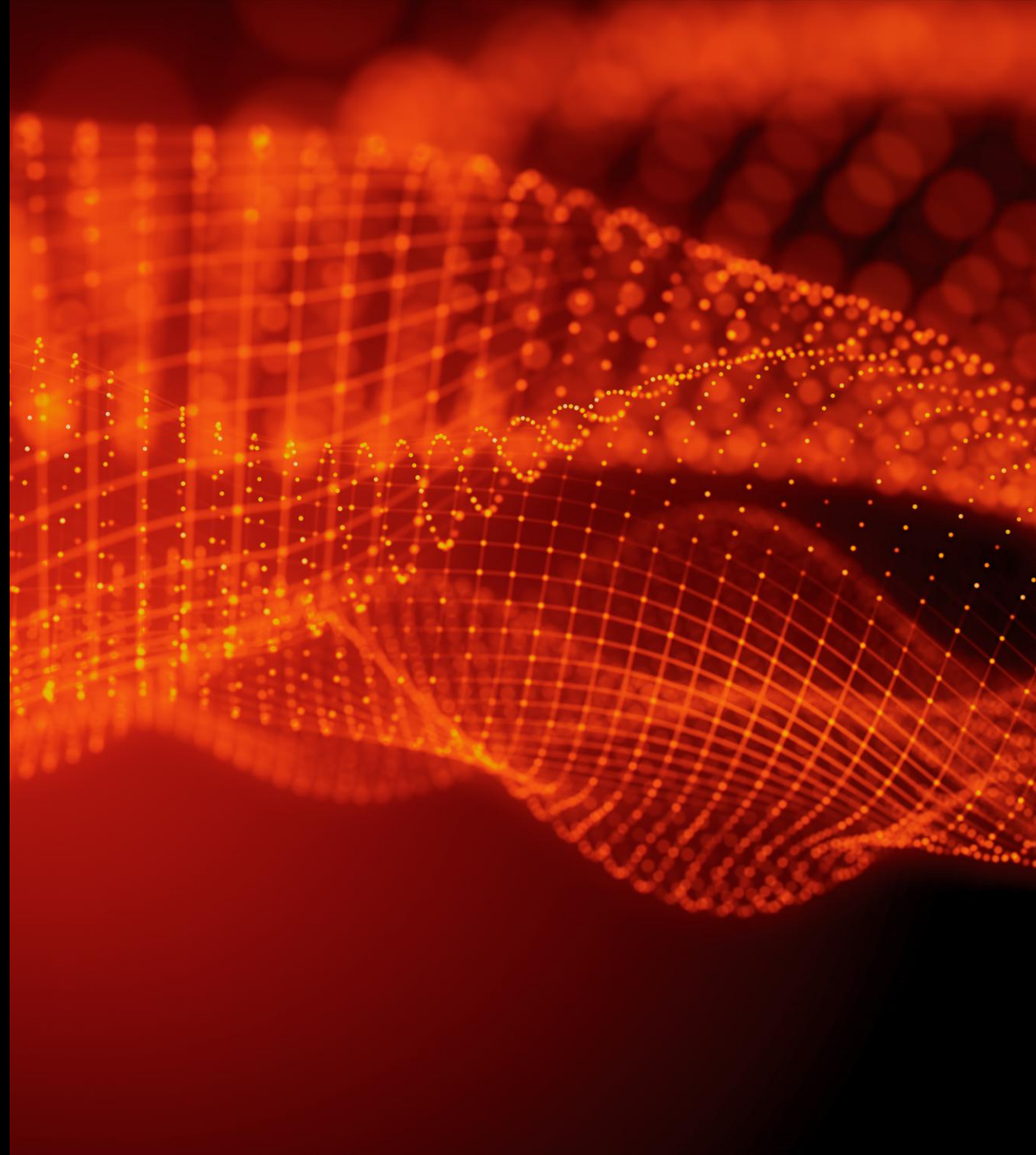




ARTIFICIAL INTELLIGENCE

REAL WORLD USE CASES

Michael Boyd | November 2025



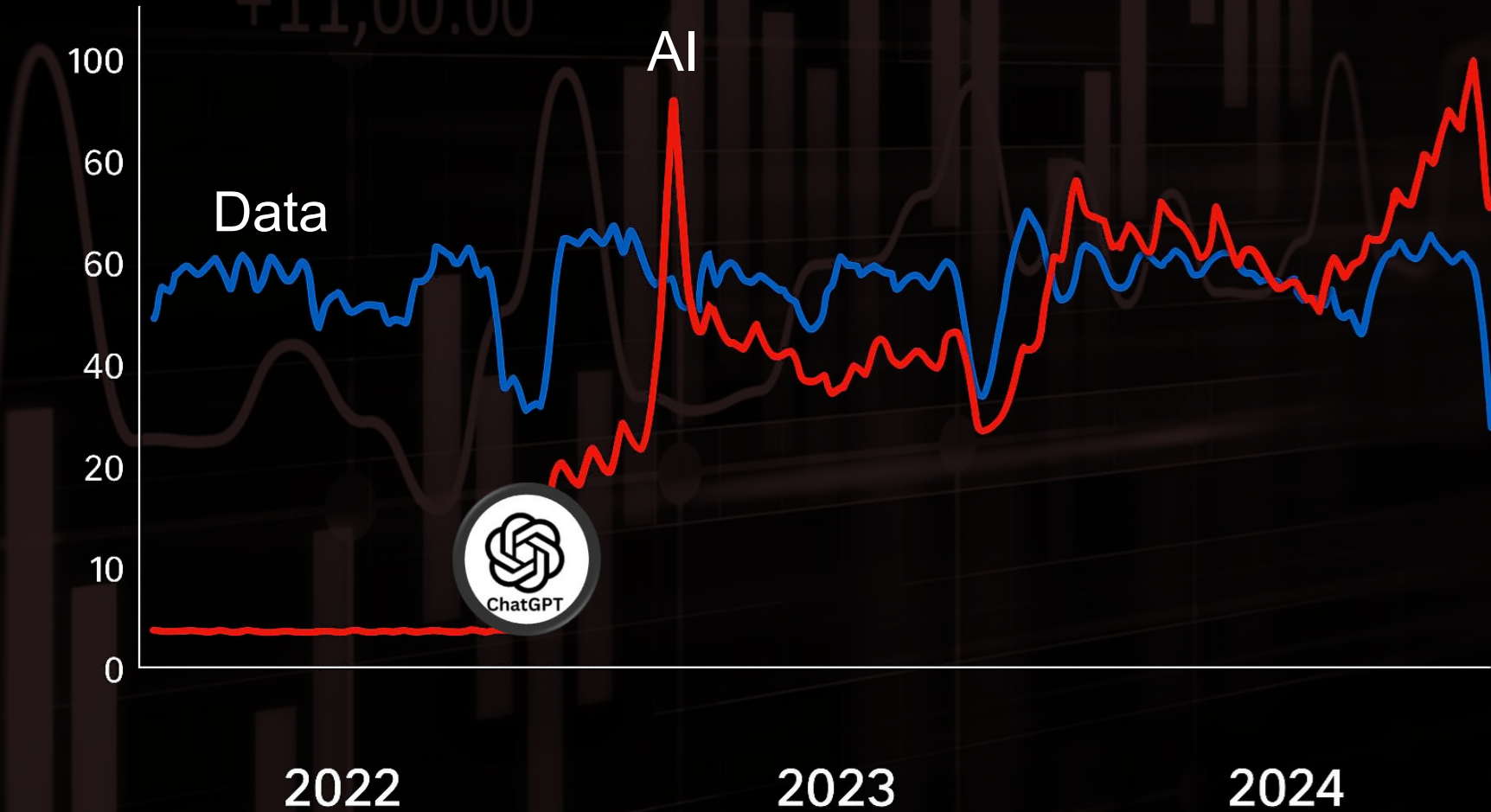


Working in more than 19 sectors

- Aviation
- Commercial office
- Defence & Security
- Energy: Power Generation
- Energy: Transition
- Energy: Nuclear
- Energy: Transmission & Distribution
- Healthcare
- Chemicals
- Local Government
- Maritime
- Mining
- Mission Critical
- Pharma & Life Sciences
- Rail
- Residential & Urban Regeneration
- Strategic Highways
- Waste
- Water



AI goes mainstream



AI does the work we
shouldn't be doing



AI gives us time

AI tackles the work
we *couldn't* do



A faint, dark background image of a financial chart, likely a candlestick or bar chart, with a line graph overlaid. The chart shows price fluctuations over time. A specific price point, '+11,000.00', is visible on the chart.

How will AI reshape our roles and culture?

What is our risk appetite for AI?

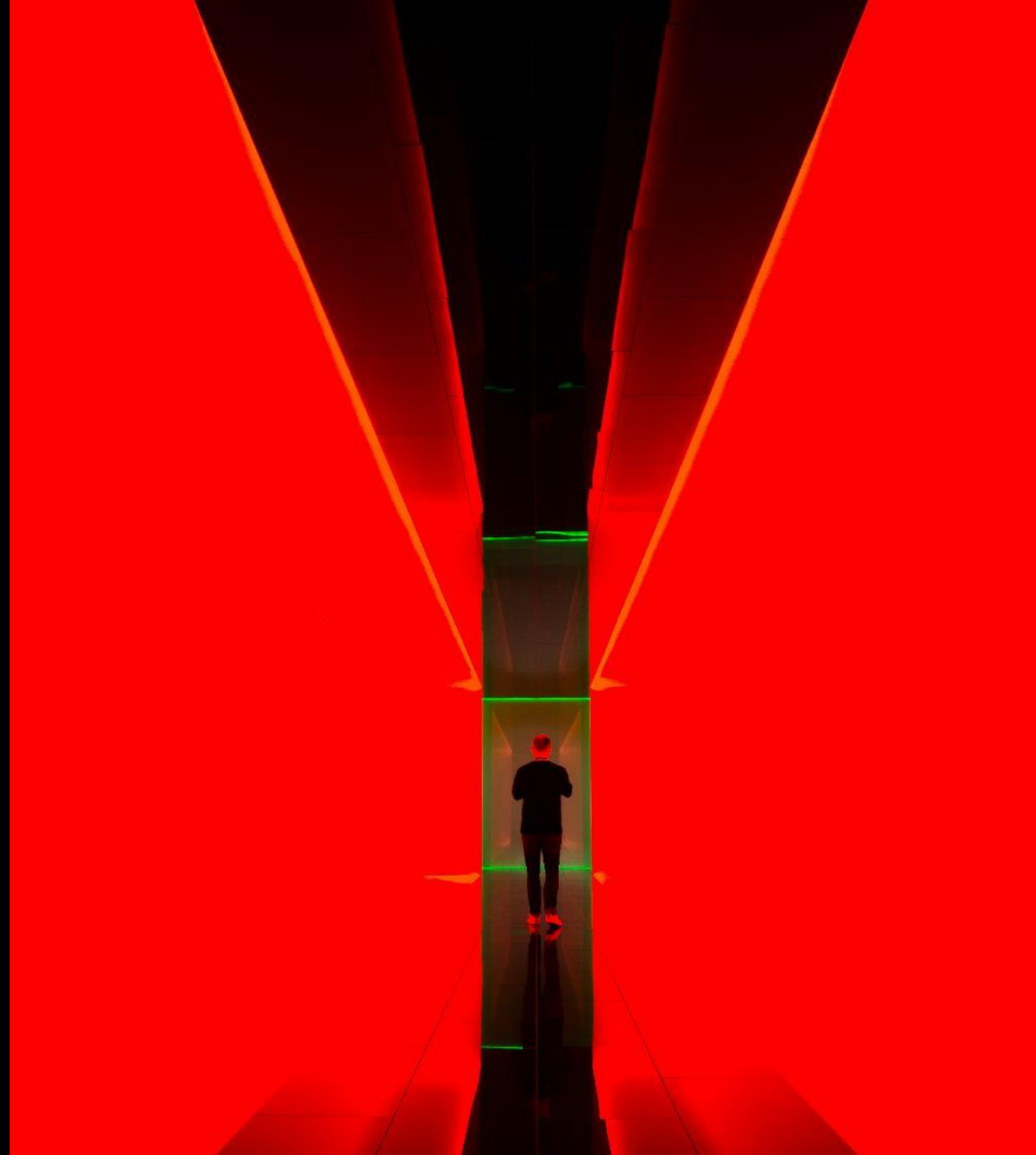
How do we prioritise investment?



MICROSOFT ALLIANCE

The **WSP-Microsoft strategic alliance** is built on a shared commitment to be catalysts for change in modernizing the AEC industry

February 2025





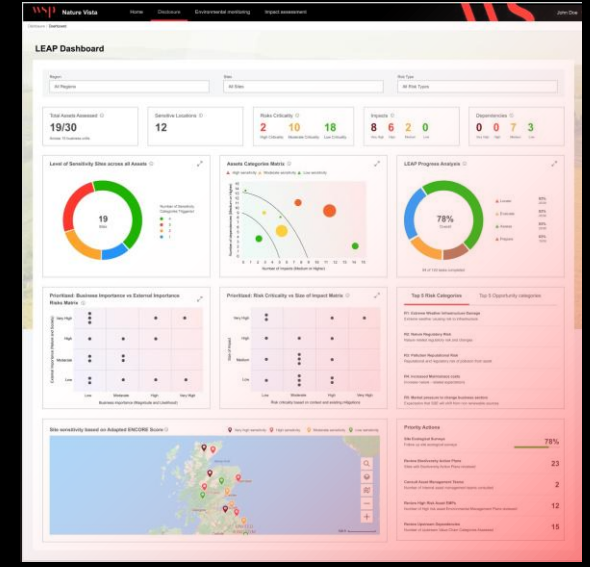
INDIVIDUAL AI

Copilots for all! AI tools that support employees with everyday tasks to allow them to focus on value adding activities.



ENTERPRISE AI

AI integrated into core business systems to analyse large datasets, predict trends, and optimise operations.



CLIENT SOLUTIONS

AI solutions embedded in services and platforms offered to clients, such as predictive modelling and design optimisation



Daisy

Multi-objective optimisation

Maximise building performance

Early-stage intervention with AI

Daisy – A parametric design tool to revolutionise early design

Make better decisions on your design from the start. Combining digital and AI with a core focus on sustainability and decarbonisation. Daisy brings a new way of looking at parametric design, by including it at the earliest stages of your project.





DAYLIGHT FACTOR

% of Floor Area



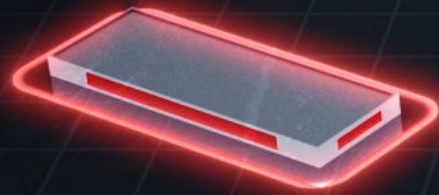
OPERATIONAL CARBON

KgCO_2/m^2

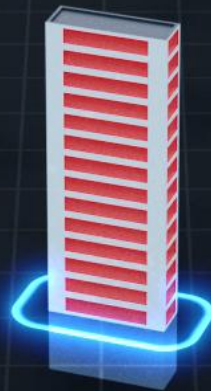


EMBODIED CARBON

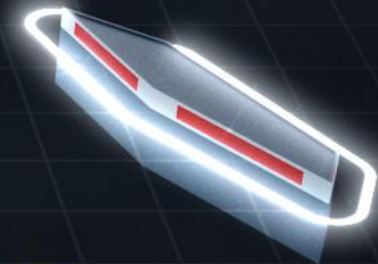
KgCO_2/m^2



DAYLIGHT FACTOR



OPERATIONAL CARBON



EMBODIED CARBON

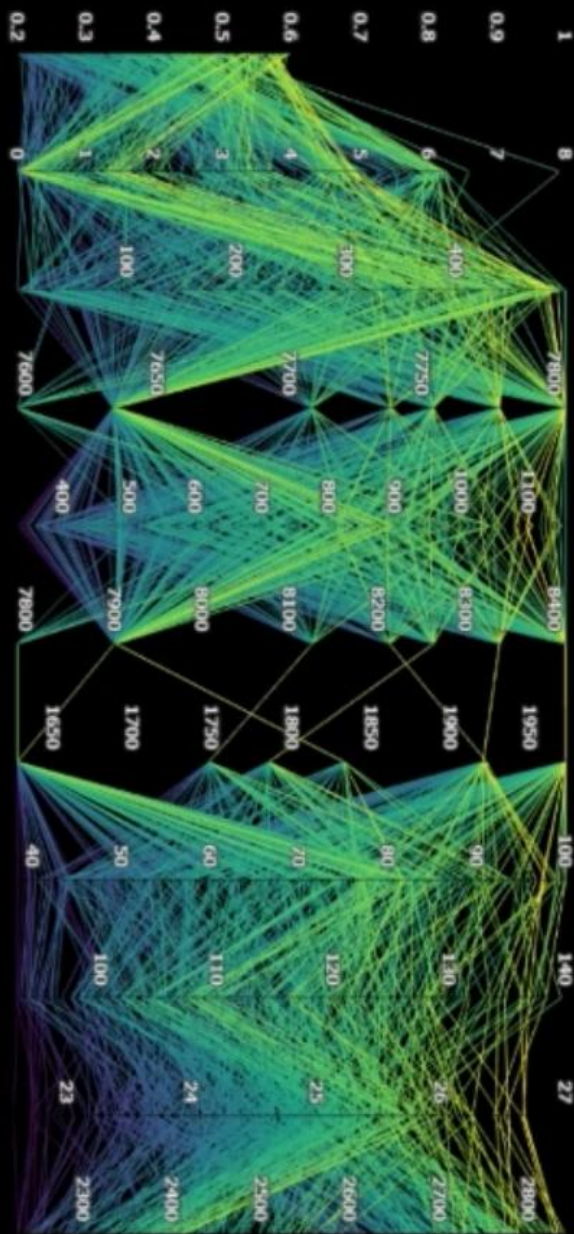
Filter

Selected Design

Design Space

Design Catalogue

Histograms



X-axis plotted feature

Embodied Carbon [kgCO2/m2]

Y-axis plotted feature

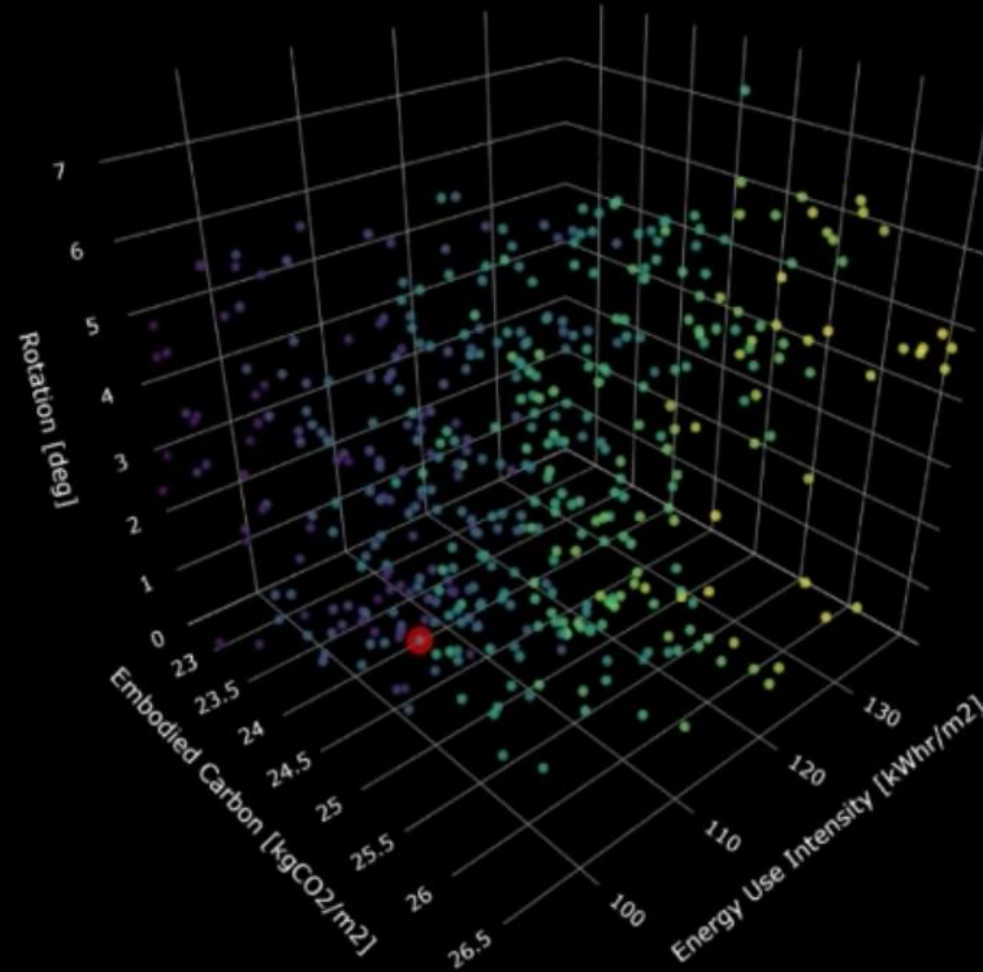
Energy Use Intensity [kWhr/m2]

Z-axis plotted feature

Rotation [deg]

Color scale feature

Spatial Daylight Autonomy [%]



Selected Design

Spatial
Daylight
Autonomy
[%]

100

90

80

70

60

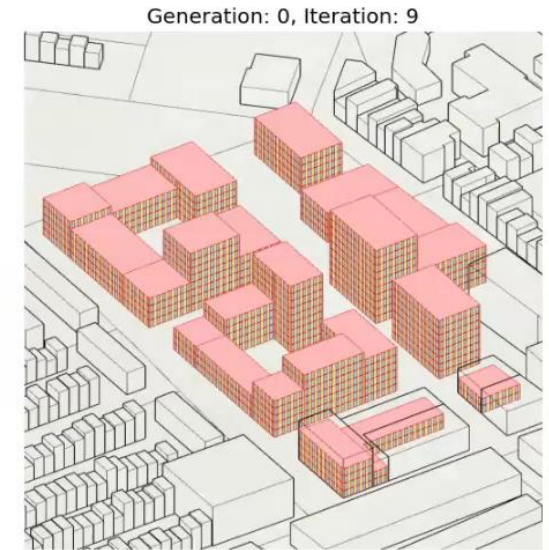
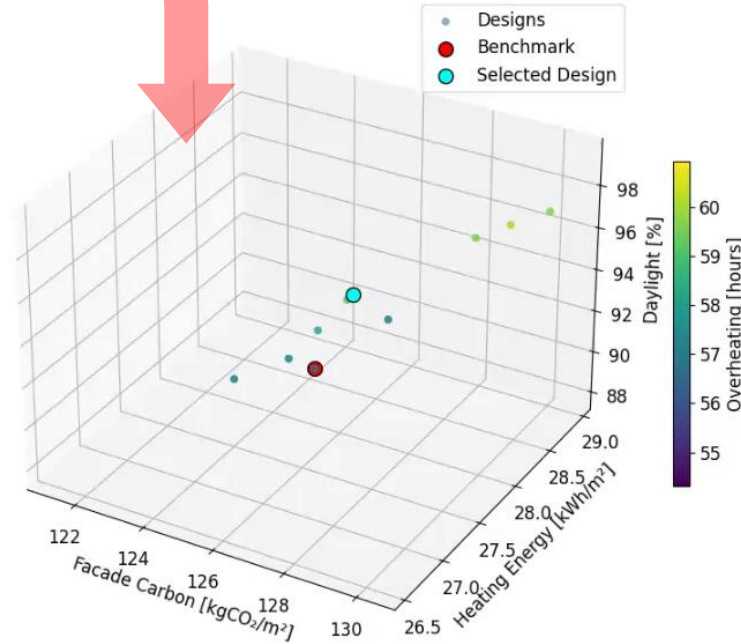
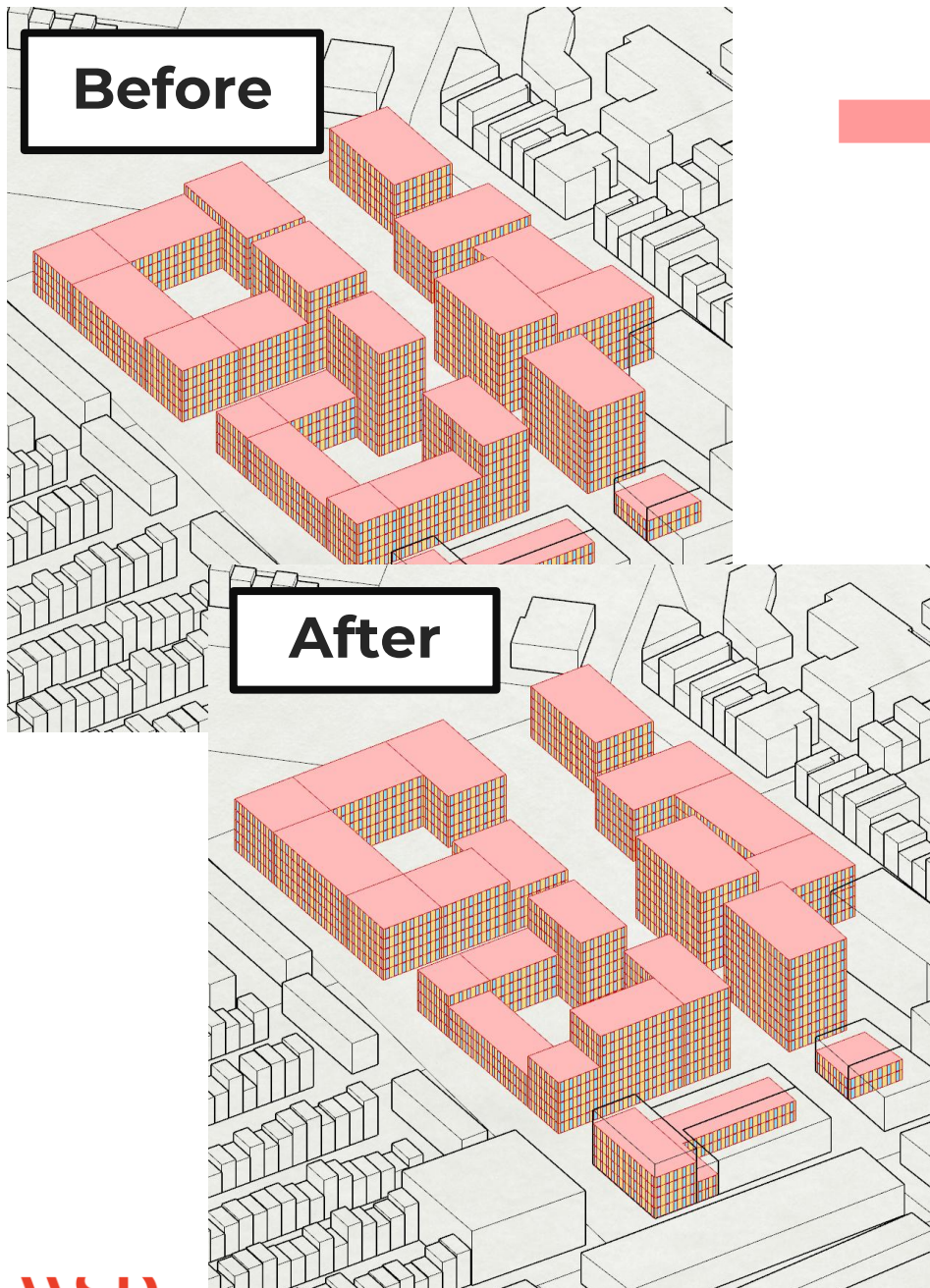
50

40

2d Mode

Invert daylight axis

Full site masterplan



182 tCO₂ Reduction

£420,000 savings (less façade area)

Reduce Heating Bills

Reduce Overheating Risk

Maintain Access to daylight



WISDOM

Wastewater Insights for
Standardisation, Delivery, Operation
and Maintenance

WISDOM democratises access to
operational knowledge and data

WISDOM

what is the capacity of the storm tanks?

NWG

Wisdom

The capacity of the storm tanks is as follows:

- Existing Capacity: 1220 m³
- Present Required Capacity: 518 m³
- Future Required Capacity: 520 m³
- Surplus Capacity:
 - Present Required: 702 m³
 - Future Required: 700 m³

Source: "sandbox/WST187 Willington STW.pdf", date: 1993-07-14.

what was the river level in the last week?

NWG

Wisdom

Over the last week, the river level at Sunderland Bridge was as follows:

- Minimum: 0.356 m
- Maximum: 0.609 m
- Average: 0.431 m

The most recent measurement, taken on 10th November 2025 at 11:00, was 0.363 m.

what was the flow for oct 2023?

NWG

Wisdom

For October 2023, the flow data was as follows:

- Minimum Flow: 12.186 l/s
- Maximum Flow: 113.516 l/s
- Average Flow: 48.5765 l/s

This data is based on the FFT tag.

can you show me that as a graph with a trendline?

NWG

Wisdom

Type your message here...



VISION AI

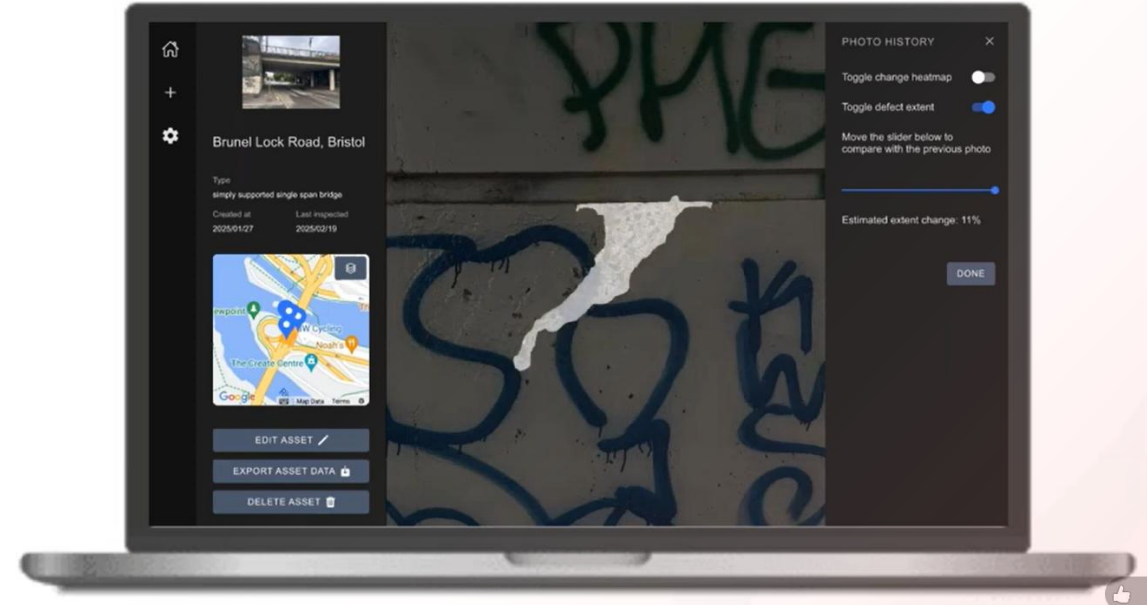
Traffic counting

Pathway fault detection

Detect and quantify defects

WINDWARD MONITOR

Change Over Time



EXPLORE THE

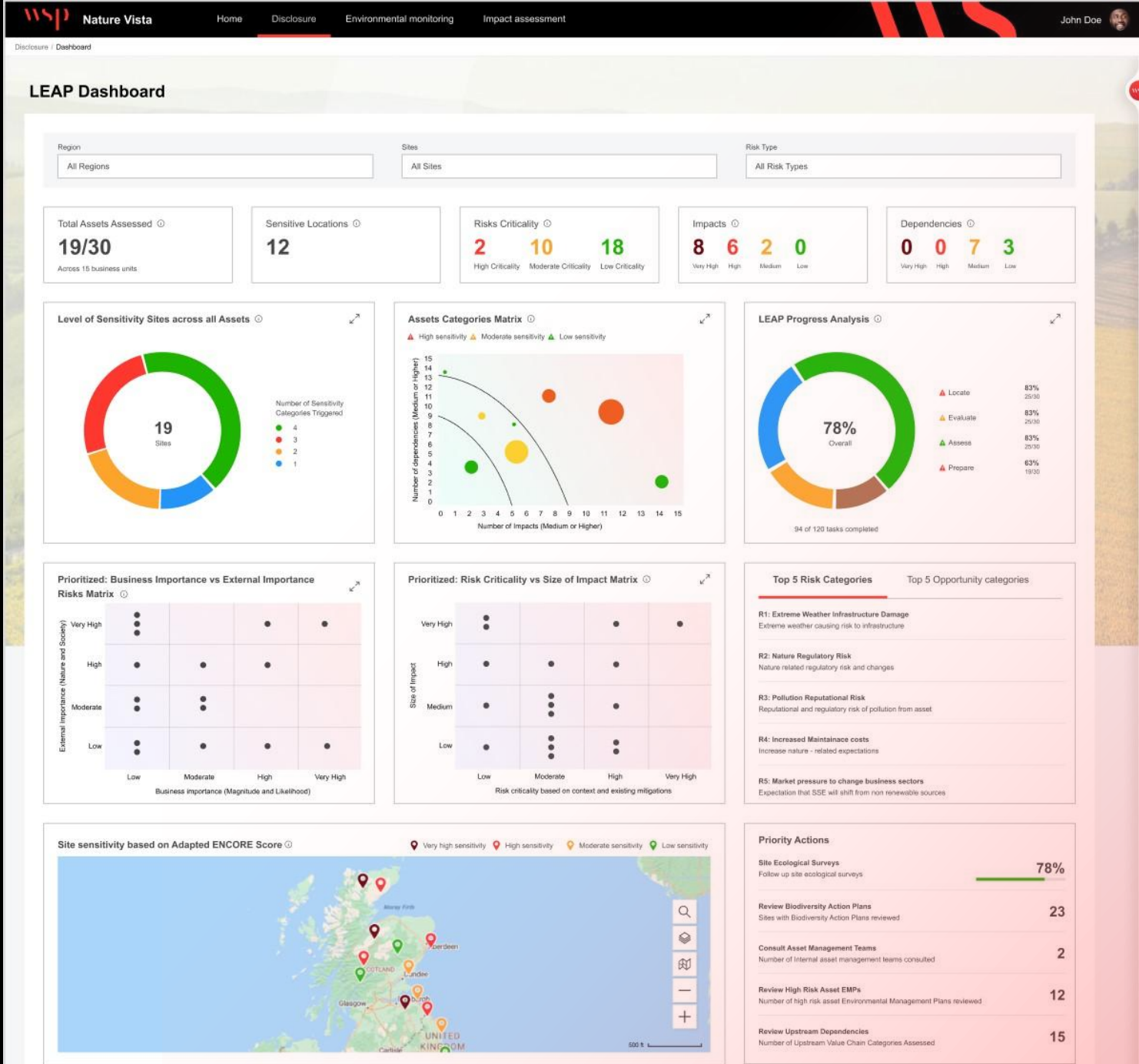


NATURE VISTA

Discosure compliance

Streamlined EIA

Environmental monitoring



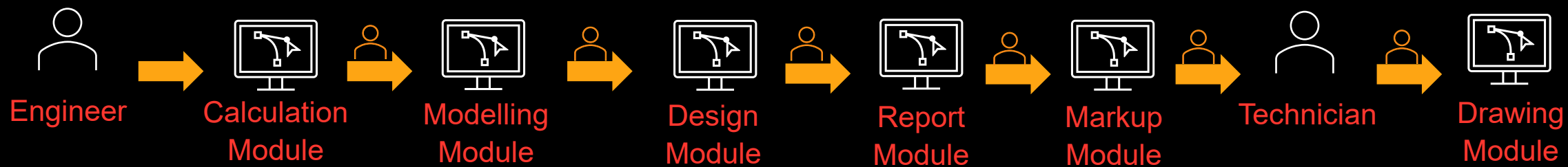
A NEW DESIGN PARADIGM?

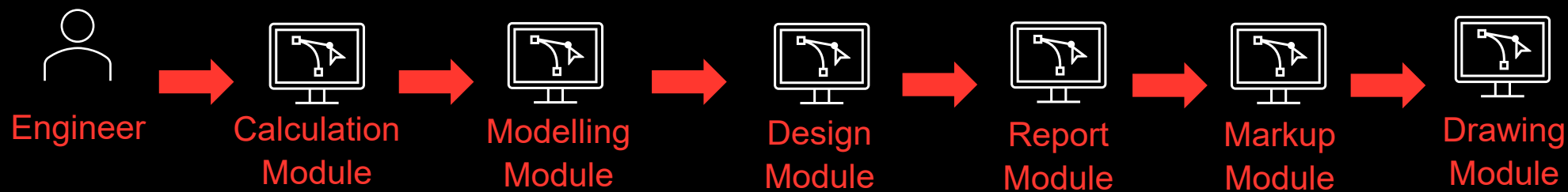


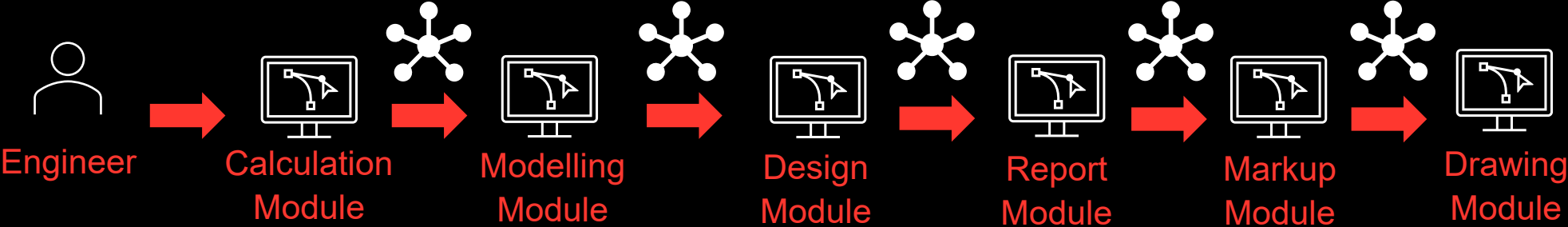


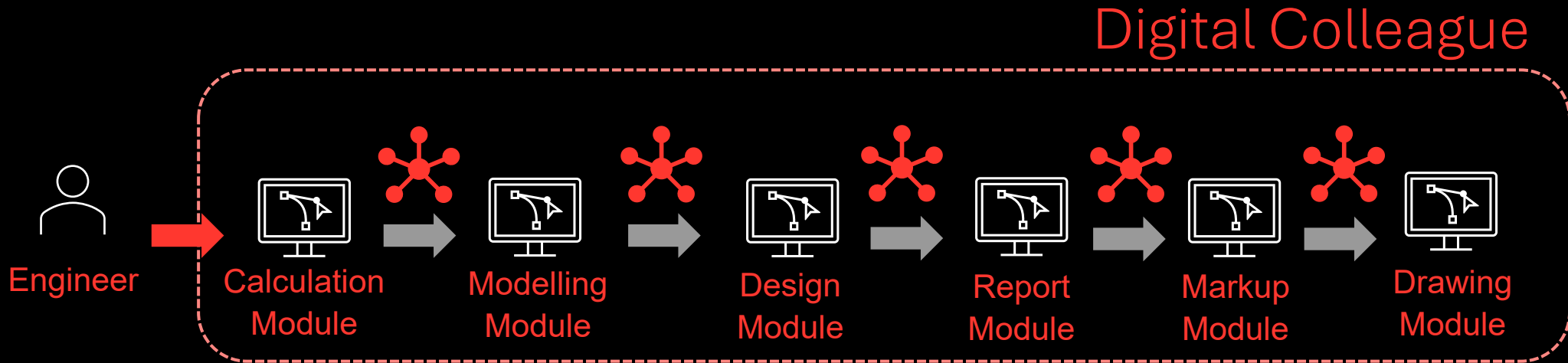
Current design workflow

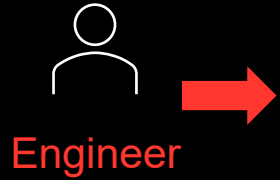












Digital Colleague



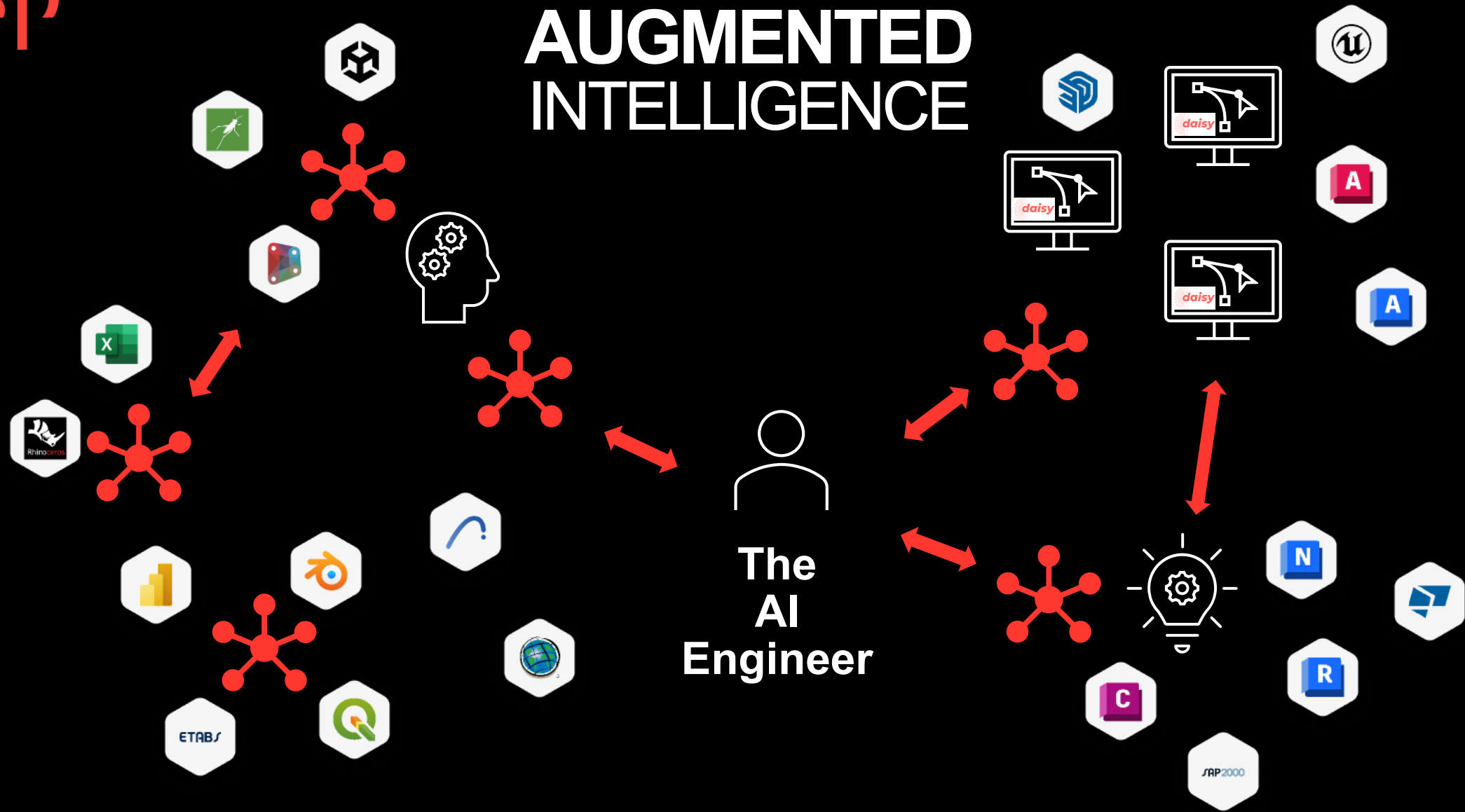
Digital Colleague



Digital Colleague

Digital
Design
Team

AUGMENTED INTELLIGENCE



A faint, dark background image of a financial candlestick chart with a moving average line. The chart shows price fluctuations over time, with a notable peak and subsequent decline. A price label '+11,000.00' is visible in the upper left area of the chart.

Own a top-down AI strategy

Sanctioned AI or shadow AI, it's your choice

Invest in your people, not just technology