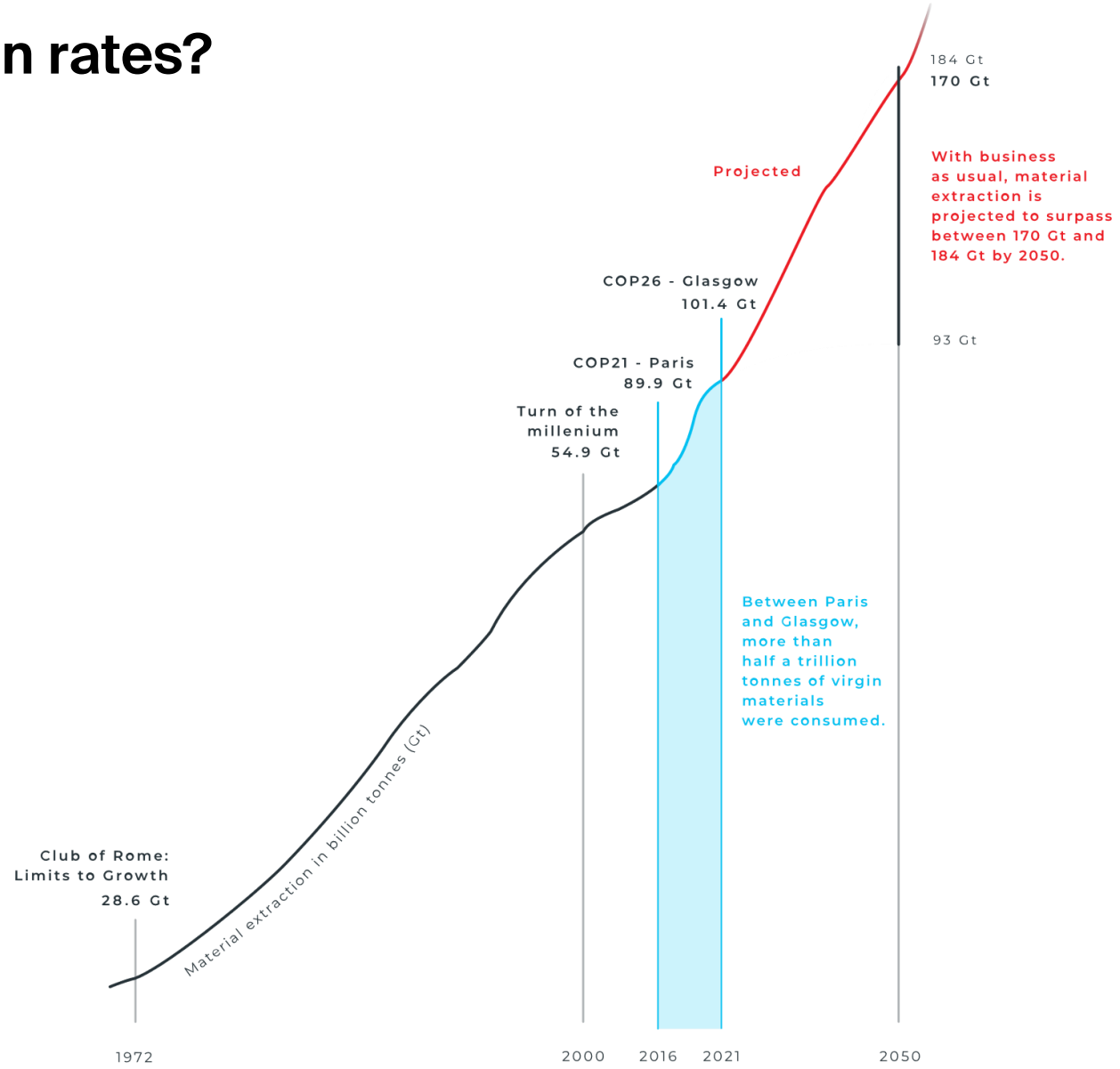
#RevEngIt

#ai #bim #popcorntime

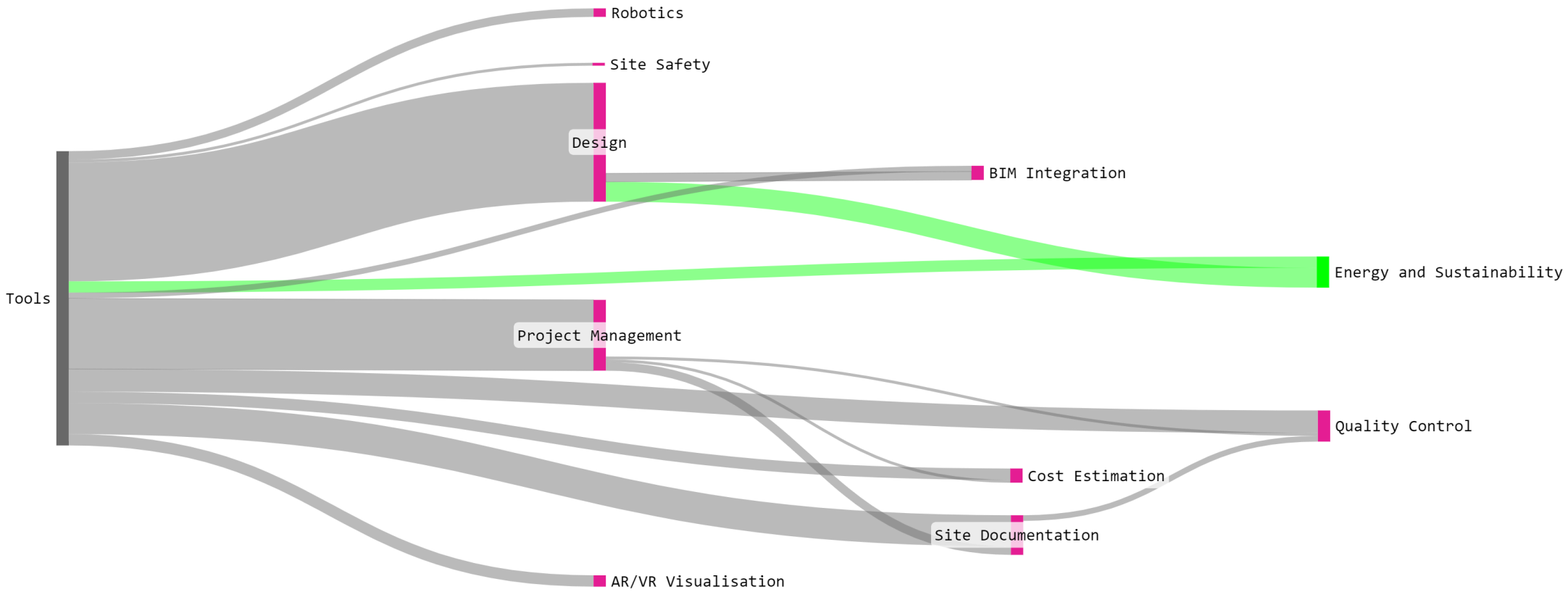


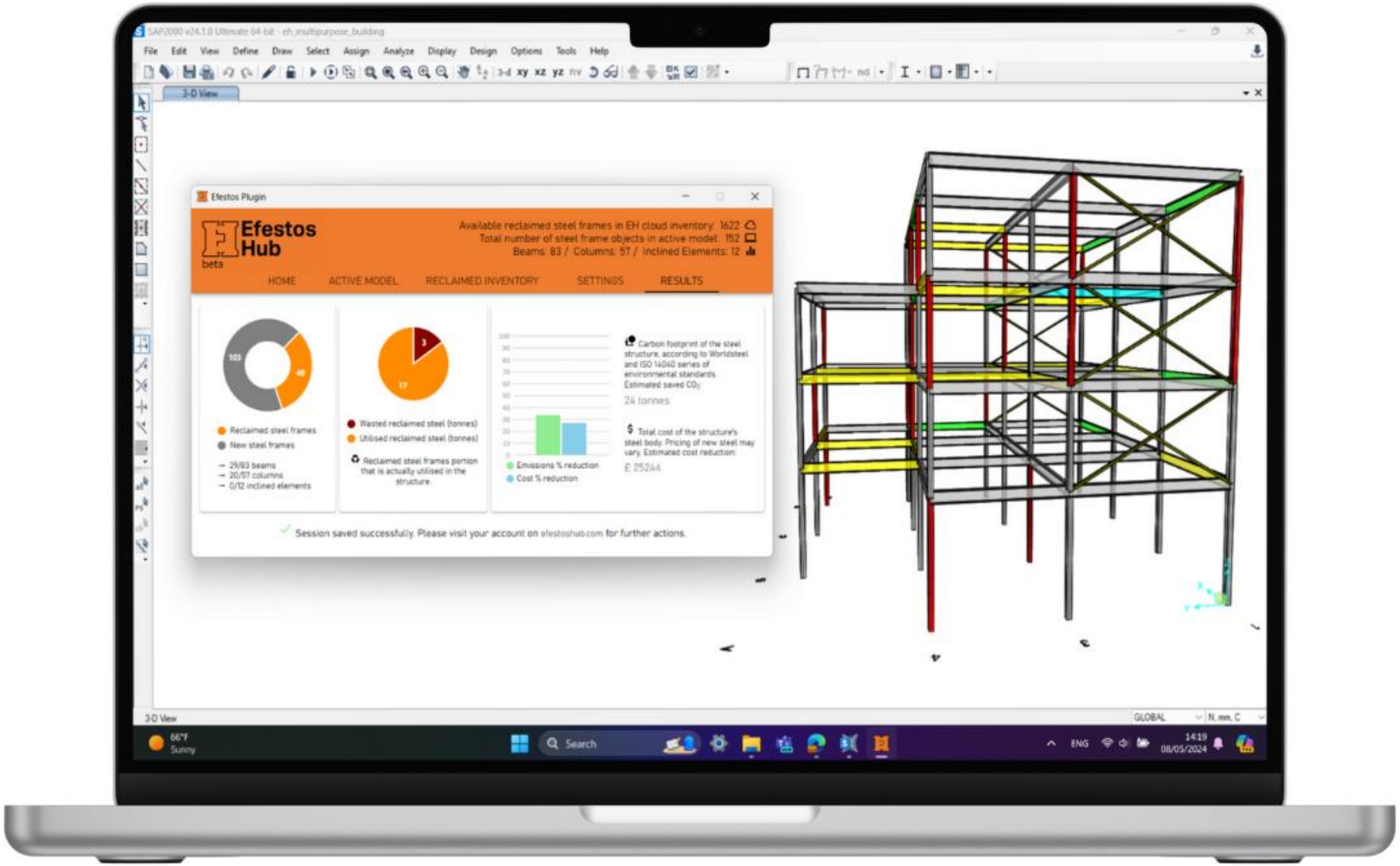


Material extraction rates?



AI tools in industry




Efestos Plugin
Efestos Hub
beta
Available reclaimed steel frames in EH cloud inventory: 1622
Total number of steel frame objects in active model: 152
Beams: 83 / Columns: 57 / Inclined Elements: 12
HOME
ACTIVE MODEL
RECLAIMED INVENTORY
SETTINGS
RESULTS
Reclaimed steel frames
New steel frames
29/83 beams
20/57 columns
0/12 inclined elements
Wasted reclaimed steel (tonnes)
Utilised reclaimed steel (tonnes)
Reclaimed steel frames portion that is actually utilised in the structure.
Emissions % reduction
Cost % reduction
Carbon footprint of the steel structure, according to Worldsteel and ISO 14040 series of environmental standards.
Estimated saved CO2:
24 tonnes
Total cost of the structure's steel body. Pricing of new steel may vary. Estimated cost reduction:
£ 25244
Session saved successfully. Please visit your account on efestoshub.com for further actions.

Blockers to steel reuse

- Opportunities are lost as design evolves
- Speed is prioritised, no time during demolition or post-tender to evaluate reuse
- Storage and logistics, the supply chain can be opaque
- Fluctuating stocklists, stock sent through are only a snapshot in time
- What do we need to do to the section to get it ready to be used again?

What does this mean for engineers?

- Unclear stocks and flows make finding supply difficult
- Evaluating stock from a donor building takes time
- Time to stock-match is either time or cost prohibitive
- ‘As new’ vs ‘Good Enough’ fabrication?

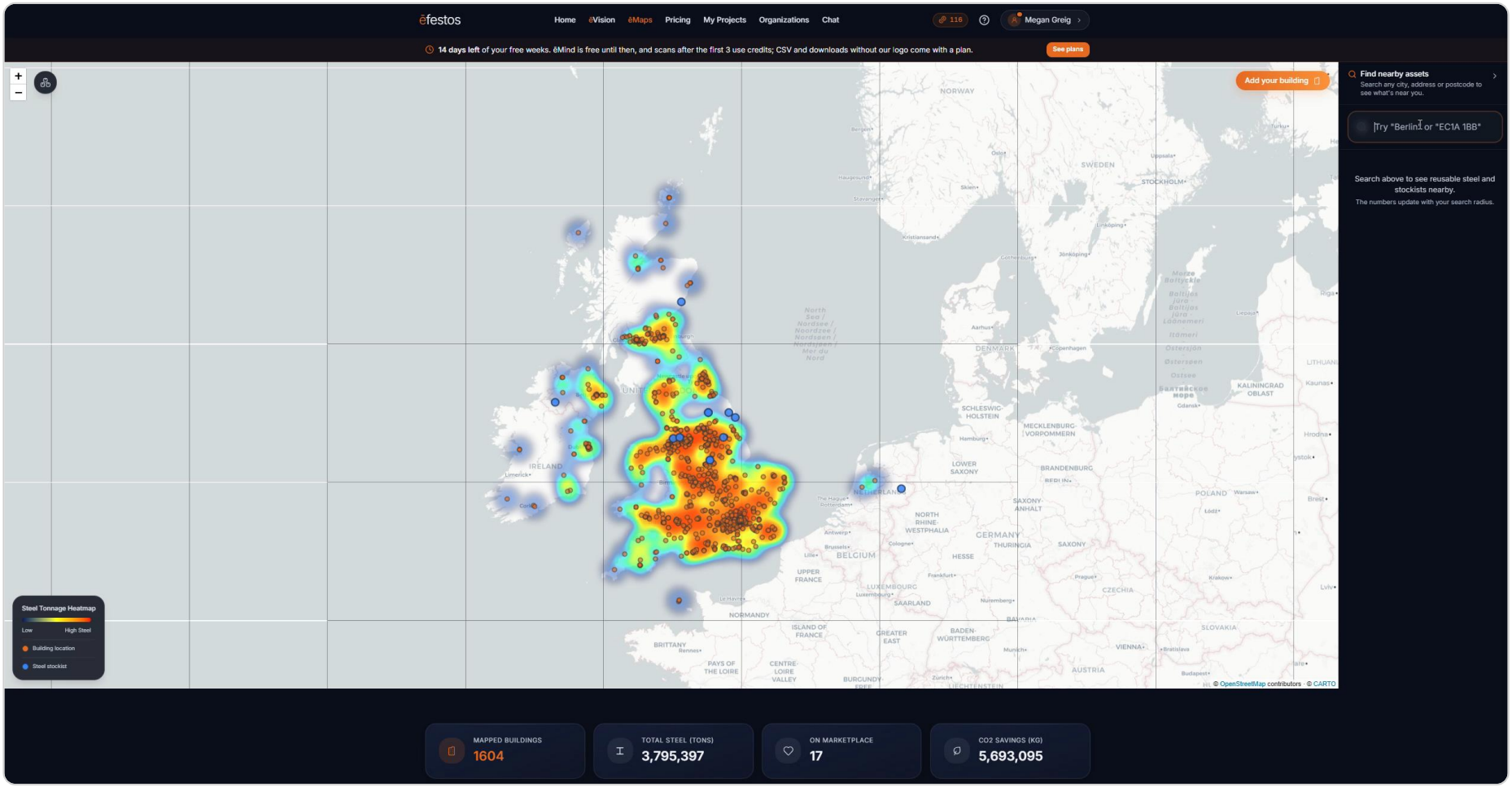
01
Availability of steel

02
Understanding the stock

03
Iterating the design

04
Understanding the effort

Availability of Steel



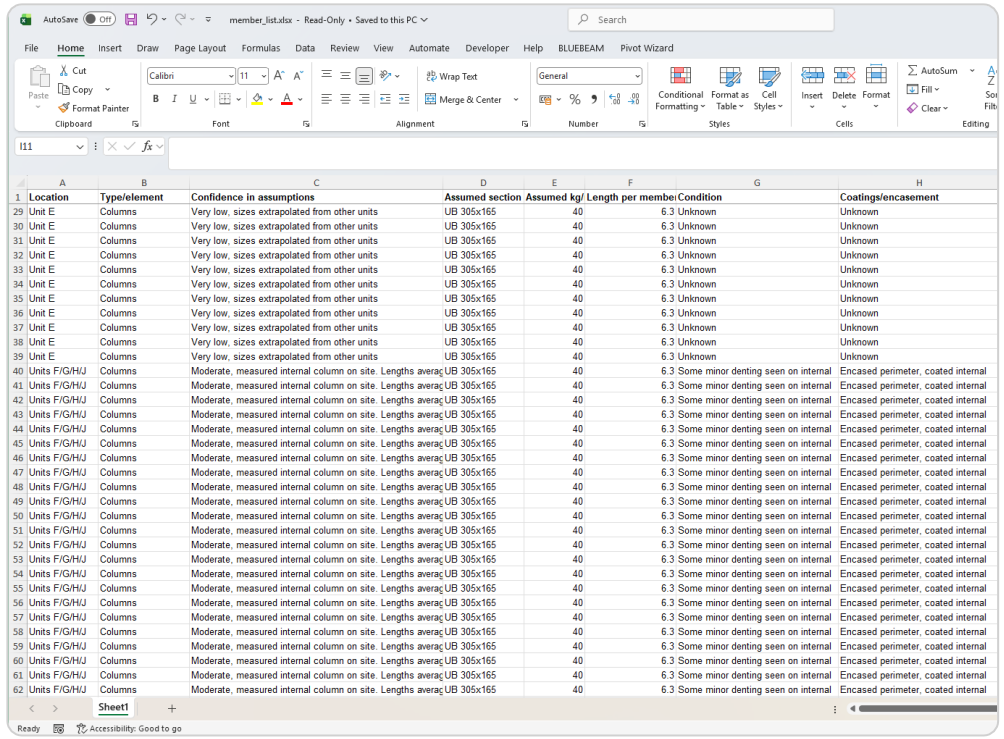
Understanding the Stock

01
Availability of steel

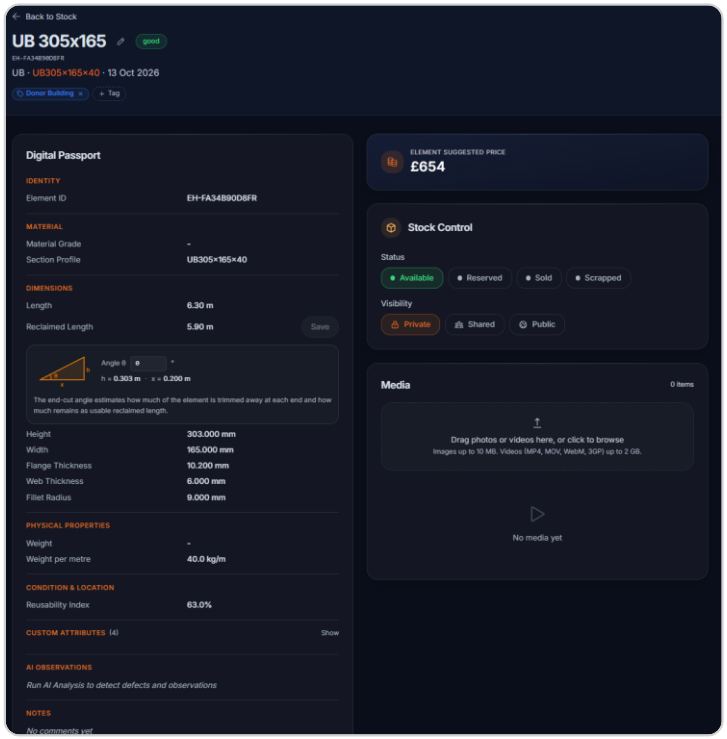
02
Understanding the stock

03
Iterating the design

04
Understanding the effort



	A	B	C	D	E	F	G	H
1	Location	Type/element	Confidence in assumptions	Assumed section	Assumed kg/	Length per membe	Condition	Coatings/encasement
29	Unit E	Columns	Very low, sizes extrapolated from other units	UB 305x165	40	6.3	Unknown	Unknown
30	Unit E	Columns	Very low, sizes extrapolated from other units	UB 305x165	40	6.3	Unknown	Unknown
31	Unit E	Columns	Very low, sizes extrapolated from other units	UB 305x165	40	6.3	Unknown	Unknown
32	Unit E	Columns	Very low, sizes extrapolated from other units	UB 305x165	40	6.3	Unknown	Unknown
33	Unit E	Columns	Very low, sizes extrapolated from other units	UB 305x165	40	6.3	Unknown	Unknown
34	Unit E	Columns	Very low, sizes extrapolated from other units	UB 305x165	40	6.3	Unknown	Unknown
35	Unit E	Columns	Very low, sizes extrapolated from other units	UB 305x165	40	6.3	Unknown	Unknown
36	Unit E	Columns	Very low, sizes extrapolated from other units	UB 305x165	40	6.3	Unknown	Unknown
37	Unit E	Columns	Very low, sizes extrapolated from other units	UB 305x165	40	6.3	Unknown	Unknown
38	Unit E	Columns	Very low, sizes extrapolated from other units	UB 305x165	40	6.3	Unknown	Unknown
39	Unit E	Columns	Very low, sizes extrapolated from other units	UB 305x165	40	6.3	Unknown	Unknown
40	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
41	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
42	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
43	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
44	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
45	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
46	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
47	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
48	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
49	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
50	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
51	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
52	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
53	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
54	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
55	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
56	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
57	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
58	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
59	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
60	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
61	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal
62	Units F/G/H/J	Columns	Moderate, measured internal column on site. Lengths averag	UB 305x165	40	6.3	Some minor denting seen on internal	Encased perimeter, coated internal



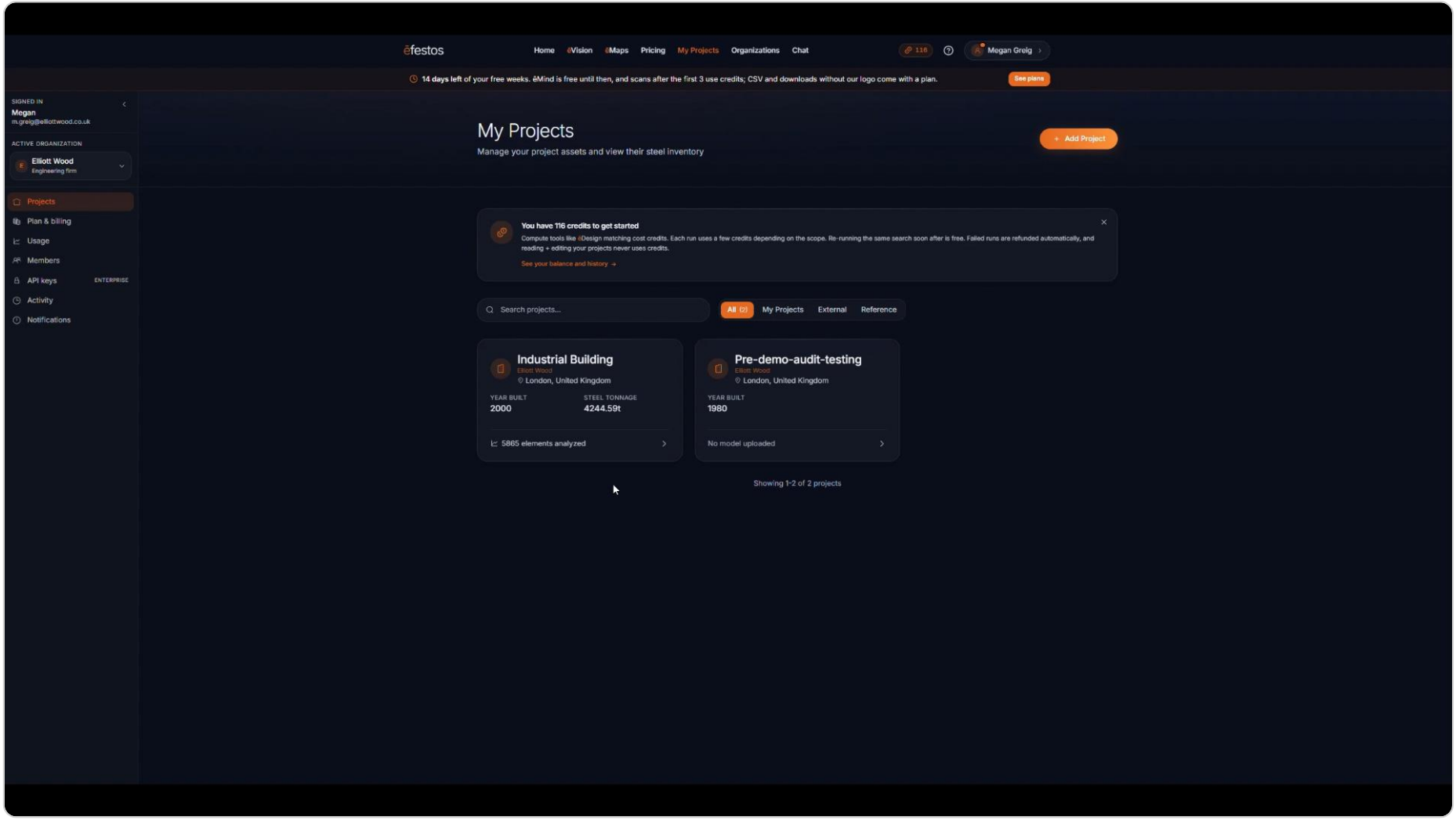
01
Availability of steel

02
Understanding the stock

03
Iterating the design

04
Understanding the effort

Understanding the Stock



01
Availability of steel

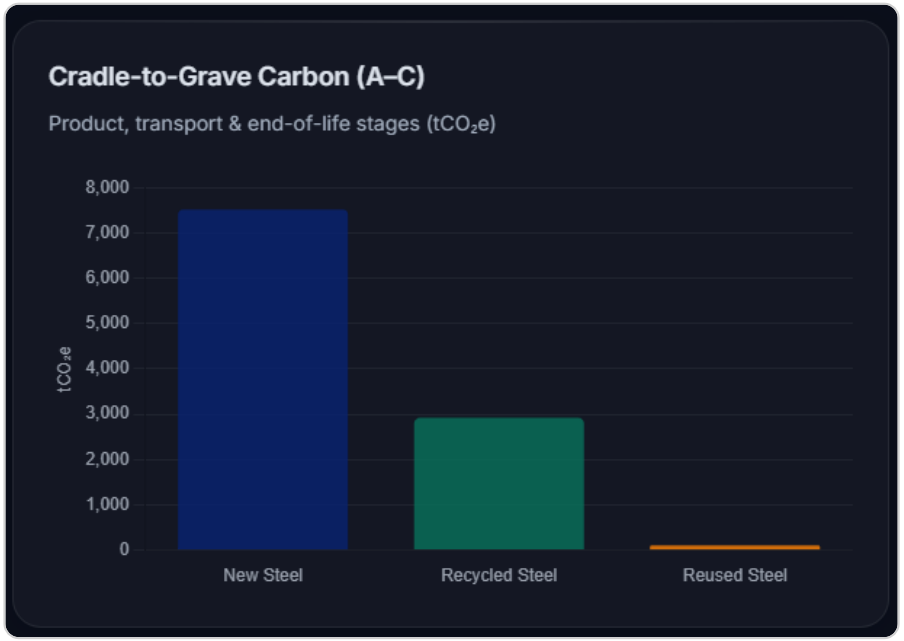
02
Understanding the stock

03
Iterating the design

04
Understanding the effort

Understanding the Stock





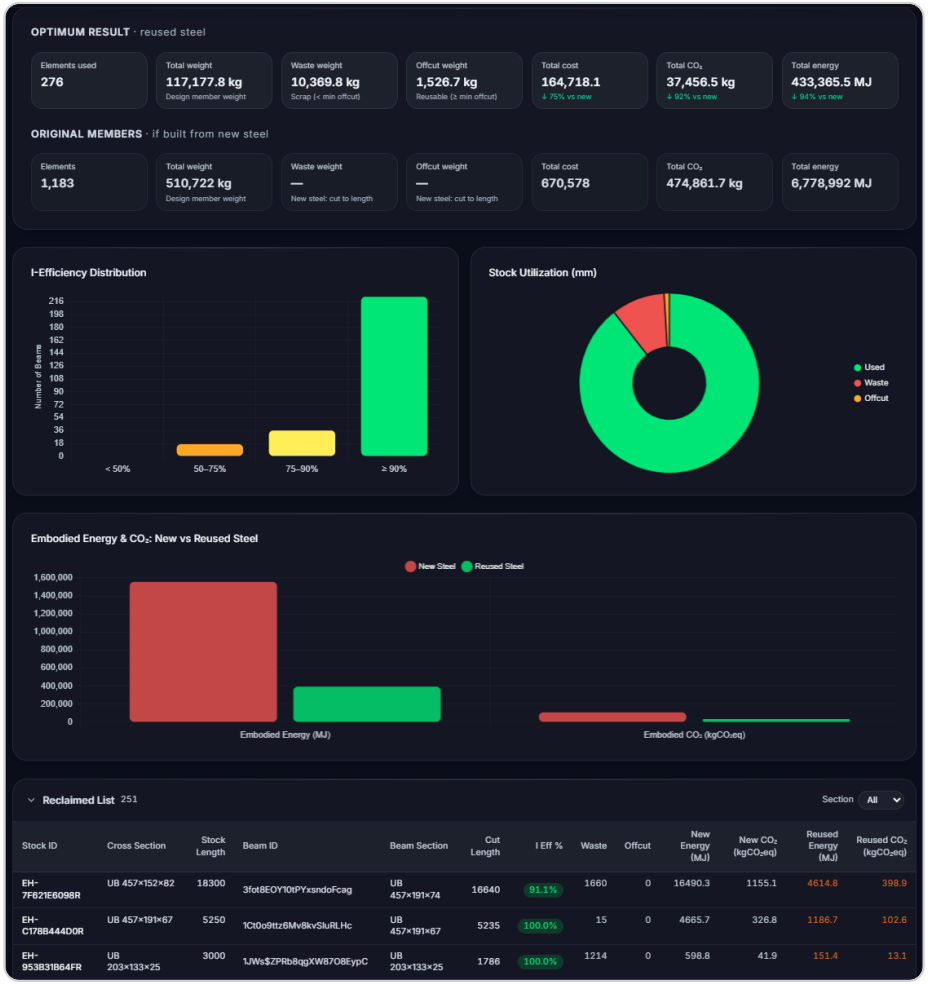
01
Availability of steel

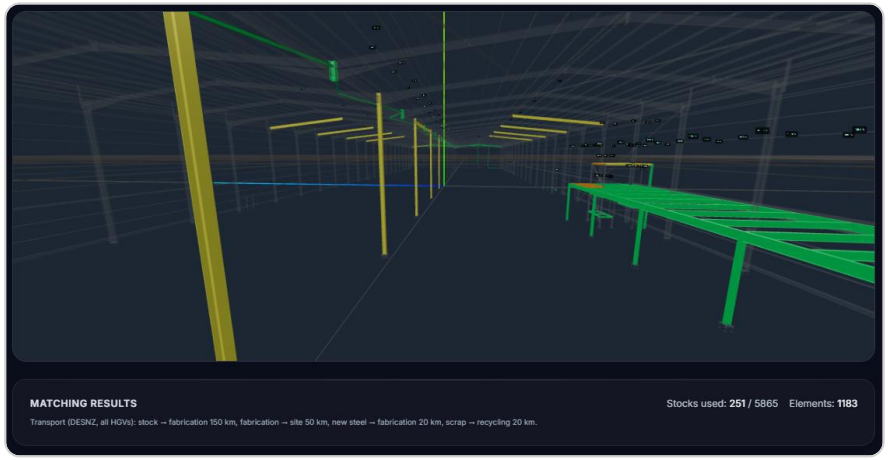
02
Understanding the stock

03
Iterating the design

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Iterating the Design





01
Availability of steel

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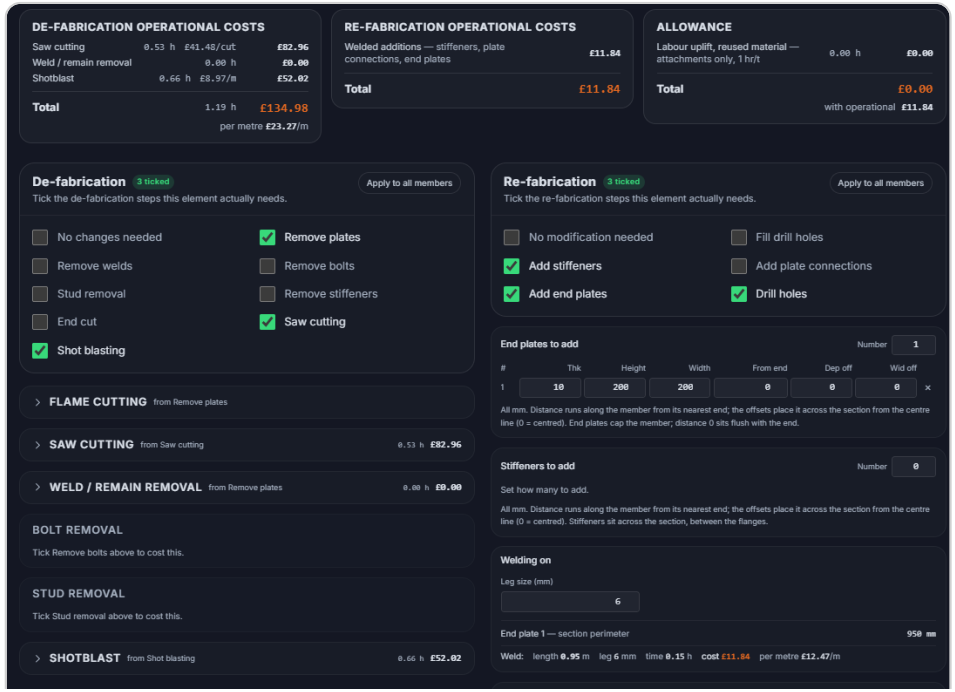
04
Understanding the effort

Understanding the Effort

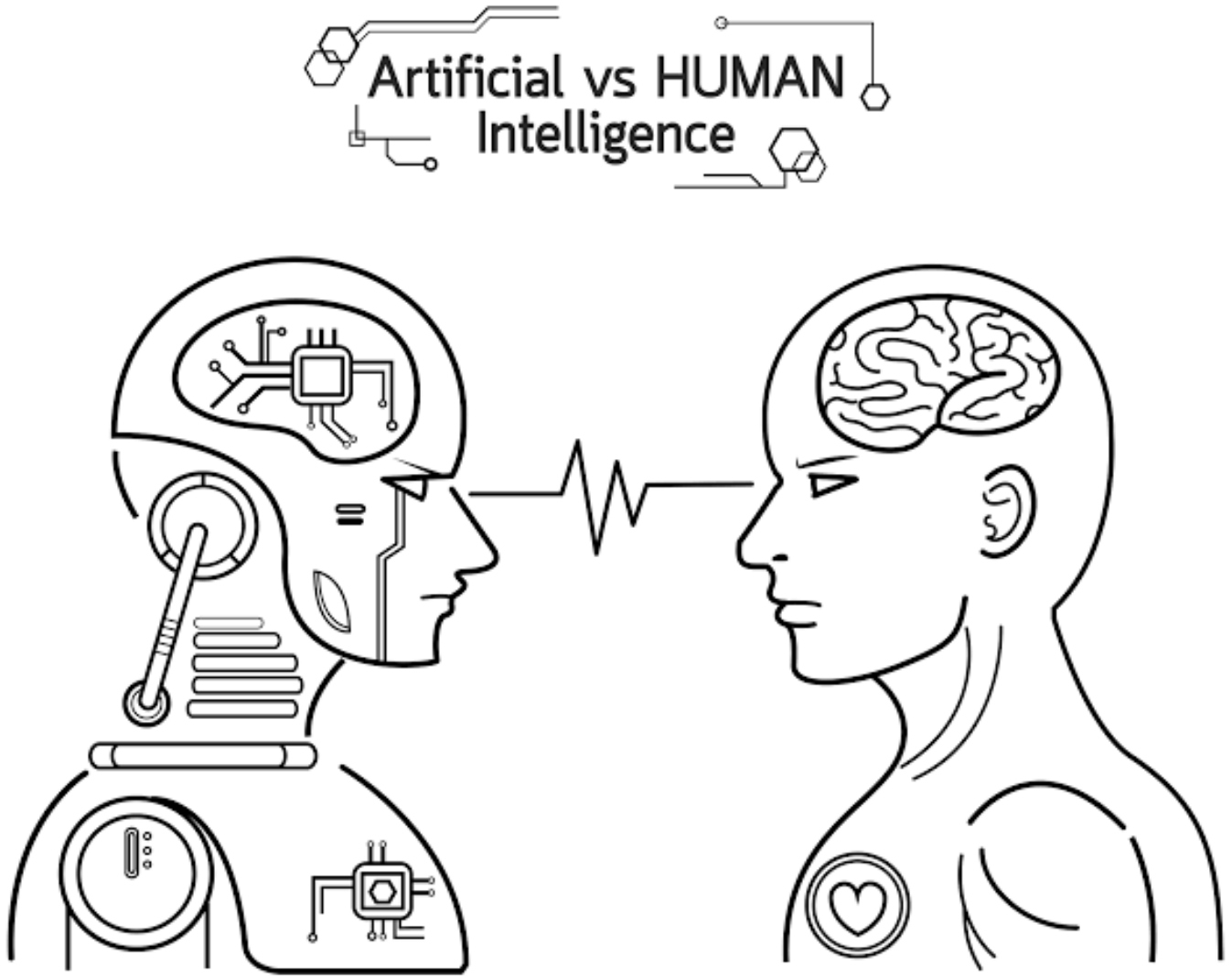








What's next?



ASBP The Alliance for Sustainable Building Products

THE ENGINEERS REUSE COLLECTIVE

Demo and reflections on how the AI works

Kostas Tsavdaridis
Efestos Hub

AI FOR STEEL REUSE · 14 OCTOBER 2026

Steel deserves a second life.

Work with ēfestos.ai



Prof. Konstantinos Tsavdaridis, EUR ING, CEng, MIStructE, FICE

Developed by: Efestos Hub

Endorsed by: BCSA

https://efestos.ai/home

MISSION: RESEARCH THAT SOLVES REAL PROBLEMS

- PhD in Steel Structures
- 2x decades of Chartership (EU/UK)
- European Commission design guidelines
- Drafting EC3 (3rd gen) *AI in Steel Structures*
- 7 Patents (bridging the gap between research and practice)
- International keynotes in Japan, Korea, China, US and Europe
- Theory + Practice + Industry Ecosystem



THE MAIN PROBLEM IN SCALING REUSE

Reuse work stalls before it reaches you

Hours lost to data

Inventories are rebuilt by hand from old drawings before any engineering starts.

Enquiries without substance

Requests arrive with no member list, no condition data and no clear client intent.

Projects that never start

Without early evidence the developer defaults to scrap, and the work disappears.

WHY WE ARE HERE

Every match starts from verified steel data

IMPROVED WORKLOAD & PIPELINE

More reuse projects, with the evidence already in hand

Reuse fails on disinformation + fragmentation

The steel is good. What is missing is the record of what it is.



THREE SLOWDOWN FACTORS

Reuse is not difficult because engineers cannot engineer it.

It is difficult because too much engineering time disappears into information work.

01

Recording

What is in the building?

02

Detail

What exactly is this element?

03

Time

Who pays for the back and forth?

That is the bottleneck we are trying to remove.

The repetitive work around it.

01 / WORKFLOW COMPARISON

Site recording

CONVENTIONAL WORKFLOW

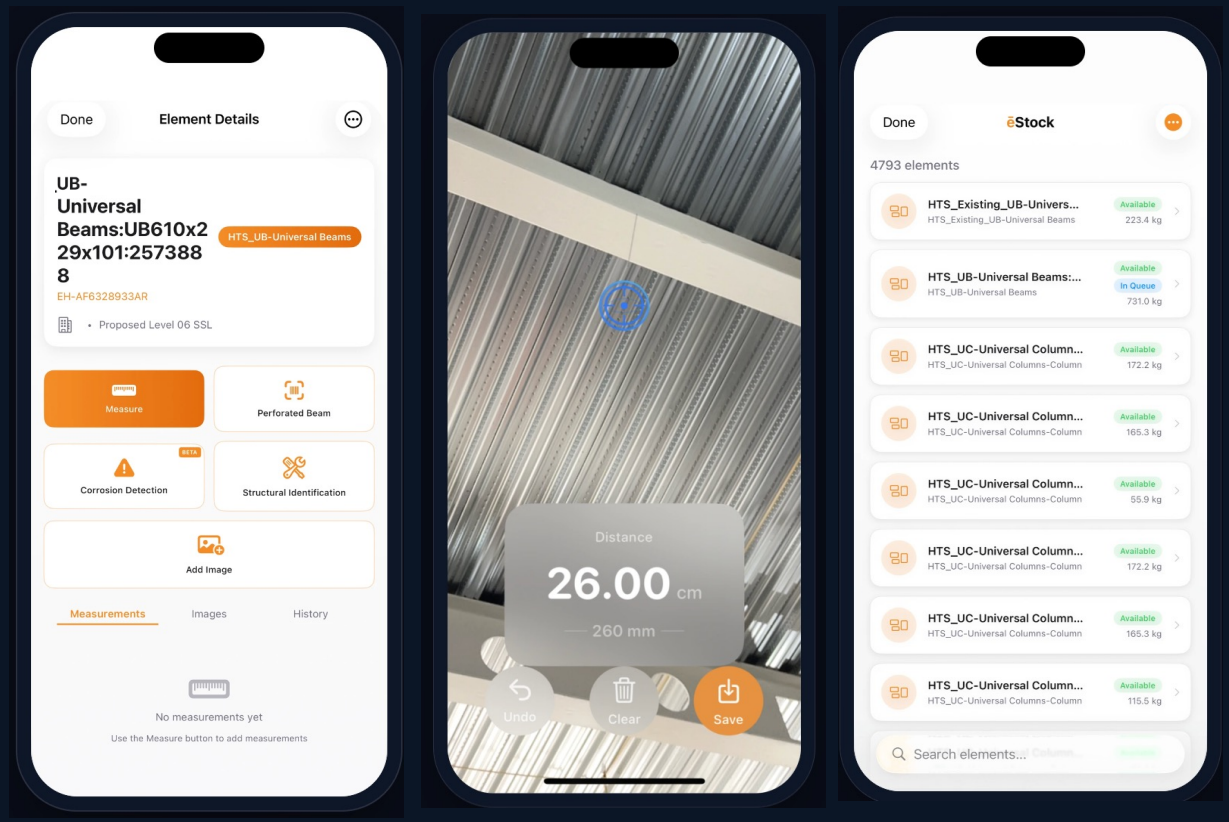
Pen, paper, Excel, laser scanner



Labour-intensive and inefficient work. Increased post-processing time.

WITH ēfestos

ēVision on iPhone or iPad

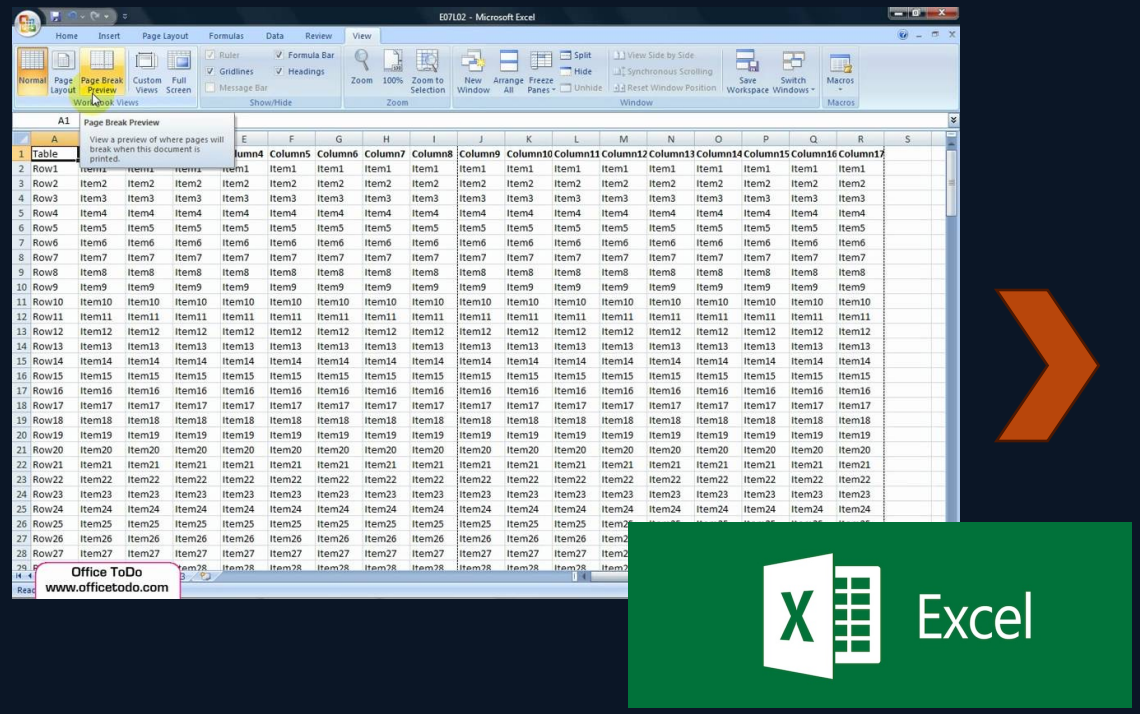


Quick scans capture all details.

Inventory and analytics

CONVENTIONAL WORKFLOW

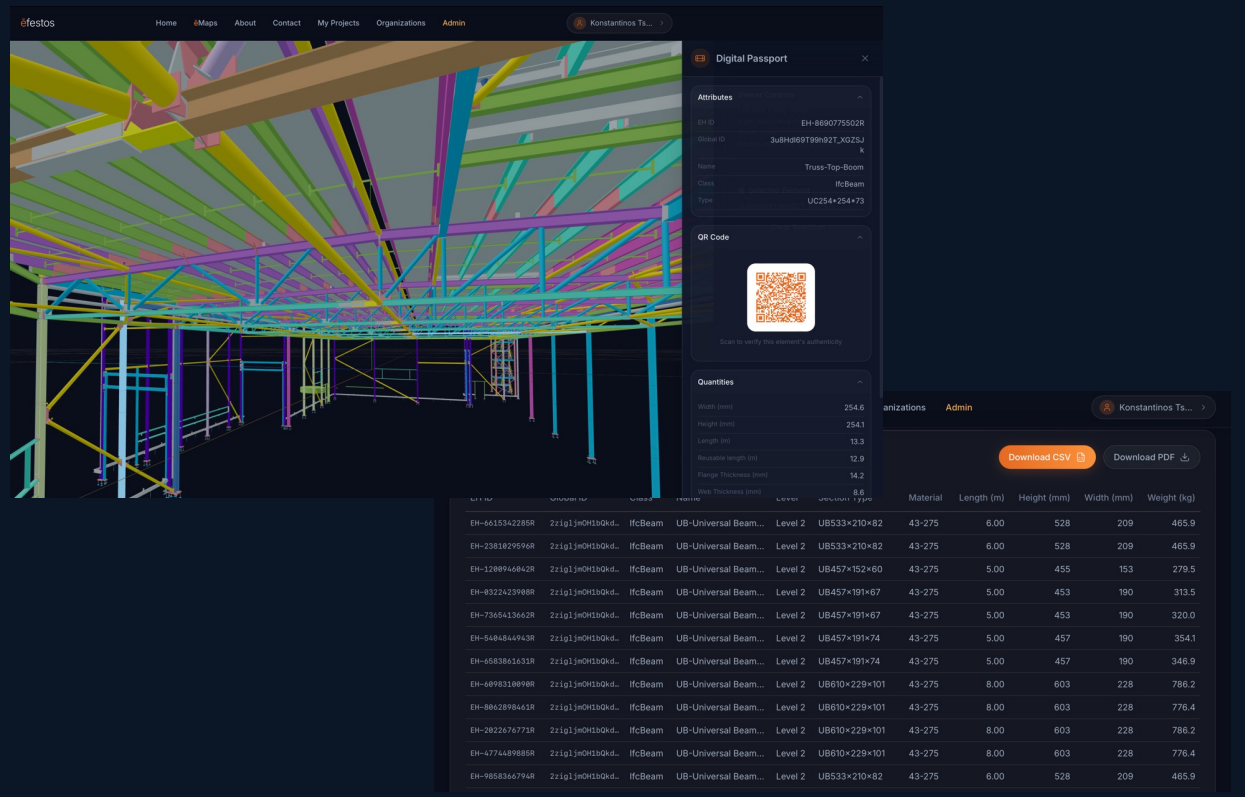
Long spreadsheets and separate files



Maintain lists and reconnect the evidence. Significant time loss. Hidden errors.

WITH ēfestos

Platform and digital passports

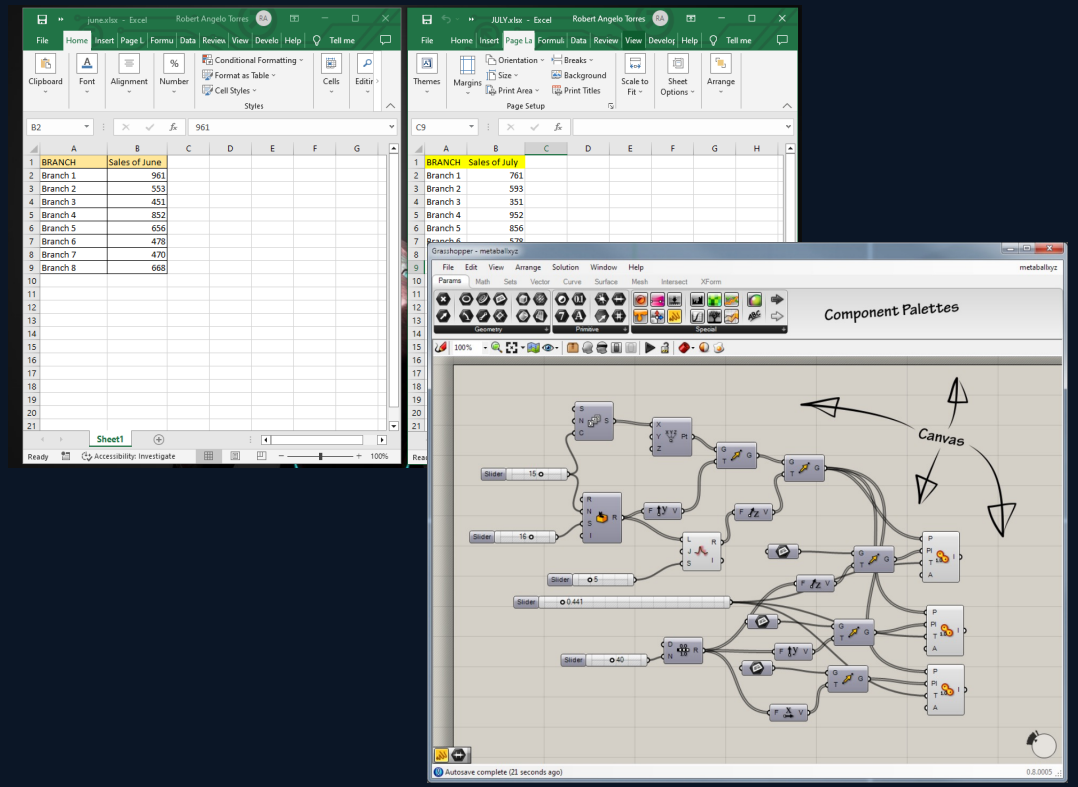


Structured digital passports, manage stock efficiently and component assessments.

Matching available steel to a new project

CONVENTIONAL WORKFLOW

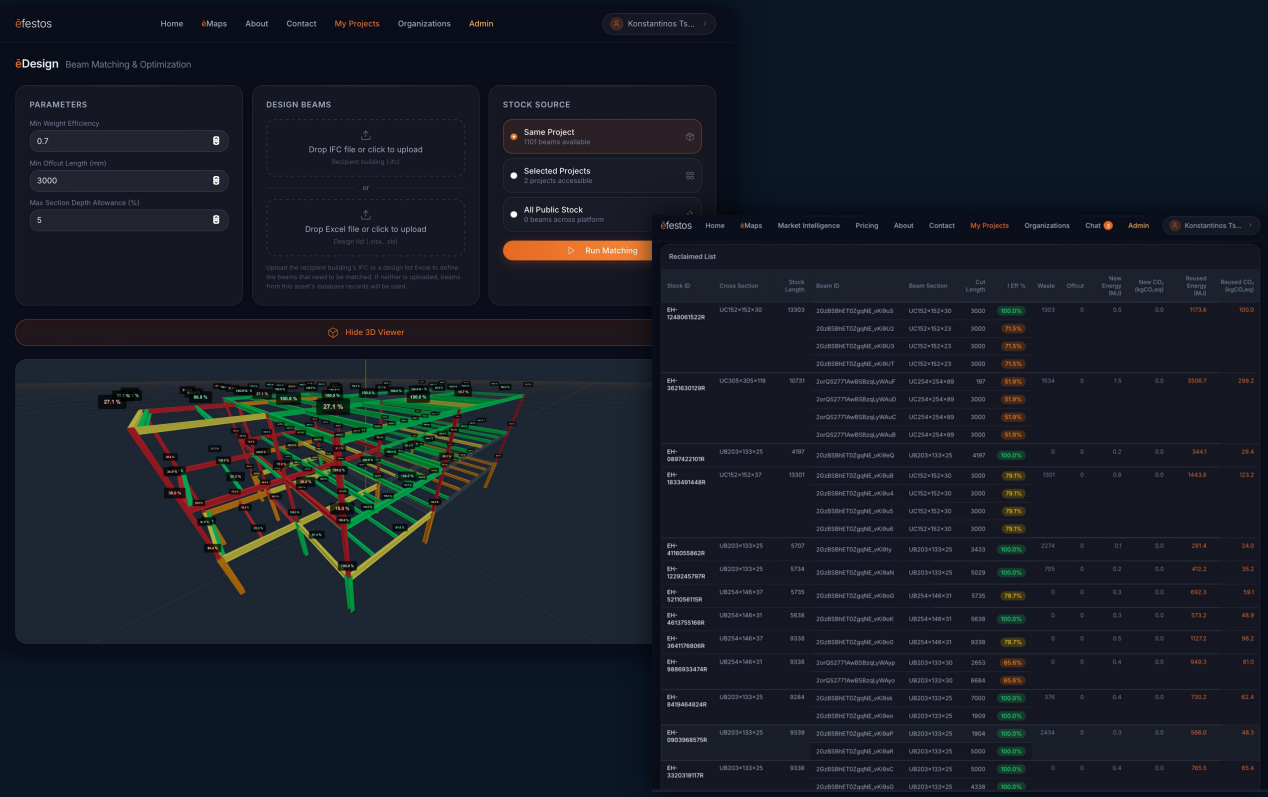
Excel models or Grasshopper



Manual and time-consuming work. Project-based grasshopper frameworks.

WITH ēfestos

ēDesign matching



Brings stock details from models and scans and project requirements into one matching workflow.

WHY TO USE ēfestos

Laser scanners were built to survey geometry.

Excel was built for accounts.

Grasshopper was built for parametric form.

None of them was built for reuse.

SCALE & EFFIECIENCY GAINS

10×

What if the same team could progress ten times more reuse opportunities?

Capture
ēVision · images and video

→

Understand
ēAnalytics · inventory

→

Match
ēDesign · candidates

→

Deliver
the Hub · project team

10× capacity is the direction. It is not a claim of validated 10× productivity.

ALL IN 5 STEPS

From a pile of files to a matched project.

STEP 1

Drop

YOU

Drop in PDFs, Excel, IFC models, Matterport scans and more.

ēfestos.ai

Converts them all into **one ēStock list**. A file changes? Drop it again and the list updates.

YOU SAVE
The re-keying, every time

STEP 2

Manage

YOU

Select hundreds of members at once and change them together. Share the list with your team.

ēfestos.ai

Keeps the **chat on the stock itself**, logged and traceable.

YOU SAVE
Chasing emails and versions

STEP 3

Analyse

YOU

Check and modify the stock in the workspace, your way.

ēfestos.ai

Or ask the **AI assistant**: it runs the routine checks and edits for you.

YOU SAVE
The repetitive checks

STEP 4

Match

YOU

Run ēDesign as often as you like: same stock on different buildings, or different stock on one building.

ēfestos.ai

AI-assisted optimisation finds the best match.

YOU GET
Each run in minutes

STEP 5 · THE HUB

Connect

YOU

Find fabricators, stockholders, auditors, available stock and new projects.

ēfestos.ai

Puts you in front of **developers** looking for reuse engineers.

YOU GET
Partners and work, one place

You stay in full control.

Your data, your decisions, your sign-off. Nothing is handed to anyone else, and no more juggling files and companies.

ēVision DEMO



Download on the App Store

08:48 Mon 12 Oct

4G 97

Back

Inventory

Thirsk · United Kingdom

Select an analysis tool below to inspect this asset.

3D Viewer

View 3D

Explo

sele

ēStock

ons.

Me

AR c

Cho

man

on

Measurements

No measu

Digital Passport

Csb01926

ACTIONS

Identify beam

BETA

Check corrosion

Find openings

Measure

NEW

Record note

Guided photo capture

Tutorial + step-by-step shots for the AI models

Record this member

Walk round it with LiDAR to measure its length and section

MEDIA (21)

Add

Book for ēfestos DEMO



ēVision scan

Scanned	13 Oct 2026

Section (catalogue: UC 356 x 406 x 287)

Depth	399.6 mm
Width	393.5 mm
Flange thickness	42.9 mm
Web thickness	24.8 mm
Length	5,993.3 mm

Corrosion: C3

Whole member	6.5% corroded fair 5.7%, poor 0.9%, severe 0.0%
Flange A	2.0% corroded



Flange B	3.7% corroded



Web	13.1% corroded



Parts on the member

Plates · Flange A · 1,792–2,118 mm · welded



Plates · Flange A · 1,854–2,132 mm · welded



Plates · Flange B · 1,874–2,147 mm · welded



Plates · Flange B · 2,003–2,159 mm · welded



Stiffener · Web · 2,109–2,136 mm · welded



Stiffener · Web · 2,109–2,136 mm · welded



Plates · Web · 2,394–2,551 mm · unknown



Holes

10 holes · Web · 1,572–1,954 mm



10 holes · Flange A · 1,580–1,960 mm



EARLY EVIDENCE

Early results and the next efficiency targets

4×

Reuse throughput

8 to 32 t/year

+24 t/year

HARNESS / Caunton
Post-trial estimate

10.5×

Faster measurement

40 min to 3.8 min

90.5% less time

30%

Reported recovery rate

33%

Less off-cut loss

15% to 10%

5 percentage points lower

HARNESS / Caunton

NEXT PROJECT TARGETS

NEW PROJECTS

Extending gains across the reuse workflow

>50%

Less inspection time

20–25%

Less unnecessary rework

You stay the engineer.



The AI does the legwork. You verify, you certify, you sign.

AI CAN FEEL OVERWHELMING

Start with one project.

NEW TO REUSE

We guide you.

ēMind walks you through your projects, step by step.

EXPERIENCED

Challenge it.

Run a project where you already know the answer.
Get more confident.

HOW YOU JOIN

Platform entries

Entry #1

Your own account

You run your own projects, per project or on a subscription. ēMind agents and ēVision run on credits.

Entry #2

Invited to a project

A developer invites you. You work inside that project and see every shared output.

Either entry

Listed in the Hub

Your firm appears in the network we introduce to developers.

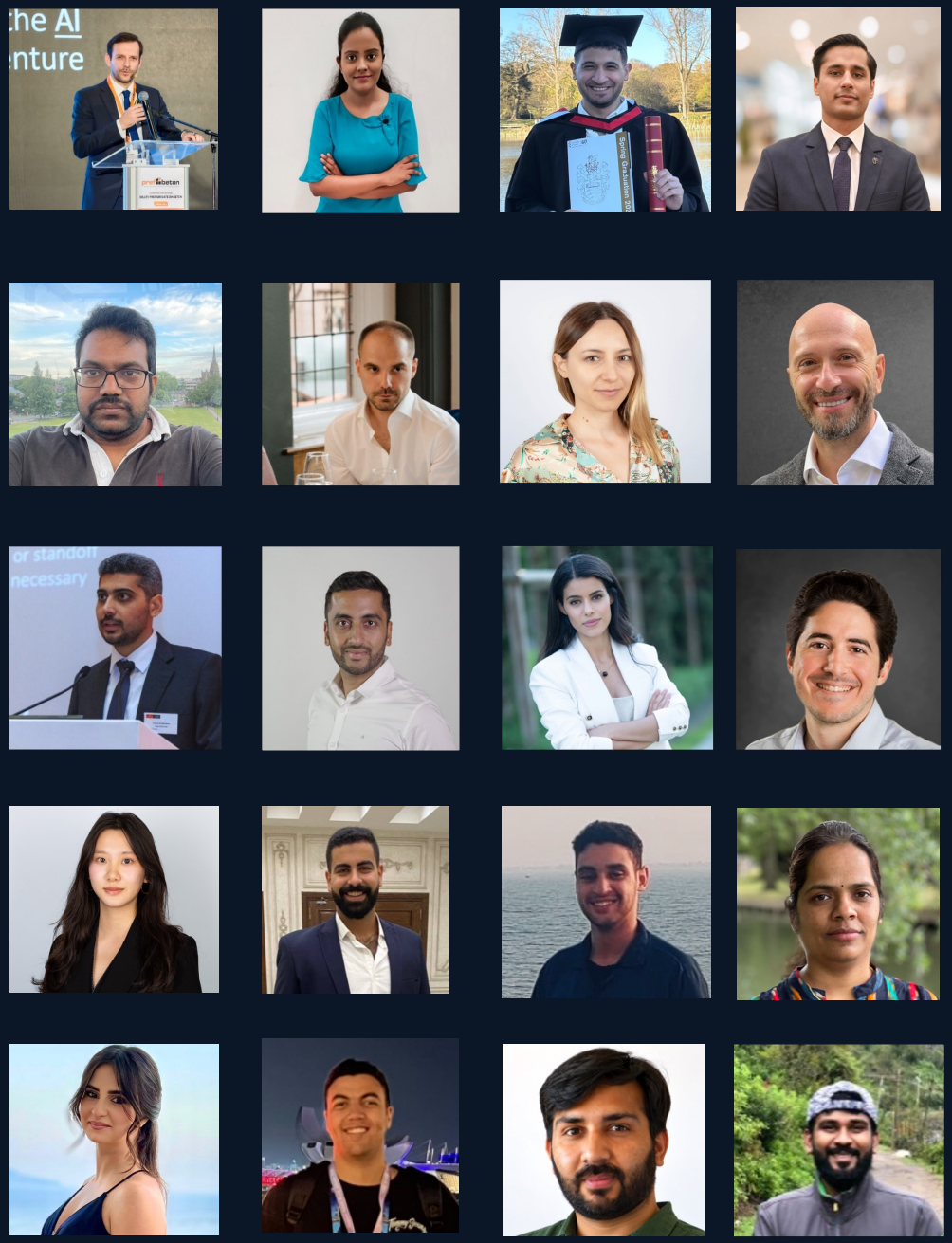
THANK YOU FOR ATTENDING

ēfestos.ai

Makes engineer’s life easier.

Book a demo

ēfestos.ai · info@efestoshub.com



ASBP The Alliance for Sustainable Building Products

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Q+A



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Thank you