TRUSTWORTHY AI

FOR BUILDING AUTOMATION

AMIR TABA
CTO & Co-Founder
DIREK LTD

DIREK
Intelligent Spaces. Sustainable Futures

IREK

Intelligent Spaces, Sustainable Futures

Imperial College London

aukett swanke

HILSON MORAN

ROHDE&SCHWARZ

SAUTER

Creating Sustainable Environments.

5G INNOVATION CENTRE

UNIVERSITY OF SURREY

Telefónica

Wates

TXGENIUS

AI-Based Dental Diagnosis

GEOVATION

Brunel University London

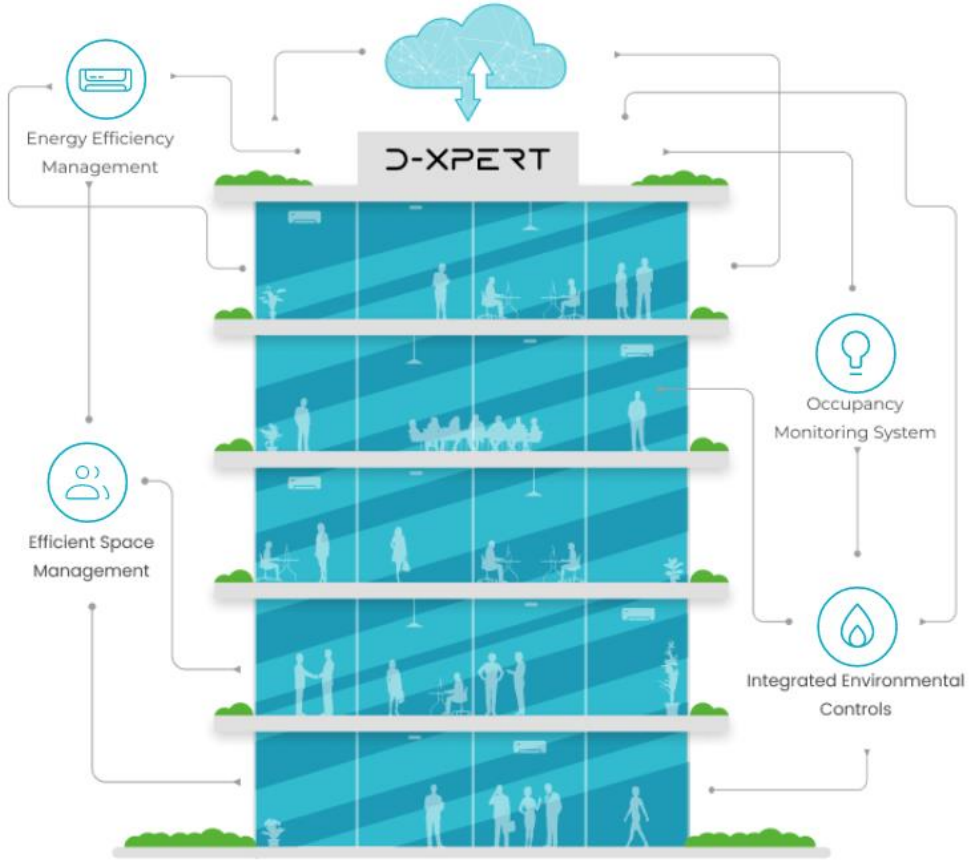
AIRBUS

UKRI Innovate UK

TOSHIBA

Johnson Controls

orange™



- Smart Sensors
- Space Optimisation
- Environmental Monitoring
- Energy Efficiency Management

RECOGNITIONS

DIREK is the TASMU Environment Track Award Winner

Our recognition and registration in Qatar underscore our dedication to sustainable solutions and reflect our ambition to positively influence Qatar's digital ecosystem

- Winner of TASMU Environment Track Award 2023
- Won over £1 million innovation grants from Innovate UK 2021-2023
- Winner of Toshiba Umbrella 2022
- Surrey Technology Awards 2023 (Highly Recommended)
- Wates Innovation 2021 (Finalist)
- Winner of the Sustainable Innovation Fund 2023 (SBRI)

Past

Indoor climate
based on
provided
user preference

Future

Indoor climate
based on
predicted
user preference

The Future of Intelligent and Sustainable Building Management Solutions

aukett swanke GROUP PLC
Brunel University London
HILSON MORAN
Wates
DIREK Intelligent Spaces, Sustainable Futures
SAUTER Creating Sustainable Environments.
SPIRE BUILDING SERVICES
UNIVERSITY OF SURREY
Imperial College London

FM MANAGER

FM MANAGER

FM MANAGER

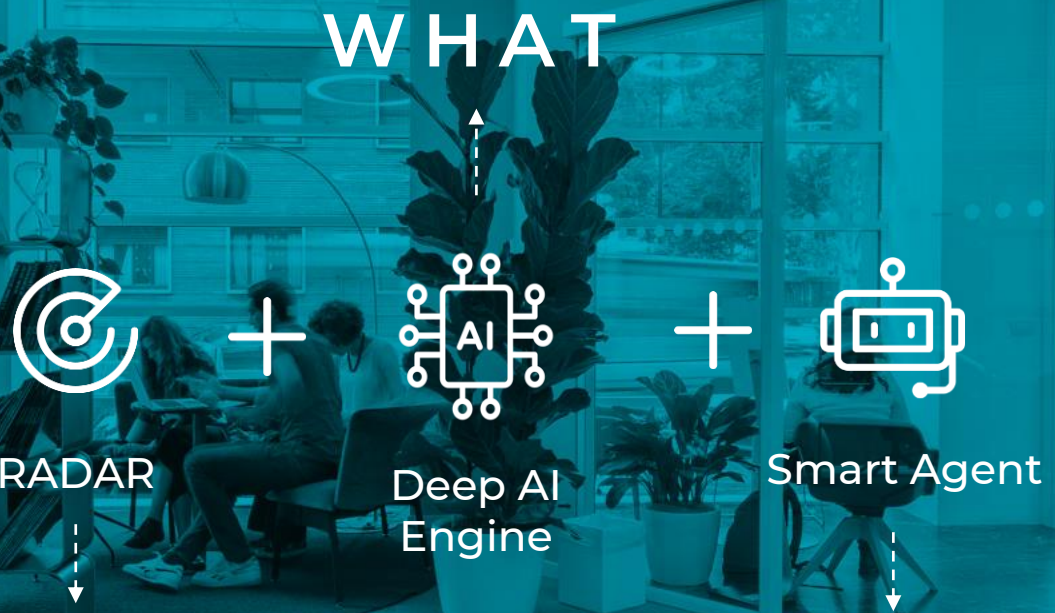
FM MANAGER

X Suboptimal Settings

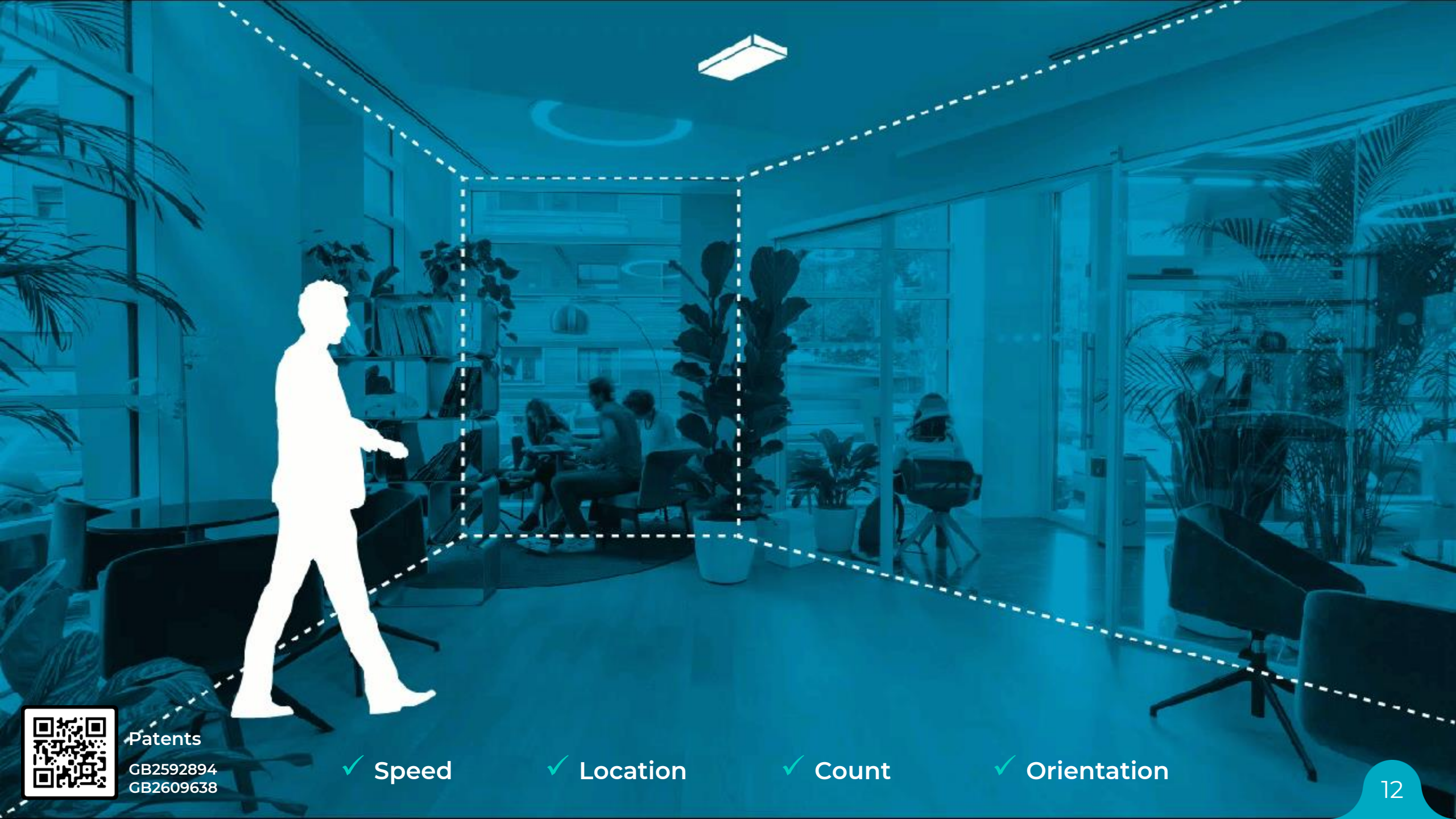
X Delay inefficiency

X Costly Complexity

D-XPERT



Occupant Centric, Realtime and Automated



Patents

GB2592894
GB2609638

✓ Speed ✓ Location ✓ Count ✓ Orientation

AI-Powered Precision

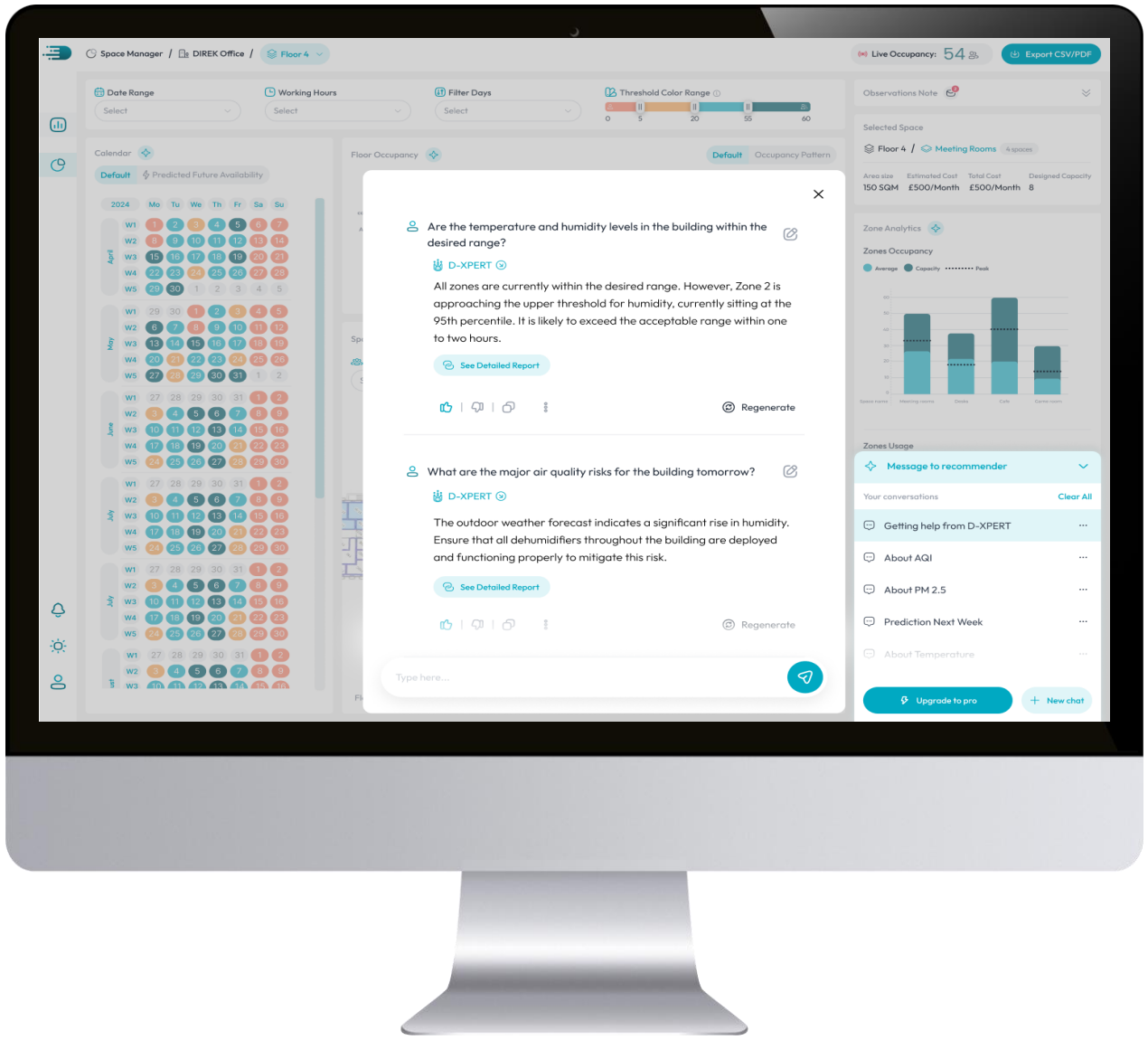
Fine-tuning Building Operations to Perfection

AI-Powered Precision

Fine-tuning Building Operations to Perfection

- Building Automation
- Maintenance and Safety
- Natural Language Enabled Data Analysis

RECOMMENDER SYSTEMS FOR DATA ANALYTICS



HILSON MORAN CASE STUDY

The Client

Hilson Moran is an international design and consultancy firm responsible for the 947 Stadium in Doha.

The Project

Radar deployed in <2 wks, gave accurate insight into utilisation; D-XPERT recs compared to HVAC.

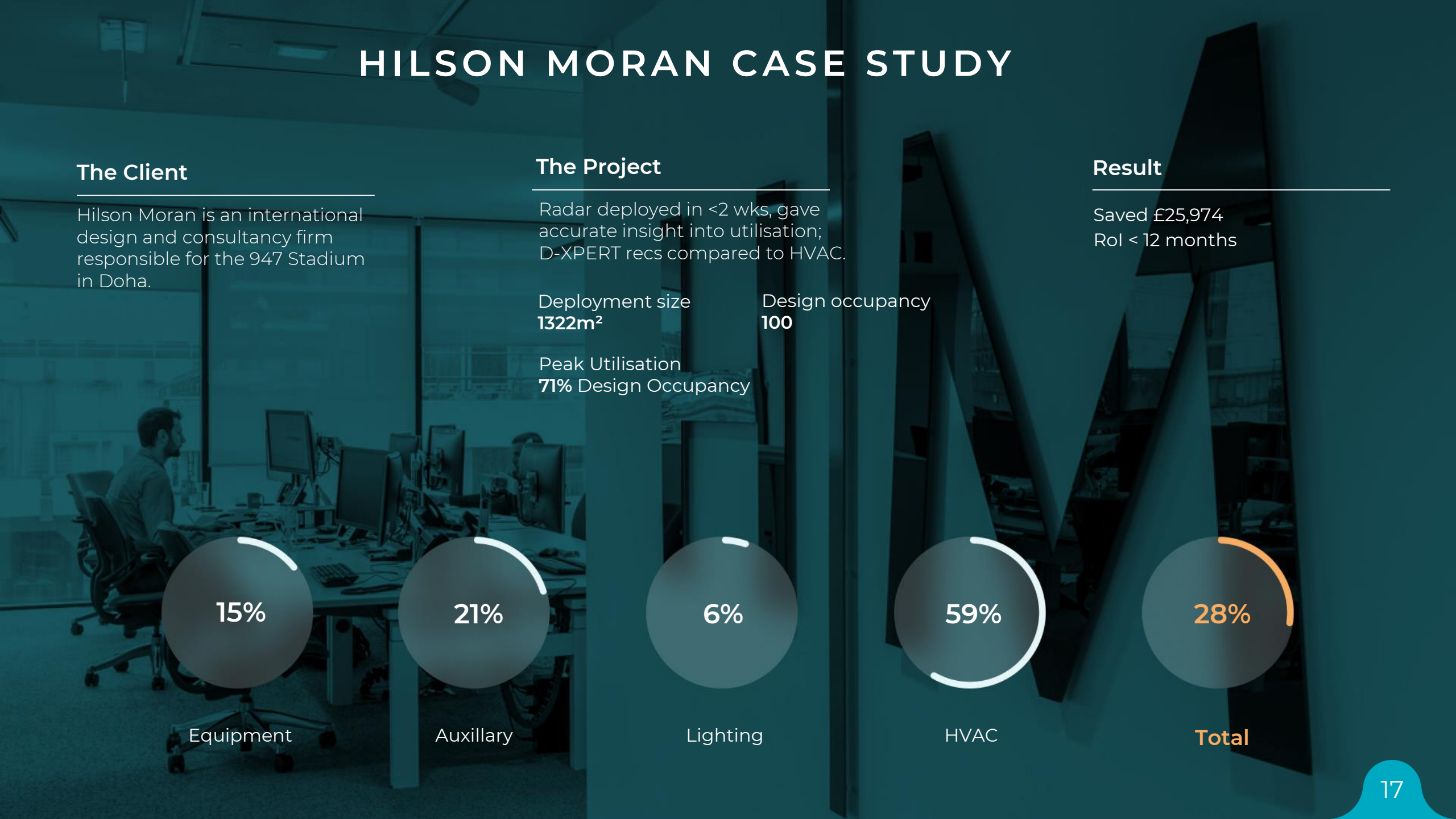
Deployment size
1322m²

Design occupancy
100

Peak Utilisation
71% Design Occupancy

Result

Saved £25,974
RoI < 12 months



Trustworthy AI

Challenges

- Interoperability
- Reliability
- Accuracy
- Security

Mitigations

- Open Platform
- Baseline , Fall back mechanism
- Cold start, Personalisation
- End-to-End encryption, Smart Model Protection

THANK YOU

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Drop an email to receive your copy of "Trustworthy AI for Building Automation Systems”

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