

From Hard Hats to Smart Tech: AI and Women Leading the AEC Industry



1.0 AI in the AEC sector

1.1 Introduction

1.2 Traditional challenges in the AEC environment

1.2.2 AI in the AEC sectors

1.3 Can AI overcome these challenges?

1.4 OpenSpace: site capture, progress tracking, automated comparisons

1.5 Buildots: AI-based productivity monitoring, detecting deviations from plan

2.0 The human connection – Women in BIM

2.1 Who we are and what we do

2.2 Initiatives

2.3 Mentor scheme

Introduction

Bridging Design and Delivery

 **Head of Regional Lead for UK and Ireland – Women in BIM**

 **Digital Lead – Structure Tone**

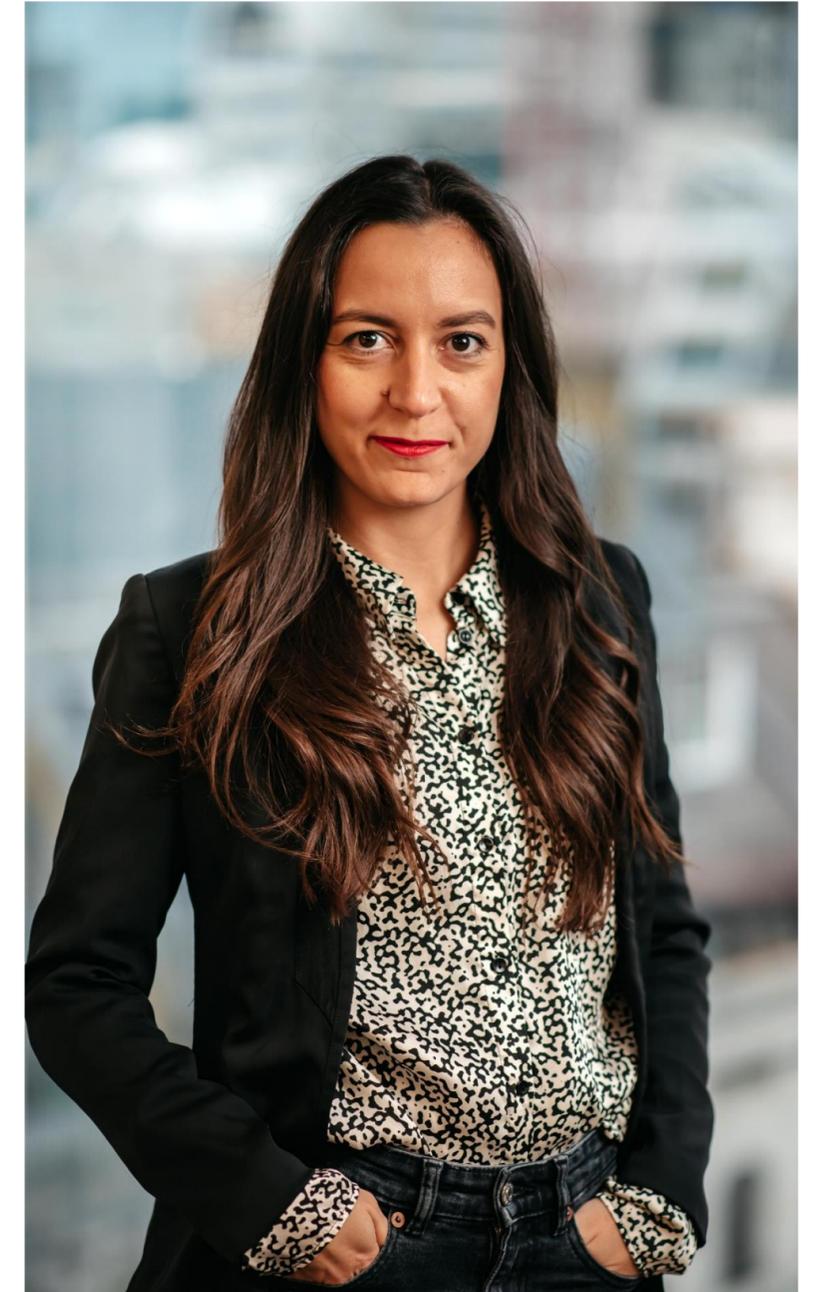
 **Digital Construction Manager – ISG**
BIM Coordinator – ISG

 **BIM Coordinator – Pollard Thomas Edwards**

 **MSc in BIM in Design Construction and Operations – UWE, Bristol**

 **MSc in Architecture (Conservation) – University’ “La Sapienza”, Rome**

 **Bachelor in Architecture - University’ “La Sapienza”, Rome**





STRUCTURE TONE

Structure Tone - STO Building Group

60%

EMPLOYEE OWNED

14

STOBG BRANDS

5,100+

COLLEAGUES GLOBALLY

\$14bn

2025 PROJECTED REVENUE

\$5bn

BONDING CAPACITY



US & Canada

UK & Ireland



Structure Tone - London

2.2sqm

SQ FT LIVE ON SITE

309

PEOPLE IN LONDON

£420m

PROJECTED 2025
TURNOVER

£500m

PROJECTED 2026
TURNOVER

£500m

PROJECTED
2027 TURNOVER

US & Canada

UK & Ireland



Our Enhanced Bandwidth

Sector

DEVELOPER



16 St Martin's Le Grand

Bloomsbury Quarter



One Westferry Circus



Northcliffe House



1 Old Jewry

FINANCIAL SERVICES



CFC, London



Project Edward

Confidential Fintech Client



Project Apollo



Wells Fargo

1CP



Confidential Fintech Client

LEGAL



20 Ropemaker, London



Ashurt, London



Millbank

Sidley Austin



Paul Hastings



Project Eagle

MEDIA & TECH



KGX1, King's Cross



Technology client

Technology client



Project Floyd

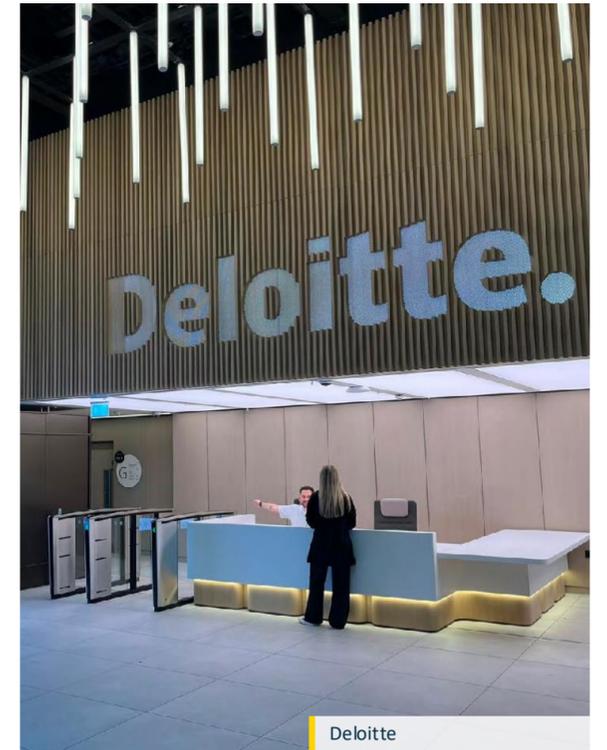


WPP Rose Court

PROFESSIONAL SERVICES



Savills



Deloitte

AI in the AEC sector



Traditional challenges in the AEC environment



1. Fragmented data and poor interoperability

- Cost of rework, claims and safety risk.
- Duplicate data entry, drawing/model versions
- Painful COBie delivery and O&M handover
- Lost context between design, site and asset management systems



3. Skills shortage and capability gaps

- Overreliance on a few BIM leads
- Lack of experienced people in modelling and technical knowledge
- Time consuming clash detection tasks



2. Cultural resistance and change fatigue

- Site teams may view digital tools as extra admin rather than value
- Low mobile app adoption in the field
- Pilots that don't scale beyond project champions
- It's too complicated



4. Handover to Maintenance

- digital models don't translate into maintainable data in CAFM/CMMS
- Lack of Digital Twin knowledge
- O&M manuals in PDF



5. Commercial procurement and BIM skills misalignment

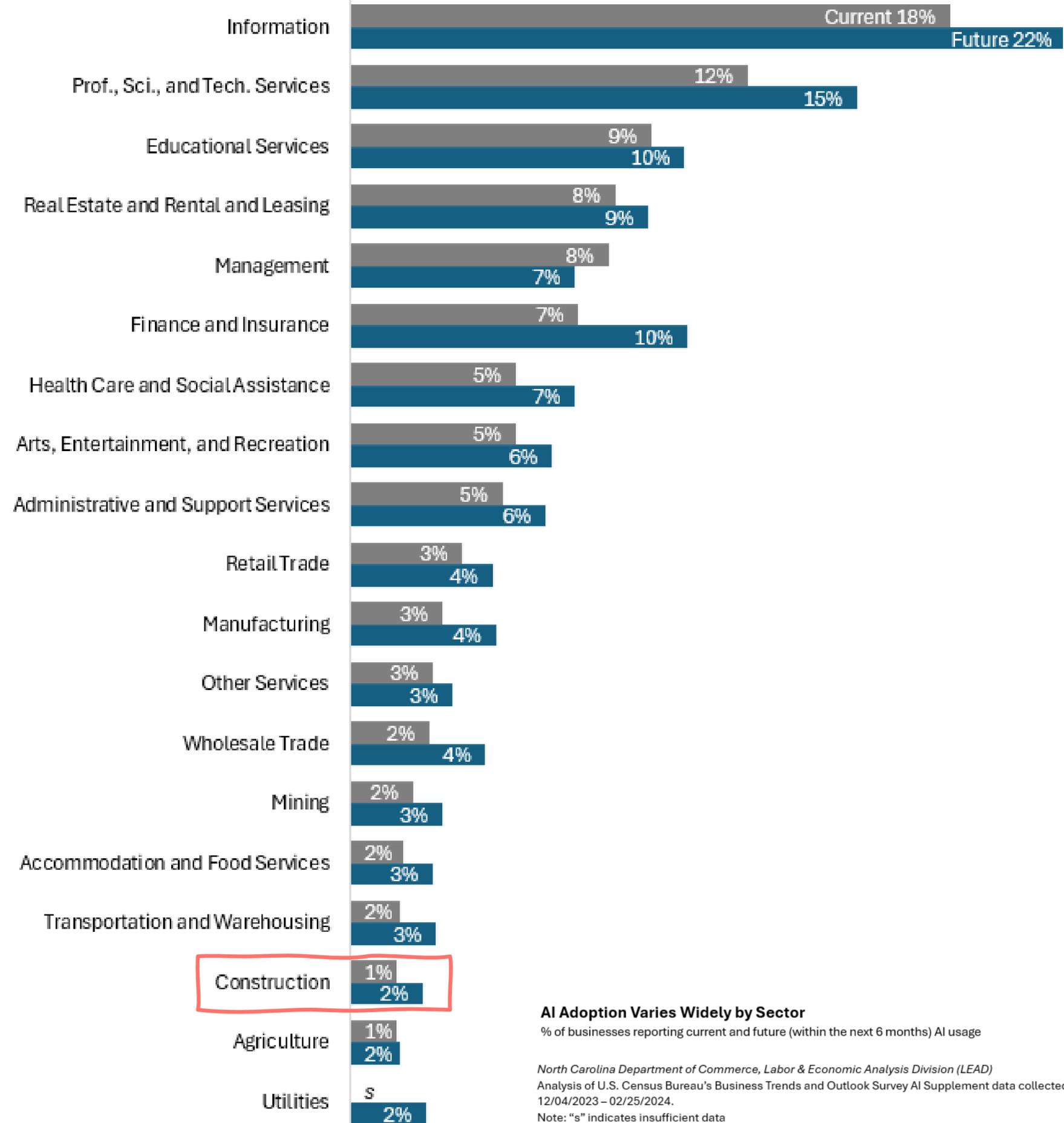
- BIM as a tick-box, not an integrated and connected process
- Late appointment of key sub-contractors
- Defined BIM responsibilities from day 1

Can AI address all these challenges?

Where are we?

- **Early adopters** → Tech, finance, retail, media
- **Mid adopters** → Healthcare, manufacturing, logistics
- **Late adopters** → **Construction**, agriculture

"There's a significant misconception that all advanced technology is AI."



AI Adoption Varies Widely by Sector

% of businesses reporting current and future (within the next 6 months) AI usage

North Carolina Department of Commerce, Labor & Economic Analysis Division (LEAD)
 Analysis of U.S. Census Bureau's Business Trends and Outlook Survey AI Supplement data collected
 12/04/2023 – 02/25/2024.

Note: "s" indicates insufficient data

AI in the A, E, C sectors

How we could potentially use AI



Architectural & Engineering

- Generative design & concept exploration
- Space planning & optimization
- Structural analysis & simulations

- Bid and Tenders
- Design visualization (AI rendering, VR/AR)
- Sustainability
- Energy performance modelling

Construction

- Safety
- Project scheduling & optimization
- Cost estimation & risk analysis
- Robotics and automation

TYPES OF Artificial Intelligence



GENERATIVE AI
Creates new content



PREDICTIVE AI
Forecasts future trends



REASONING AI
Evaluate to make informed decisions

Established

Emerging

How Structure Tone uses AI in construction (fit-out)

Repetitive Tasks

- Automated data entry and report generation (e.g., pulling data from various systems for daily logs).
- Streamlining compliance checks and documentation.
- Drawings

Chatbots like ChatGPT/Gemini

- Day to day tasks

Tenders and Image Creation

- Using generative AI for conceptual design iterations or mood boards
- Quickly creating photorealistic renders from 3D models for client presentations
- Generating initial drafts of proposal sections or marketing copy

Predictive scheduling

- Algorithms analyse project timelines and forecast potential delays, enabling project managers to take proactive action. Forecasting Labour need, predicting lead times for material

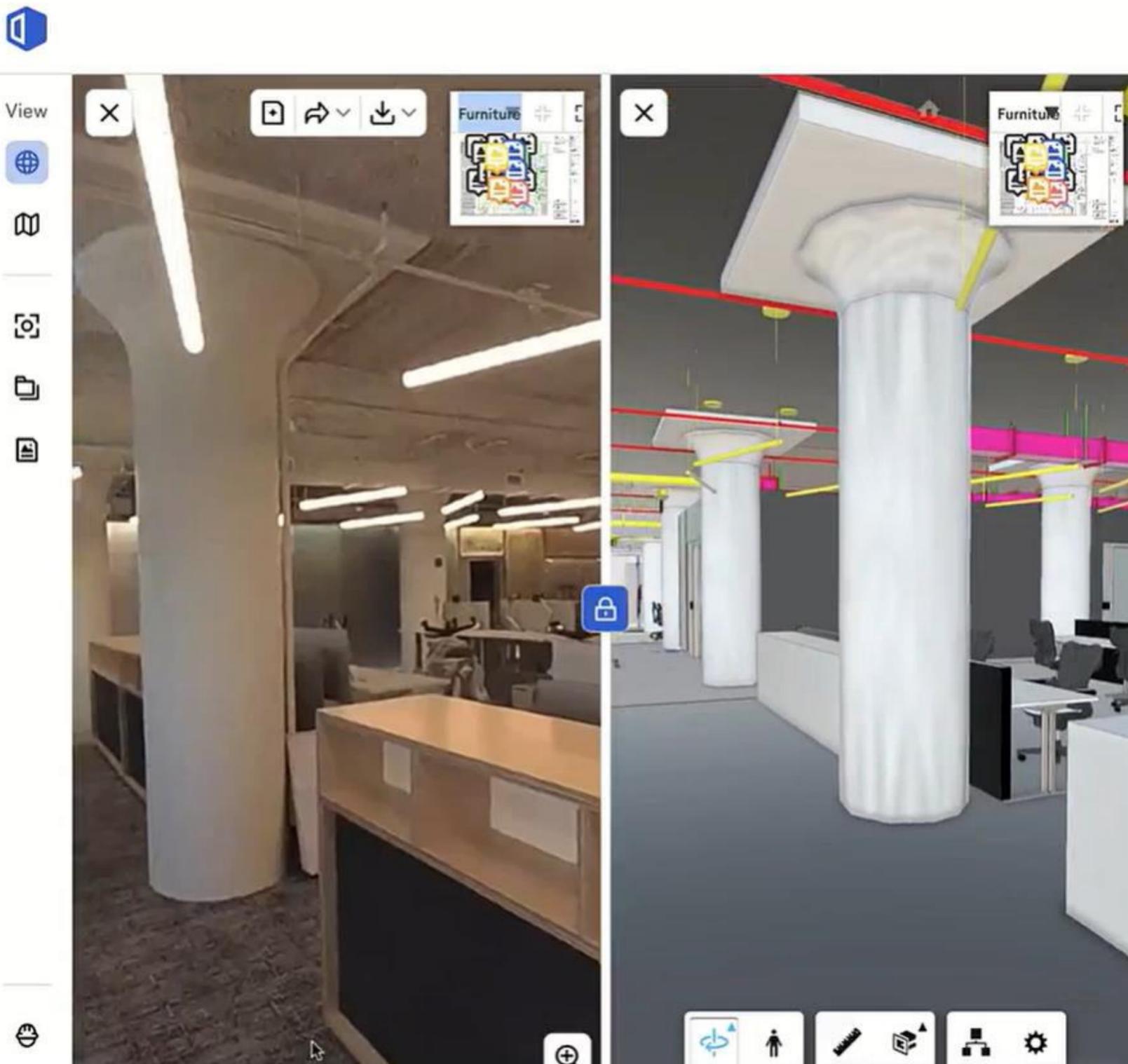
Benefits

- Time savings
- Better data-driven decisions
- Reduction in manual, repetitive work



OpenSpace

site capture, progress tracking, automated comparisons



Buildots

Programme tracking and intelligent forecasts

14 Jan 2021 → 29 Jan 2021 Filters (1)

Level View
Apt. View

Markup Concrete-Ceilings Plumbing Risers Highland Park Sprinklers Studs Pre Rock 1st Fix Sprinklers 1st Fix Ductwork Shower Trays Domestic Water Pipes Ceiling Grid

Building 1

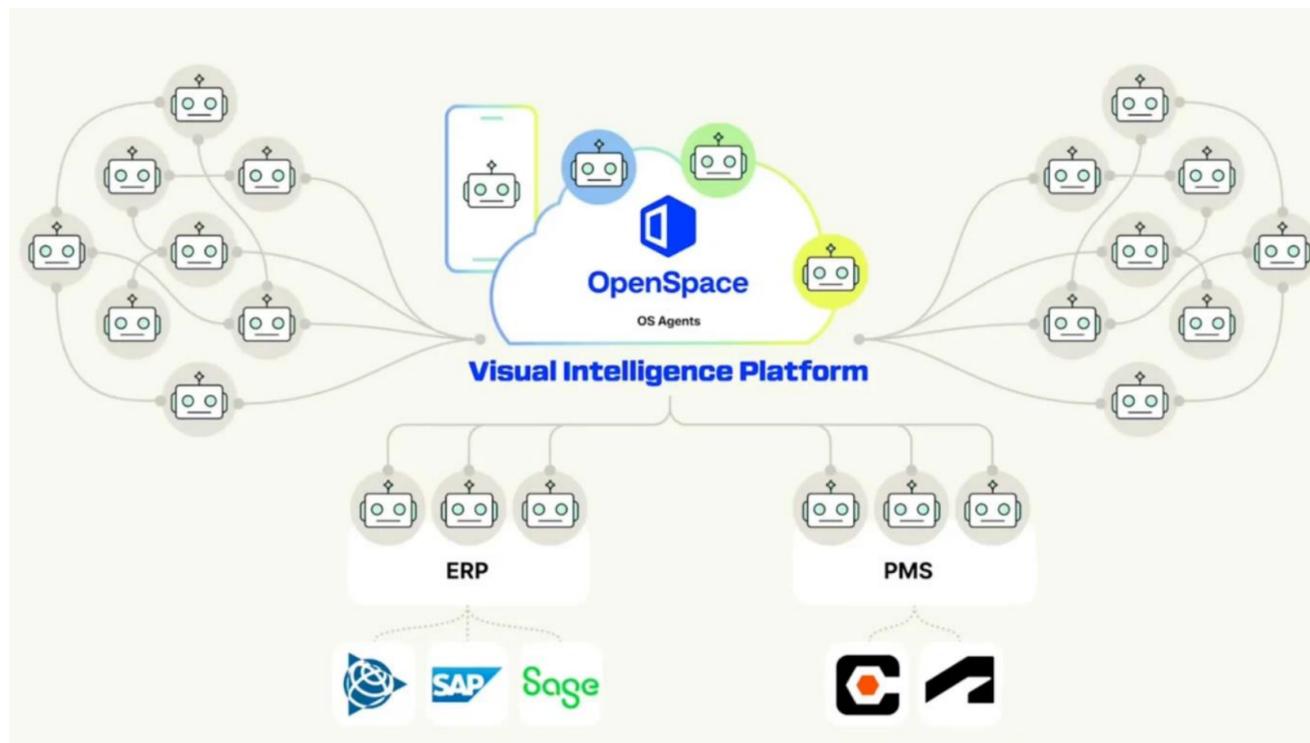
	Markup	Concrete-Ceilings	Plumbing Risers	Highland Park Sprinklers	Studs	Pre Rock	1st Fix Sprinklers	1st Fix Ductwork	Shower Trays	Domestic Water Pipes	Ceiling Grid
Control	✓	✓		✓	+0%	✓	+42%	✓	✓	✓	✓
Level 2	+0%	✓	⊗ +0%	✓	+1%	+0%	⊗ +34%	+19%		+5%	+0%
Level 3	+99%	✓	⊗ +51%	✓	+99%	✓	⊗ +34%	+93%		+99%	+99%
Level 4	✓	✓	⊗ +49%	✓	+99%					+99%	
Level 5	+99%	+89%	+99%	✓	+94%						
Level 6		+48%	+52%	✓							
Level 7		+49%		+93%							
Level 8		+42%		+97%							
Level 9											
Level 10											
Level 11											
Level 12											
Level 13											
Level 14											
Level 15											
Level 16											



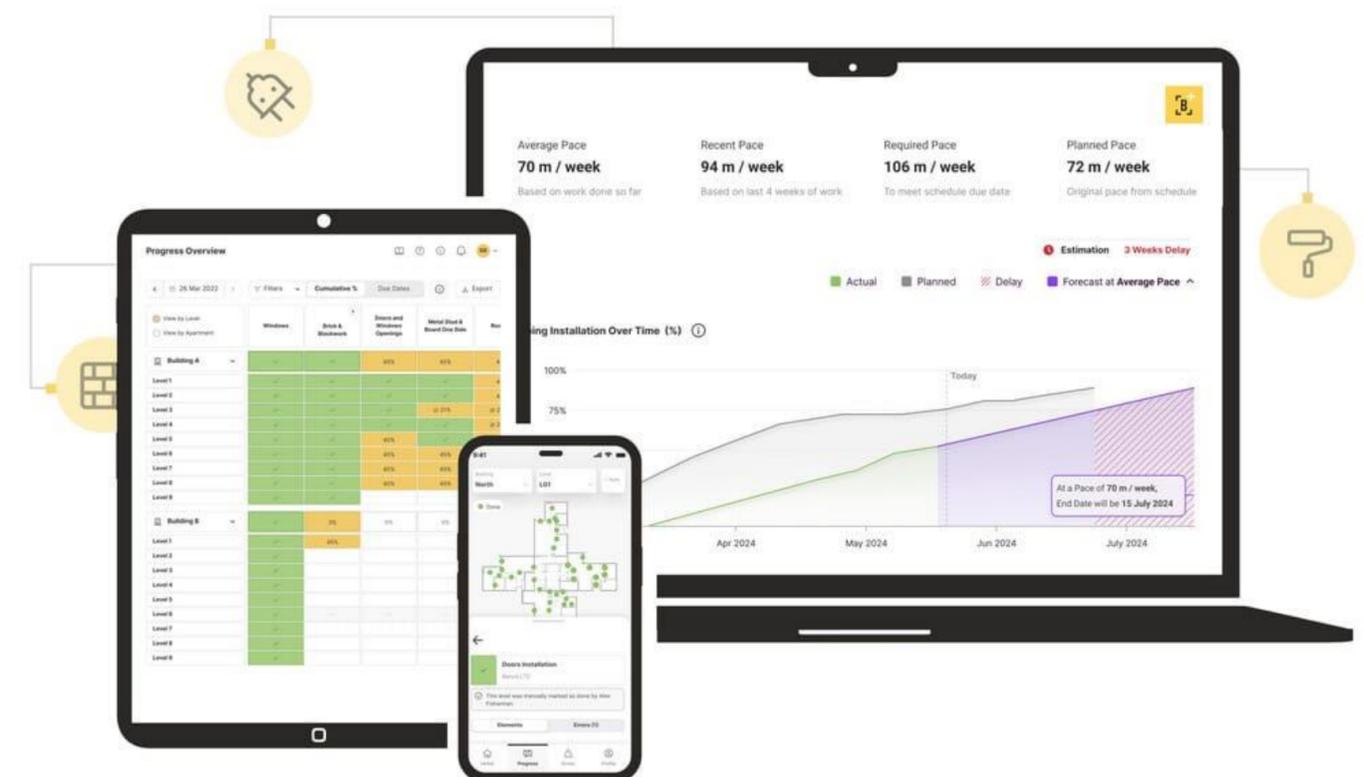
Comparison



Visual story of your site's journey and 2D/3D comparison



Precise, data-driven control over the *execution* of that journey





WIB

wib

A powerful collaborative network

AI enhances efficiency, but people drive innovation

AI and WiB together accelerate construction's evolution toward an innovative,
inclusive future.



The global reach of Women in BIM

4,104
Members

We have 4,000+ Members located across the globe, this number is continually increasing

2,553
Companies

Our Members are based in over 2,500 companies worldwide

120
Countries

Women in BIM is represented in over 100 Countries and we are seeking to increase this even further



Global Executive Team



Rebecca De Cicco

Founder & Global Chair

Marie Grieve

Global Vice Chair

Nicole De Cicco

Global Administrator

Willow Williams

Global Head of Education

Francesca Lofiego

Head of Regional Leads for UK
& Republic of Ireland

The Women in BIM Regional Lead Network

wib

146
Regional
Leads

WIB Regional Leads support and promote women in BIM in their respective region of the world.

Our Regional Leads volunteer their time to help connect you locally with a wealth of innovative thinkers, provide educational opportunities and expand your network, to enhance your BIM related career.

wib

LOGIN

ABOUT ▾

MEMBERSHIP ▾

SPONSORS ▾

MENTOR SCHEME ▾

INSIGHTS ▾

EVENTS ▾

RECRUITMENT

CONTACT



Our Core Objectives & Drivers

Attract and Encourage

We wish to attract more women into digitally related careers by showcasing role models and maintaining a support mechanism across our network. We aim to endorse the digital construction sector as a sector of choice to ensure more young women entering these careers or pivoting into digitally related roles in their organisation.

Promote and Support

Supporting one another is crucial as we strive to develop a more inclusive industry. Our network of Members is in place to support, share and encourage each other to grow their skills and take advantage of new opportunities across the world. This enables them to grow and be promoted as prominent leaders to our industry.

Advance and Retain

Research shows women are leaving careers in the construction industry or moving to other sectors. We celebrate women in digital roles and provide opportunities for further advancement to showcase them as role models. This will help to increase the representation of women in senior construction roles and leadership positions.



EVENTS



EDUCATION



MENTORING



MEDIA

Resources & Collaboration

We work with many women globally to support career development as well as attracting young women into the industry. We act as mentors to grow personal and professional skills, encouraging our Members to enter into BIM and digital related roles in the future. We equip our women in BIM with the tools and confidence they need to create a more diverse industry through our education and mentoring initiatives.



WIB

Women in BIM
Mentor Scheme

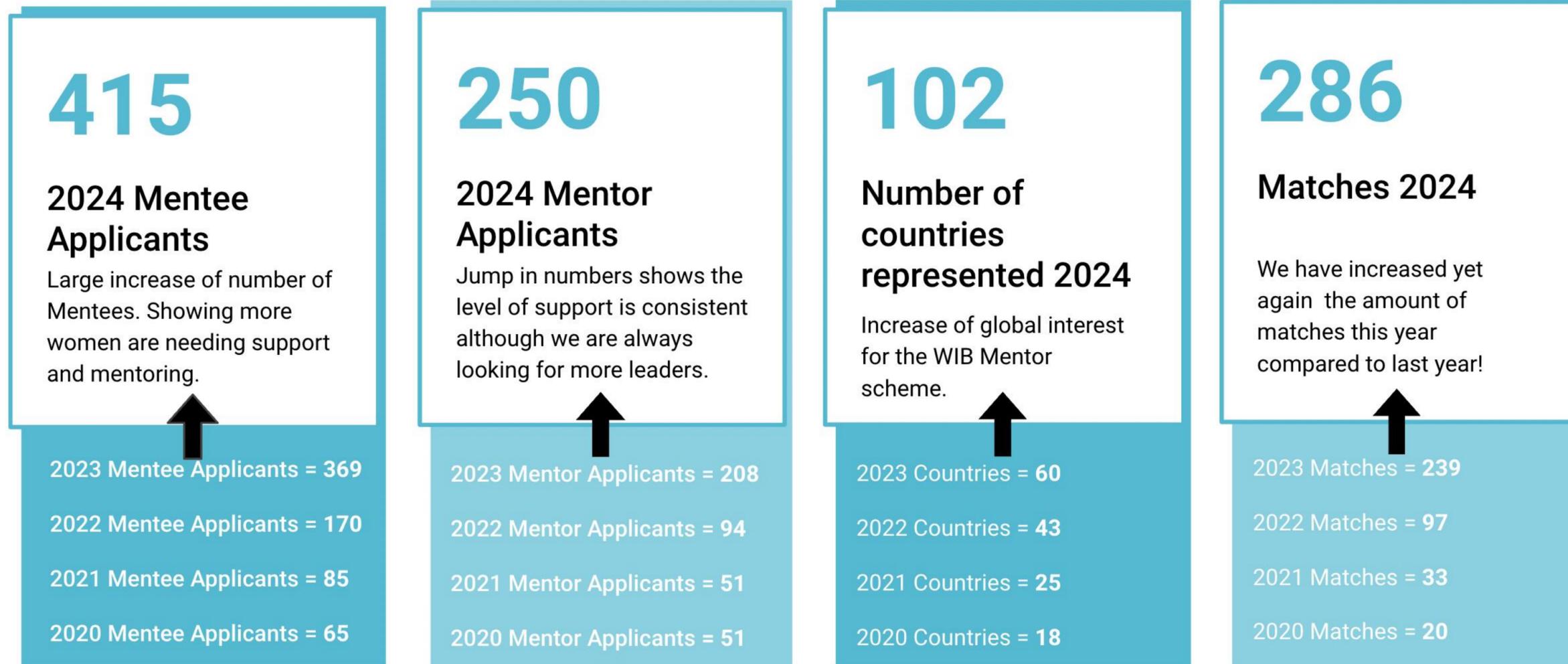
WIB

Mentor Scheme

As a group, WIB strives to elevate the image of women in the AEC industry. One of the ways to achieve this is through creating opportunities for more WIB to connect and support each other.

The WIB Mentor Scheme has been designed to offer support and guidance for our Members to learn and grow both professionally and personally for a period of six to nine months.

Mentor Scheme Success 2020 - 2024



Mentor Scheme Success 2025!



473

Mentee Applications

The majority (81%) are early to mid career professionals seeking guidance and development support, aligning well with the goals of the Mentor Scheme

300

Mentor Applications

Over 75% of Mentors have more than 10 years of experience, bringing deep knowledge and strategic insight to their mentee relationships

78

Countries

Top 5 Countries:

United Kingdom	24%
Brazil	15%
Australia	14%
United States	7%
Italy	6%

312

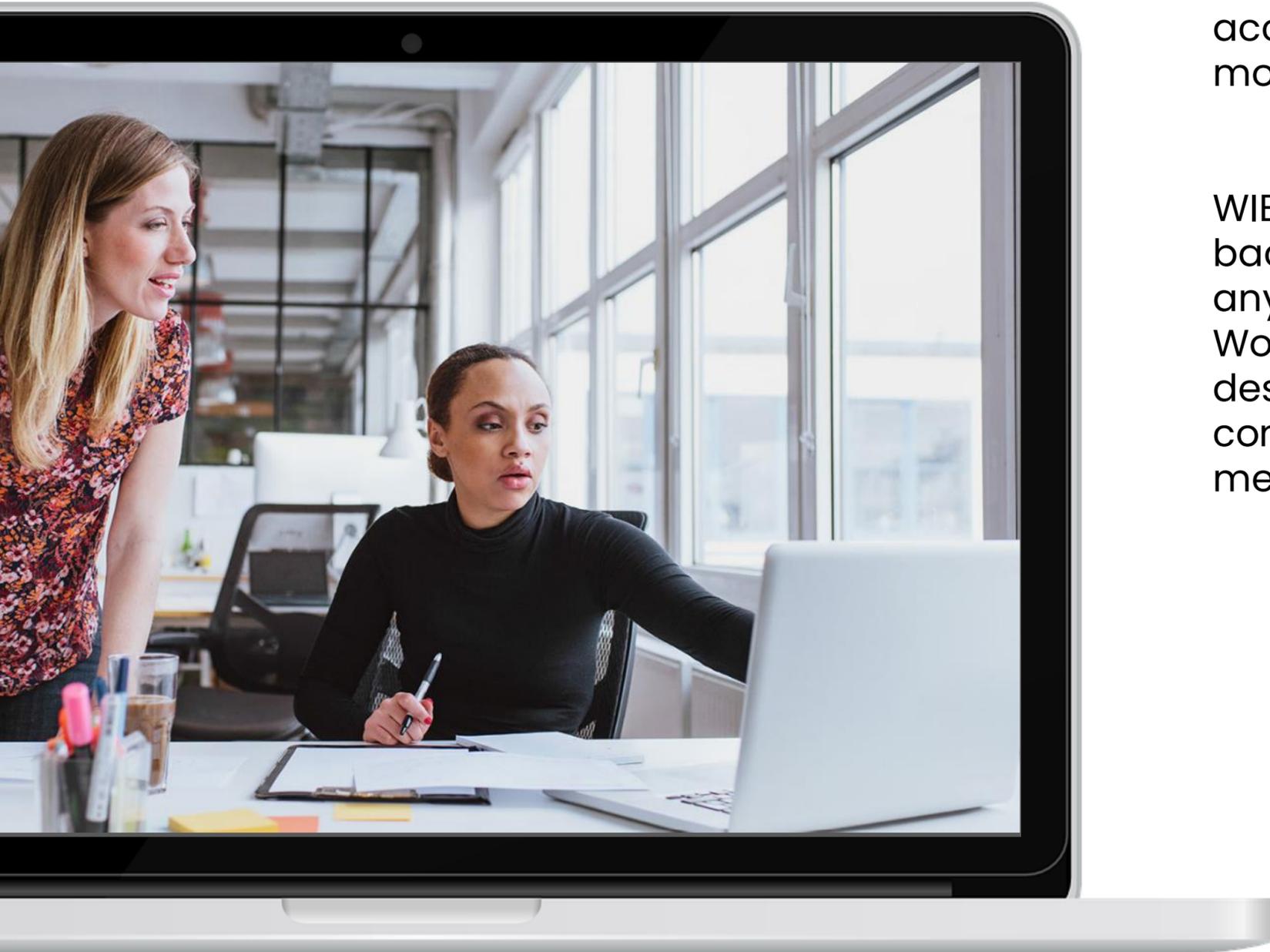
Matches

Reflecting a strong global interest in developing professional careers through mentorship and BIM knowledge sharing

Join Women in BIM!

Membership to the WIB community provides access to exclusive Member benefit, find out more at www.womeninbim.org

WIB welcomes anyone with a professional background in BIM or digital construction and of any gender to join the programme as a mentor. Women and people of minority genders with a desire to develop further in BIM and digital construction are welcome to apply to be mentees.



WIB

Gathering25

Realising vision, advancing automation



 Thank you

Francesca Lofiego
Digital Lead @ Structure Tone
Head of Regional Lead for UK and Ireland @ Women in BIM