Helvar
A Sustainable Future
With Smart Lighting & IEQ
By Thet Oo, Solution Director

Helvar

TURNING EVERYDAY PLACES INTO BRIGHTER SPACES

Sustainability, Wellbeing and Insights for Smart Buildings

200+
EMPLOYEES
AT HELVAR

85+
PARTNERS
WORLDWIDE

300,000+
PROJECTS
REFERENCED

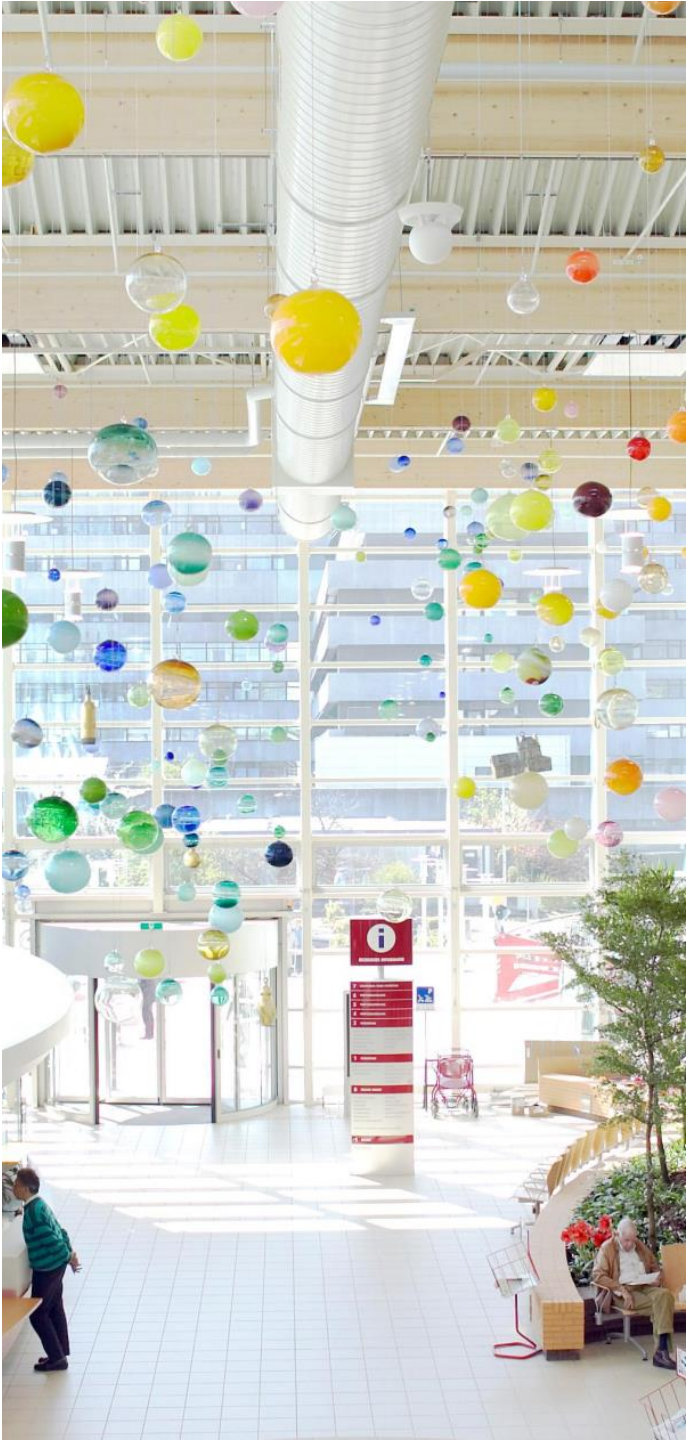
85m+
DALI POINTS
WORLDWIDE

75+
COUNTRIES
USING HELVAR

135+
PATENTS
REGISTERED

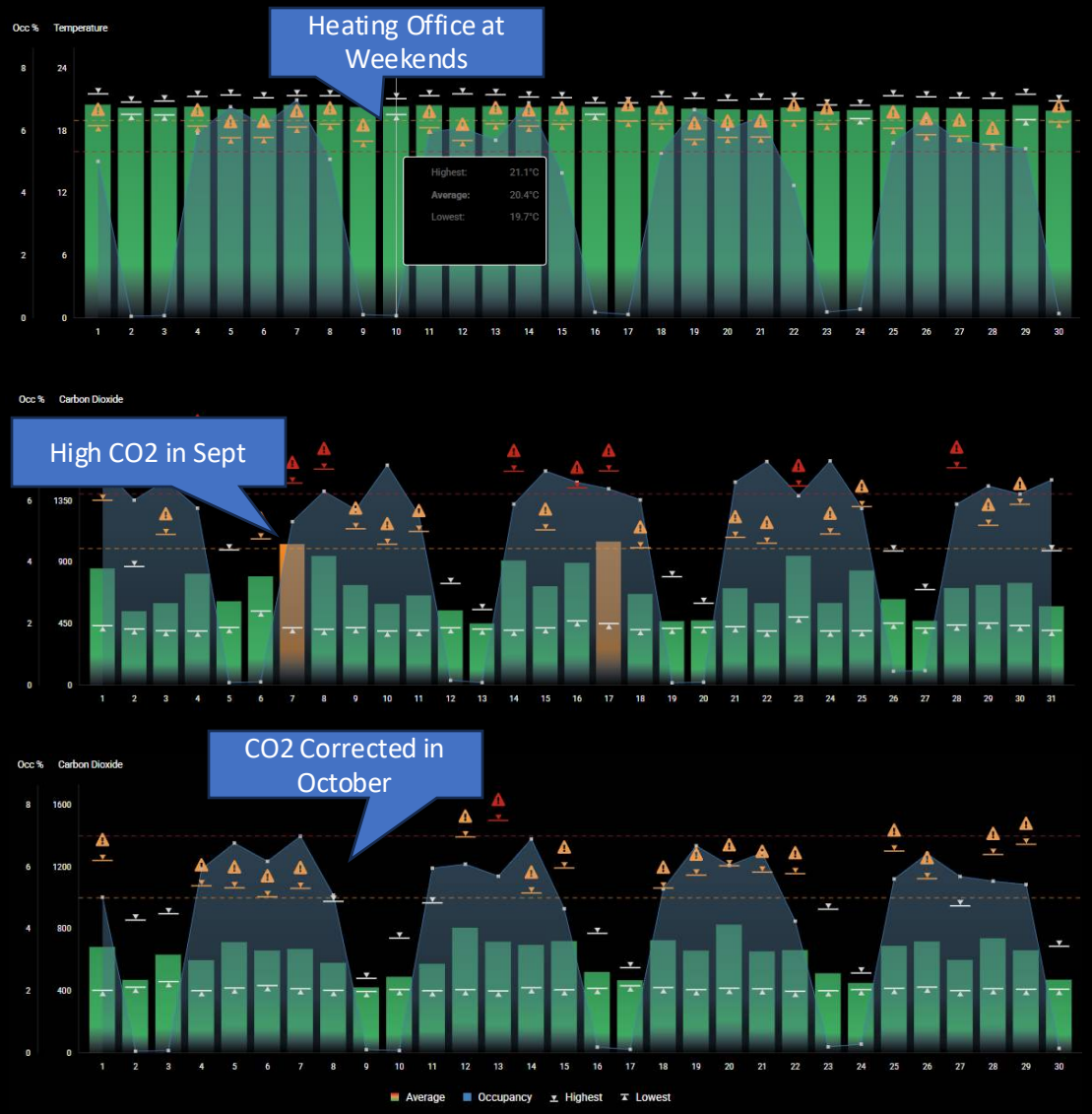
Helvar

AVL Cancer Institute and Hospital Amsterdam



Lighting Renovation with IEQ

AVL Hospital Outcomes



Further energy saving

Heating empty spaces during the week and at weekends

Improved IEQ

CO2 Lowered since October

To achieve the Paris Agreement, the global buildings & construction sector must almost completely decarbonise by 2050

UNEP, 2021

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UNEP, 2021

EPBD & EPBR

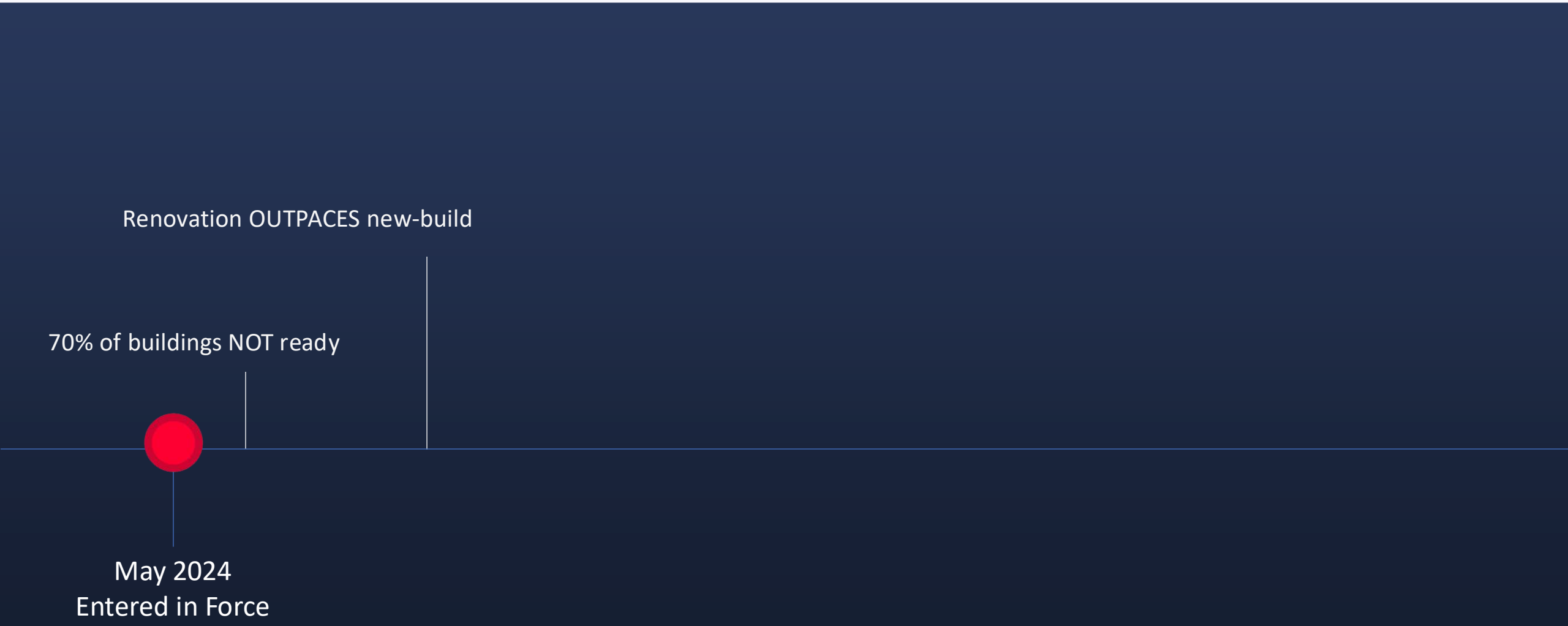
Energy Performance of Buildings Directive

To Realise Paris

For most of Europe

EPBD Legislation Forces Change

EN ISO 52120-1



EPBD Legislation Forces Change

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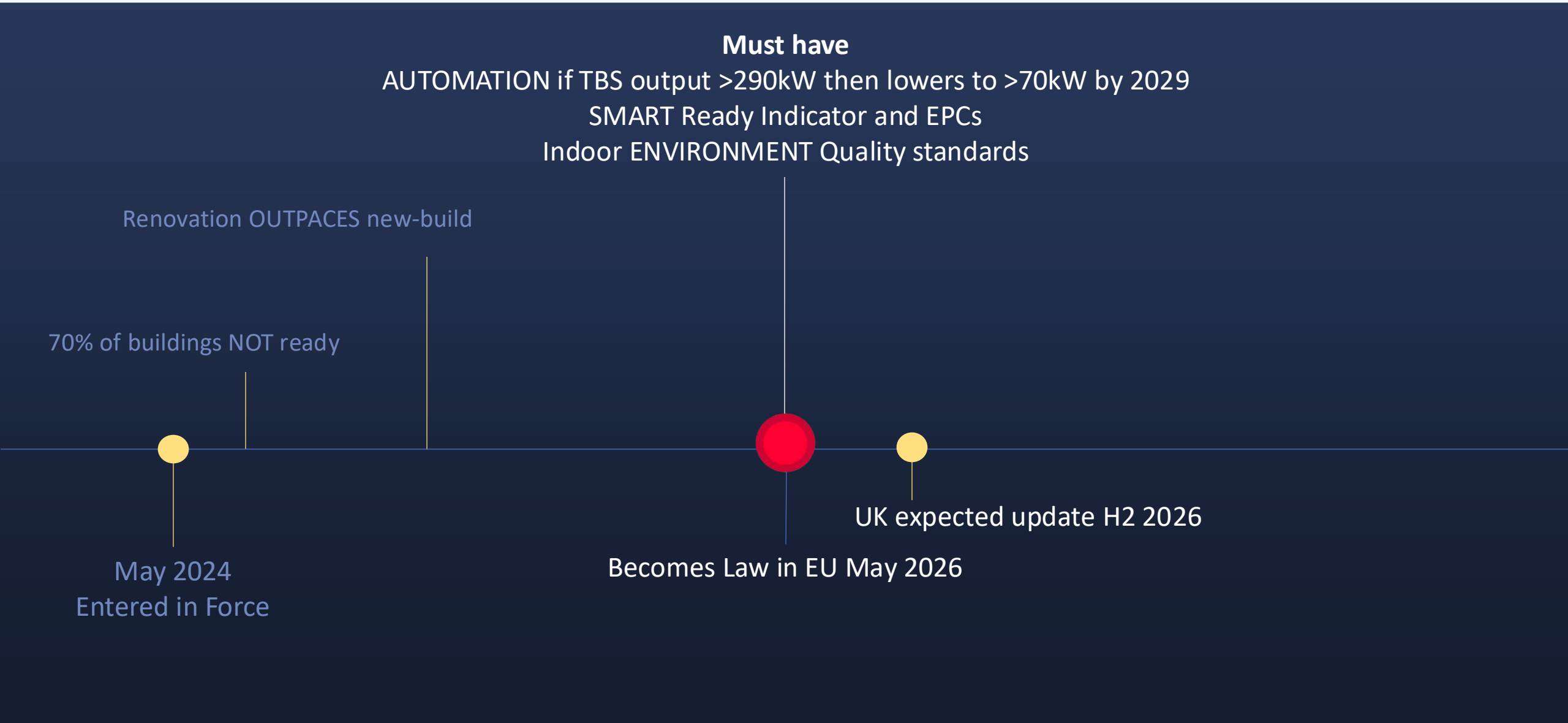

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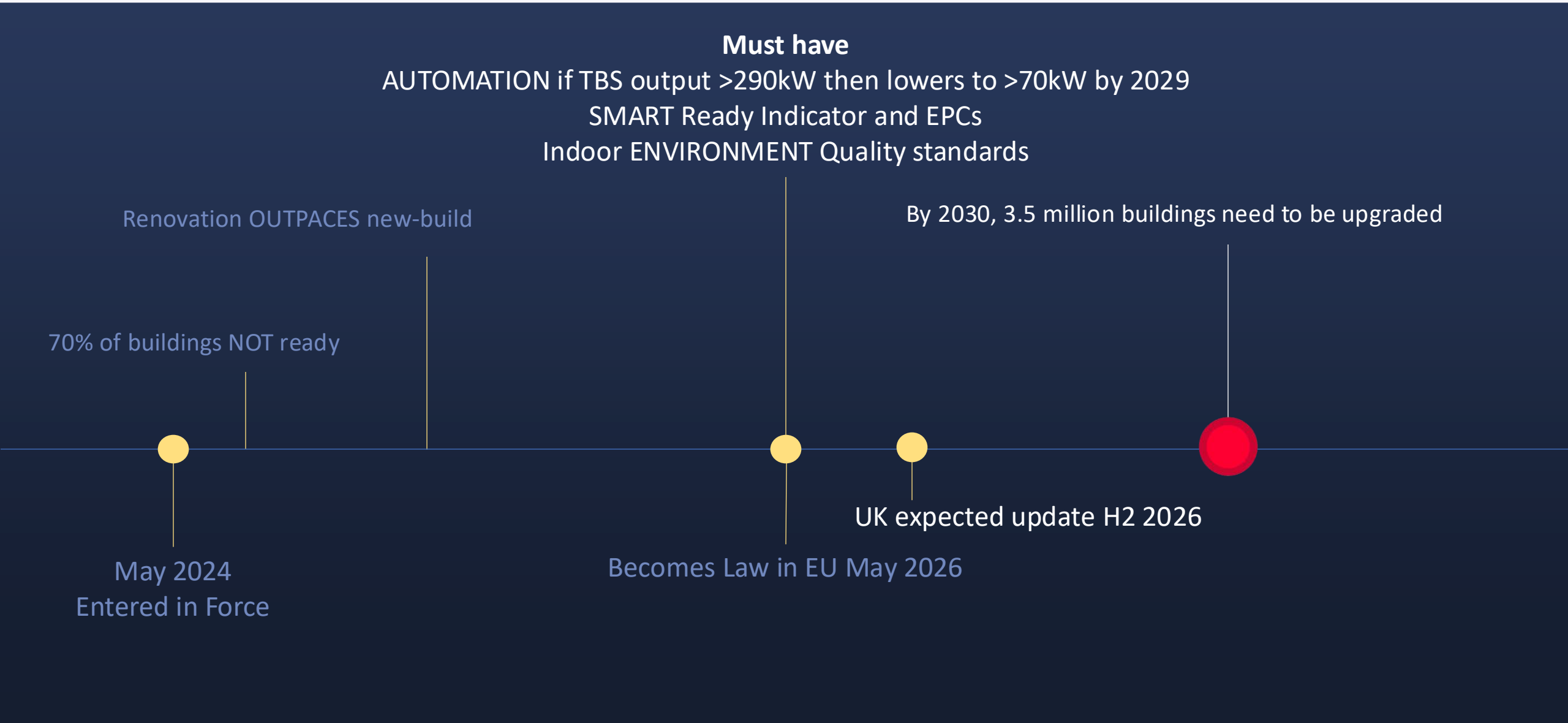

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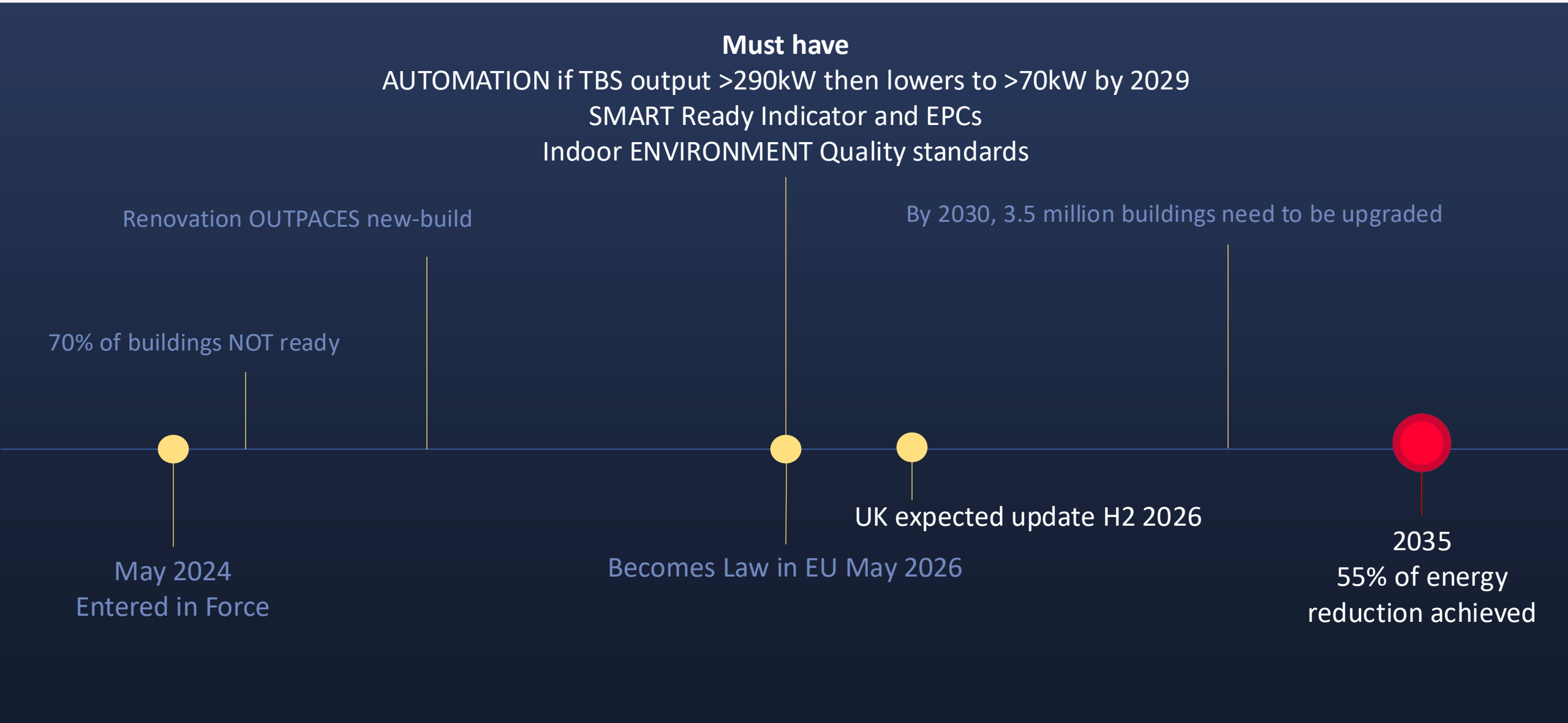
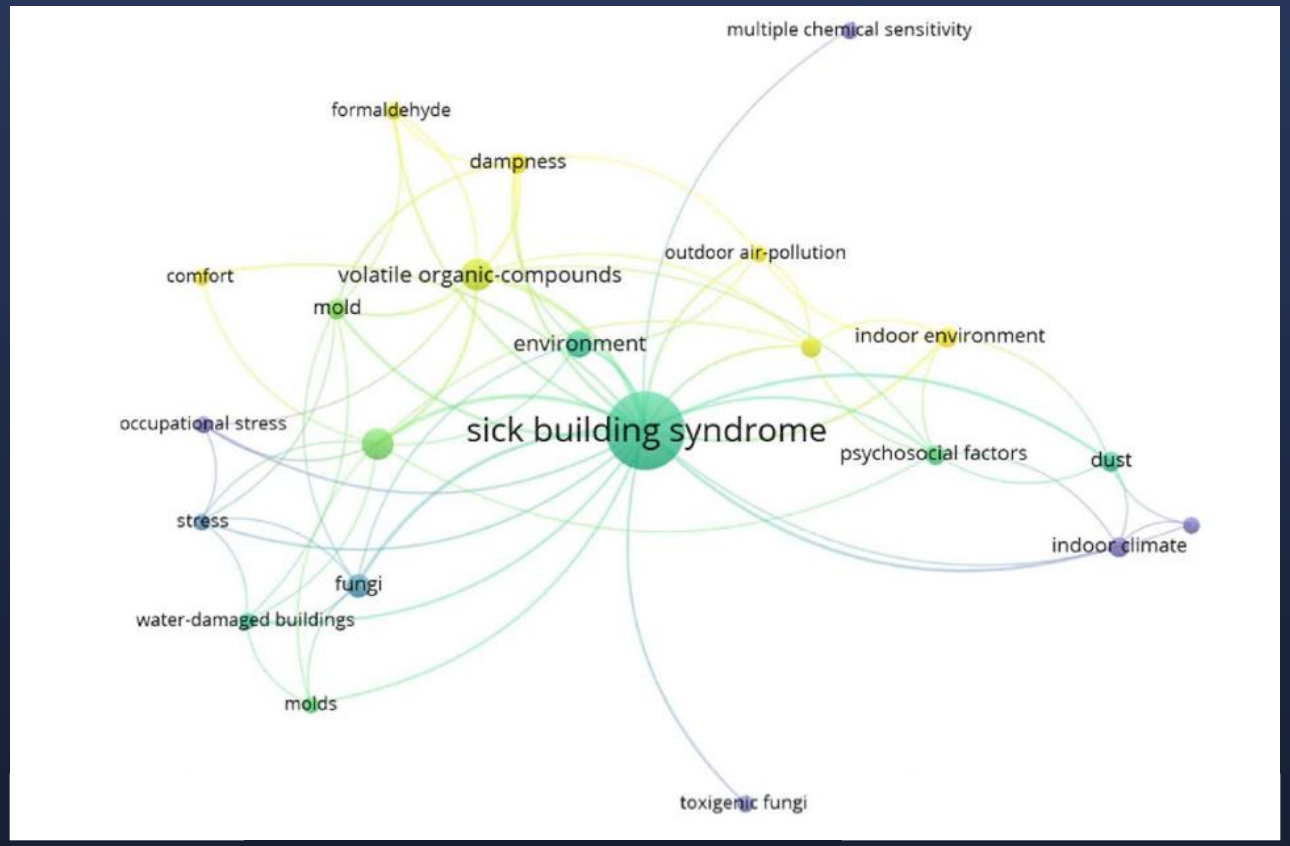


Indoor Environment Quality

- IEQ -

Poor IEQ - Causes and Effects



Where we can Impact

Light

Climate

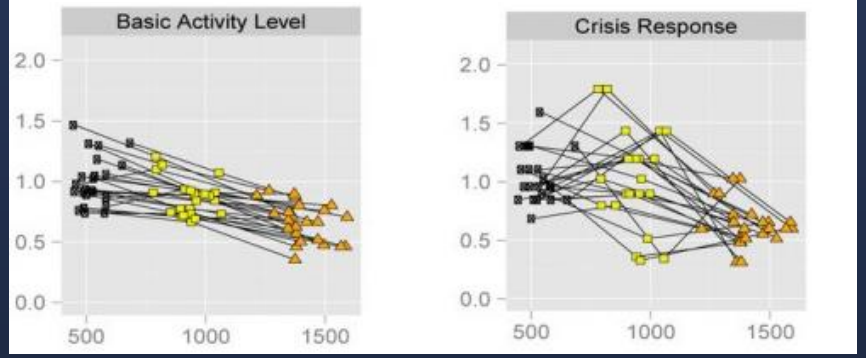
Air (IAQ)

Air (IAQ)

For most of human evolution and modern history, CO_2 levels in the air were in a fairly narrow and low range of 180 to 280ppm

- Joseph J. Room, climate expert

HARVARD T.H. CHAN SCHOOL OF PUBLIC HEALTH



↑ 100ppm CO_2 = ↓ ~5% Cognitive Score

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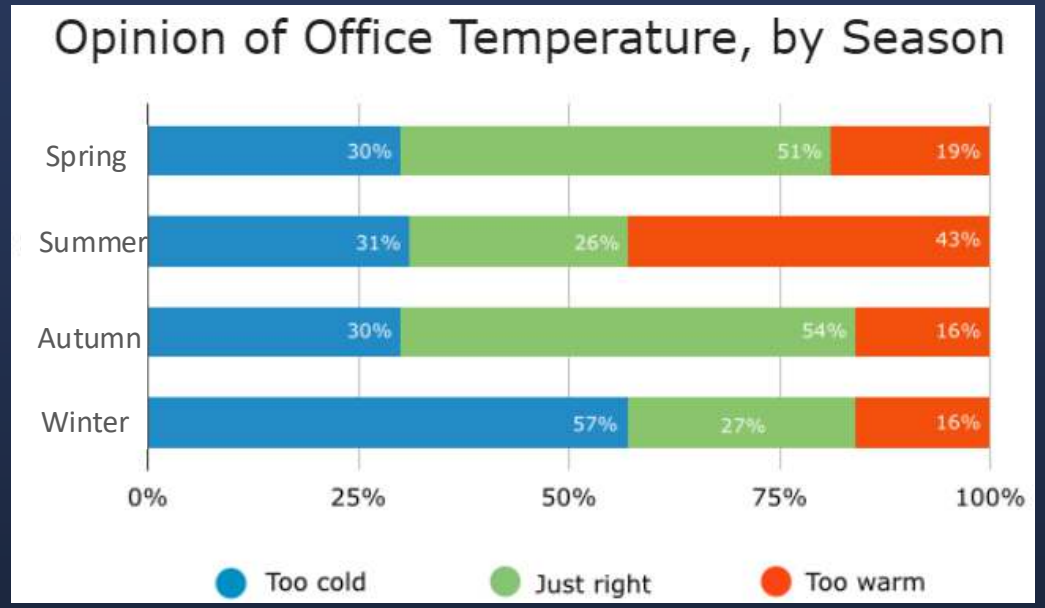

Increased attendance & Productivity
↑ 1°C above 22°C = ↓ 3.6% Productivity

Climate

"Finding an office temperature to please everyone, all the time is basically impossible"

- *BBC Worklife article*

But….typically Between 19-22°C

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You now know…

➔ 2026 legislation will drive change

➔ Energy Efficiency and IEQ

➔ Renovation - wave has started

What's Helvar Doing? What should you do about it?

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Design Projects to be Compliance Ready for Smarter, Greener Buildings

Turning Everyday Places into Brighter Spaces

Typical Room Application

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Typical Room Application

Lighting and Controls

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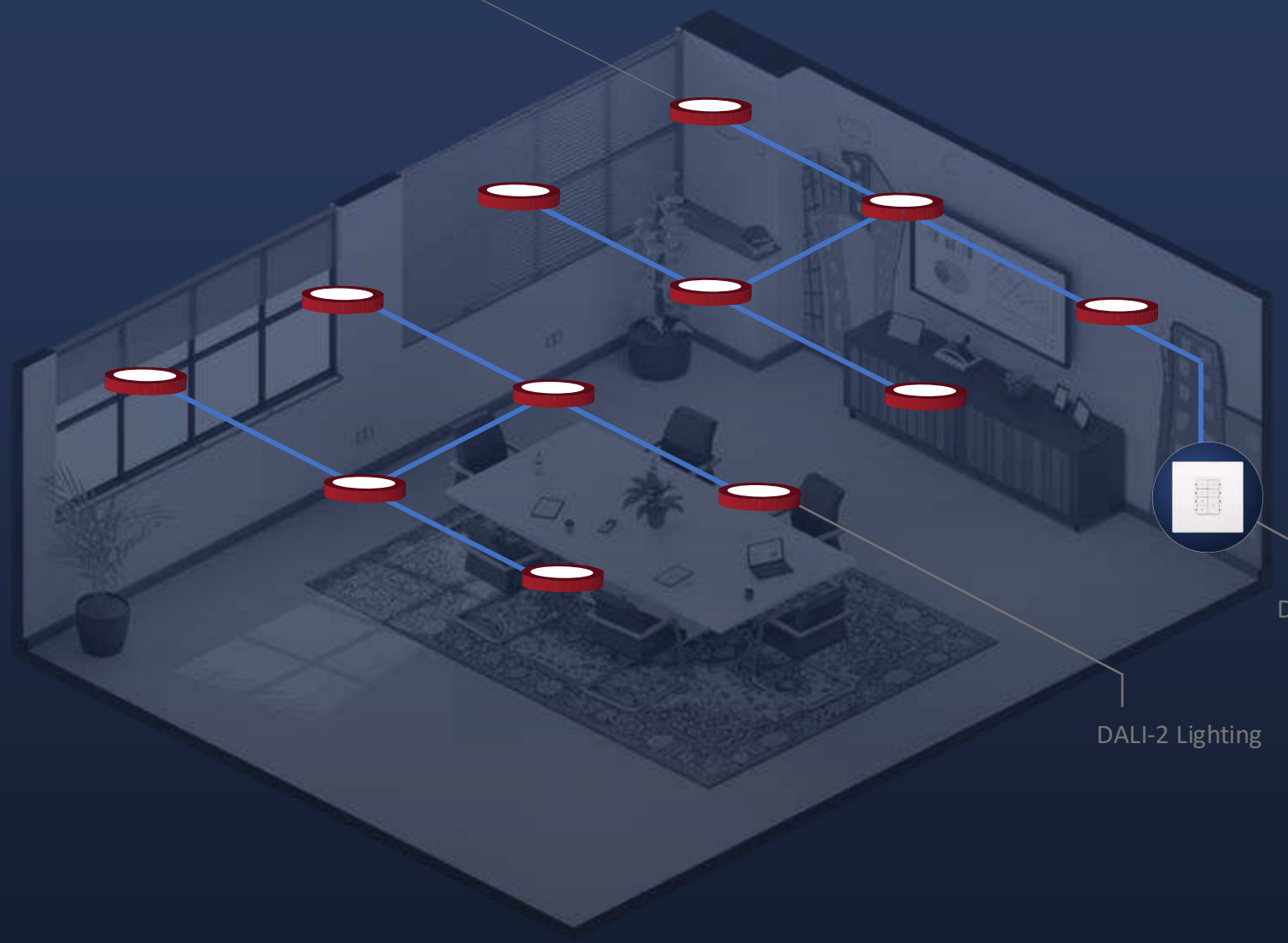

Typical Room Application

Lighting and Controls

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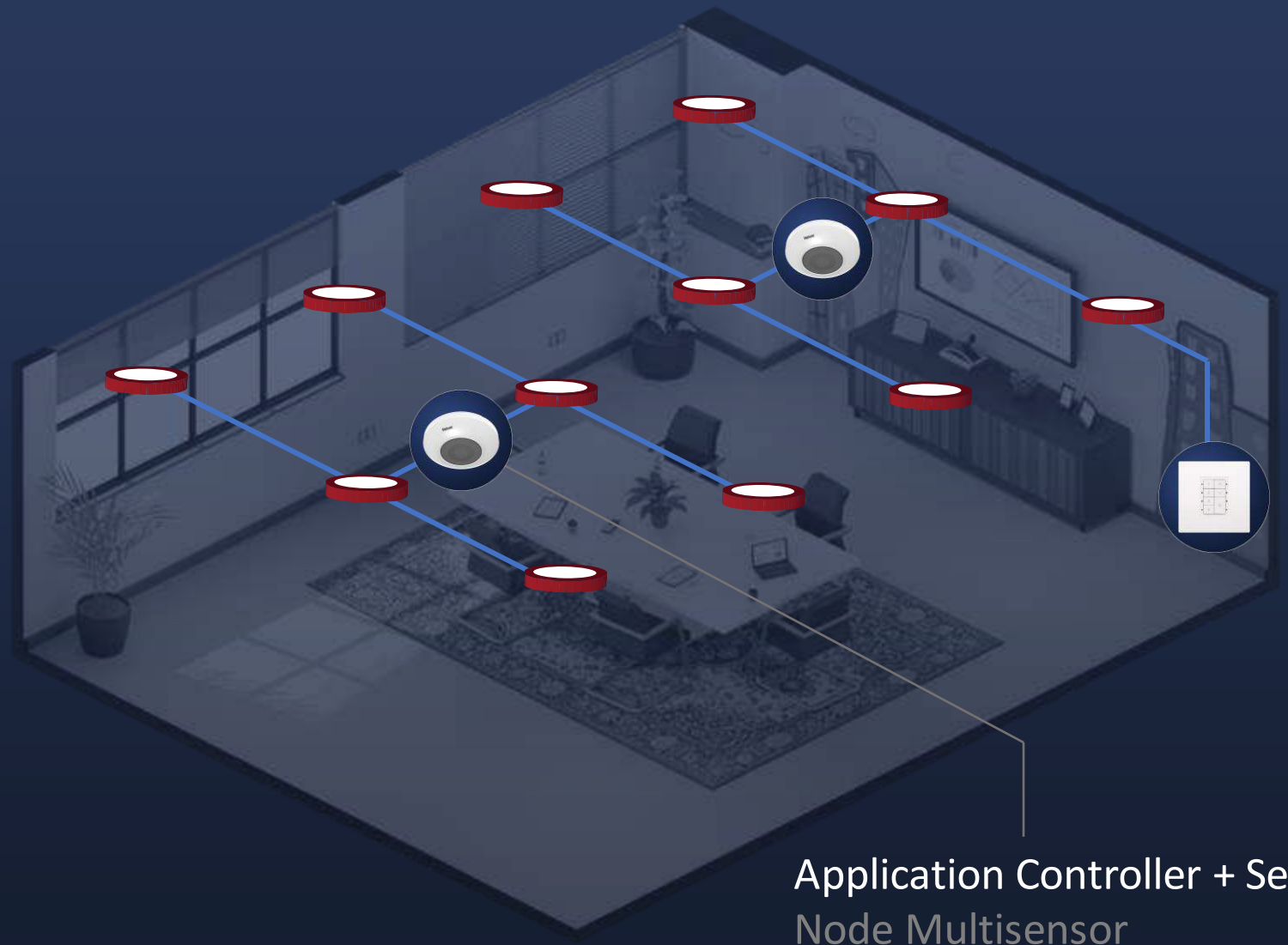

Application Controller + Sensor

Node Multisensor

Typical Room Application

Lighting and Controls

Networked System

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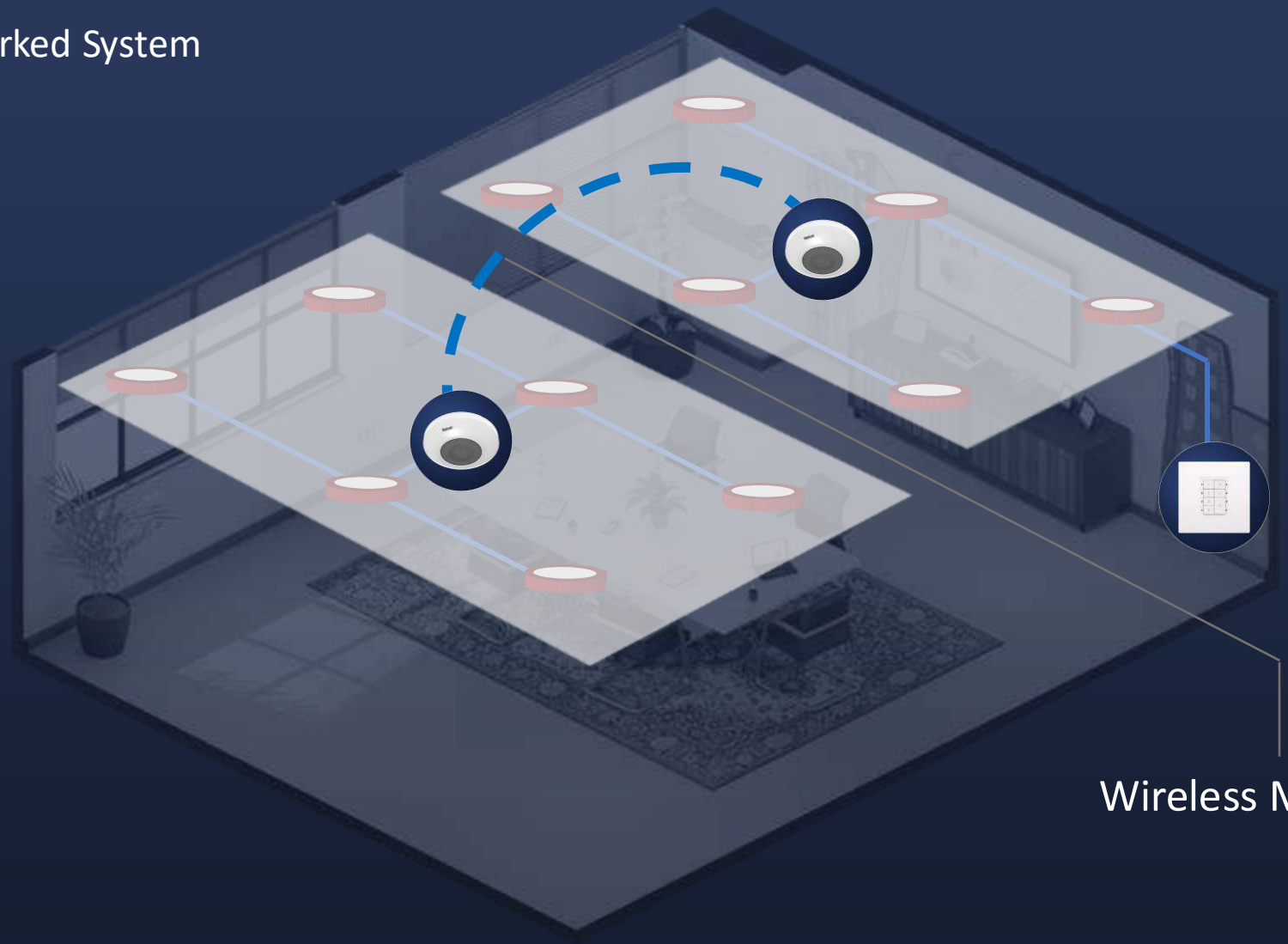

Wireless Mesh Network

Typical Room Application

Lighting and Controls

Networked System

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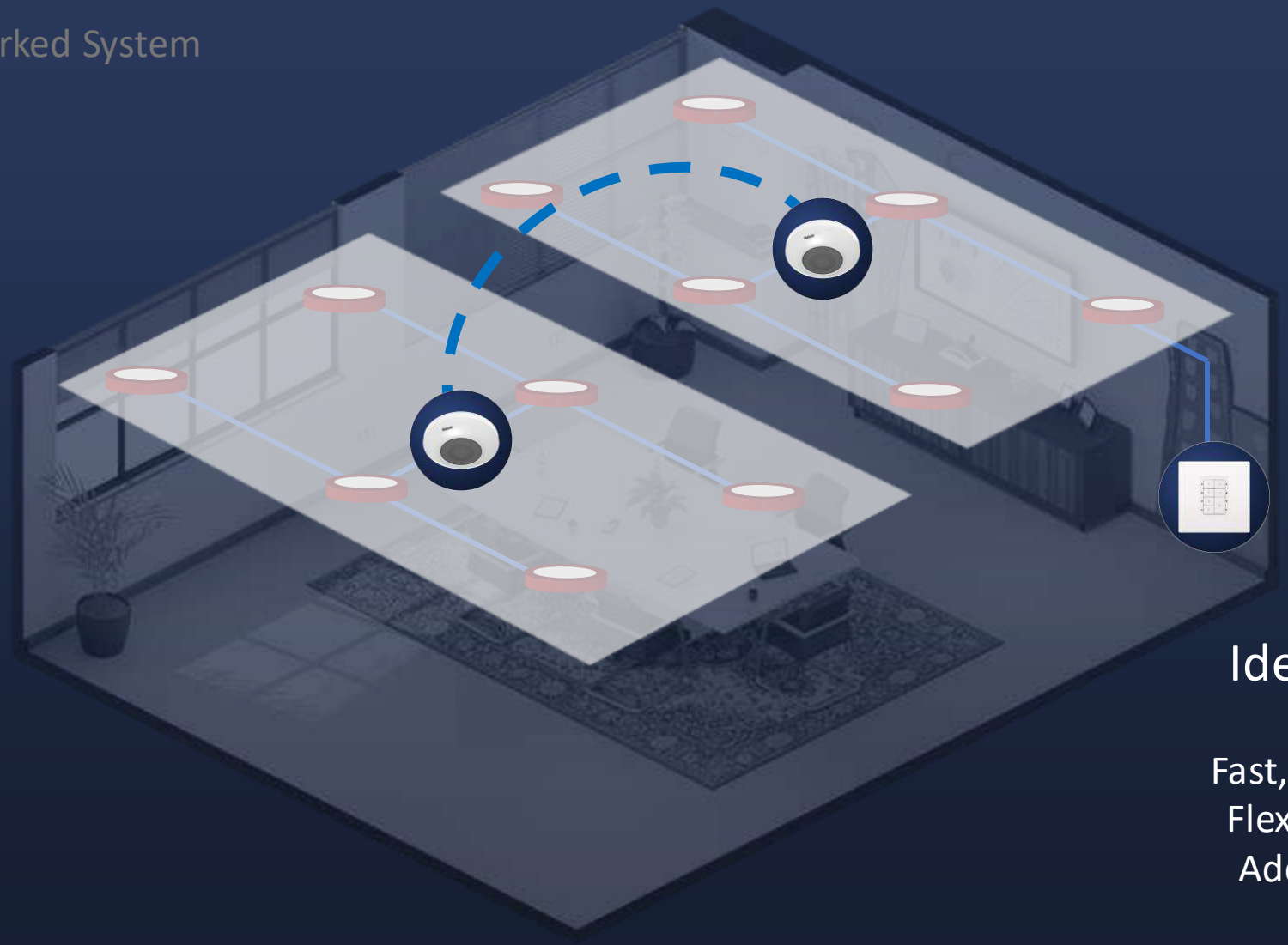

Ideal for Renovation

Fast, Easy Installation & Setup
Flexible to scale and change
Add Lighting Management

Typical Room Application

DALI 2

Lighting and Controls

Bluetooth MESH

Networked System

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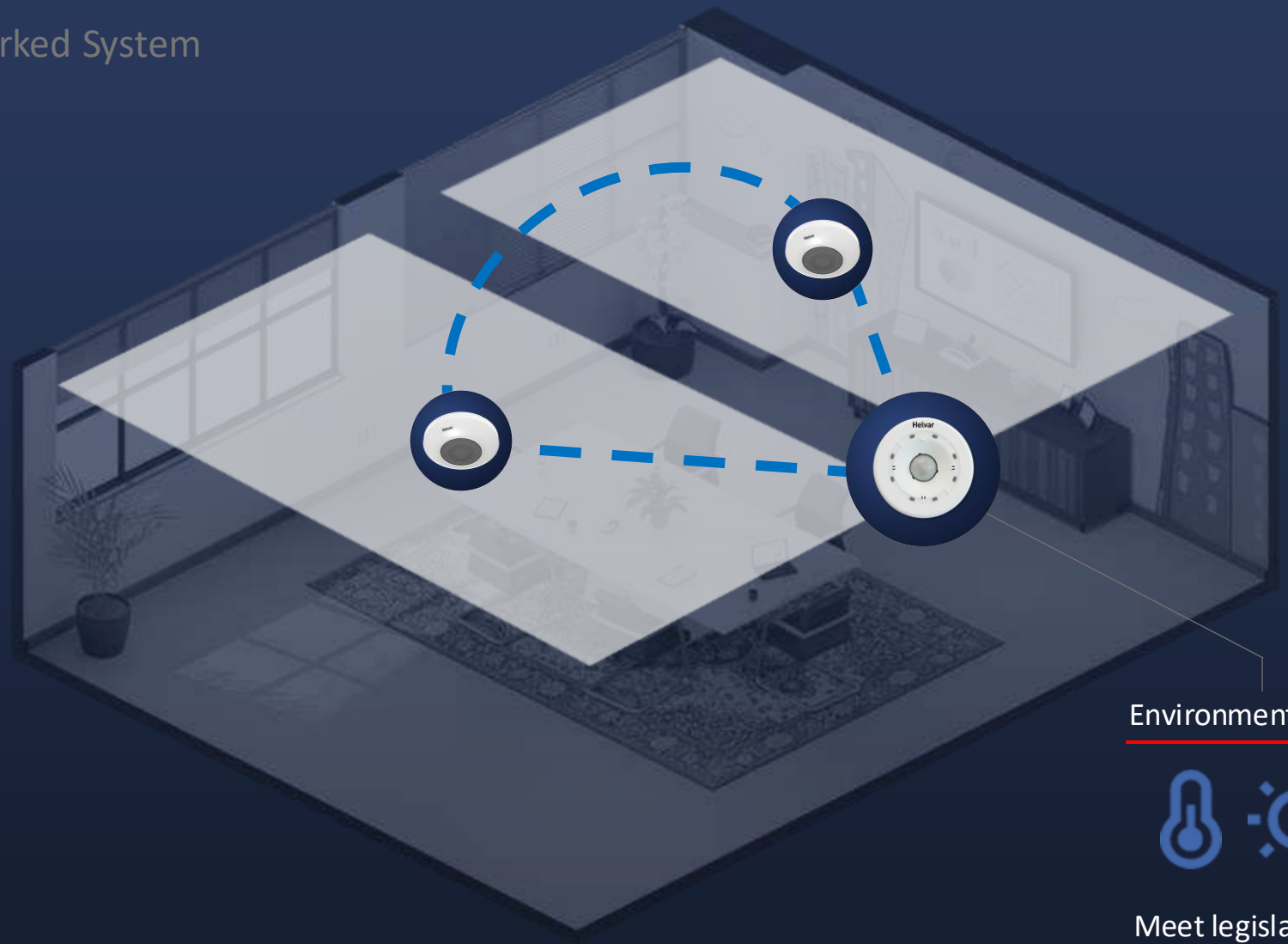

Environmental & Occupancy Sensor

VOC

Meet legislation, enhance experience

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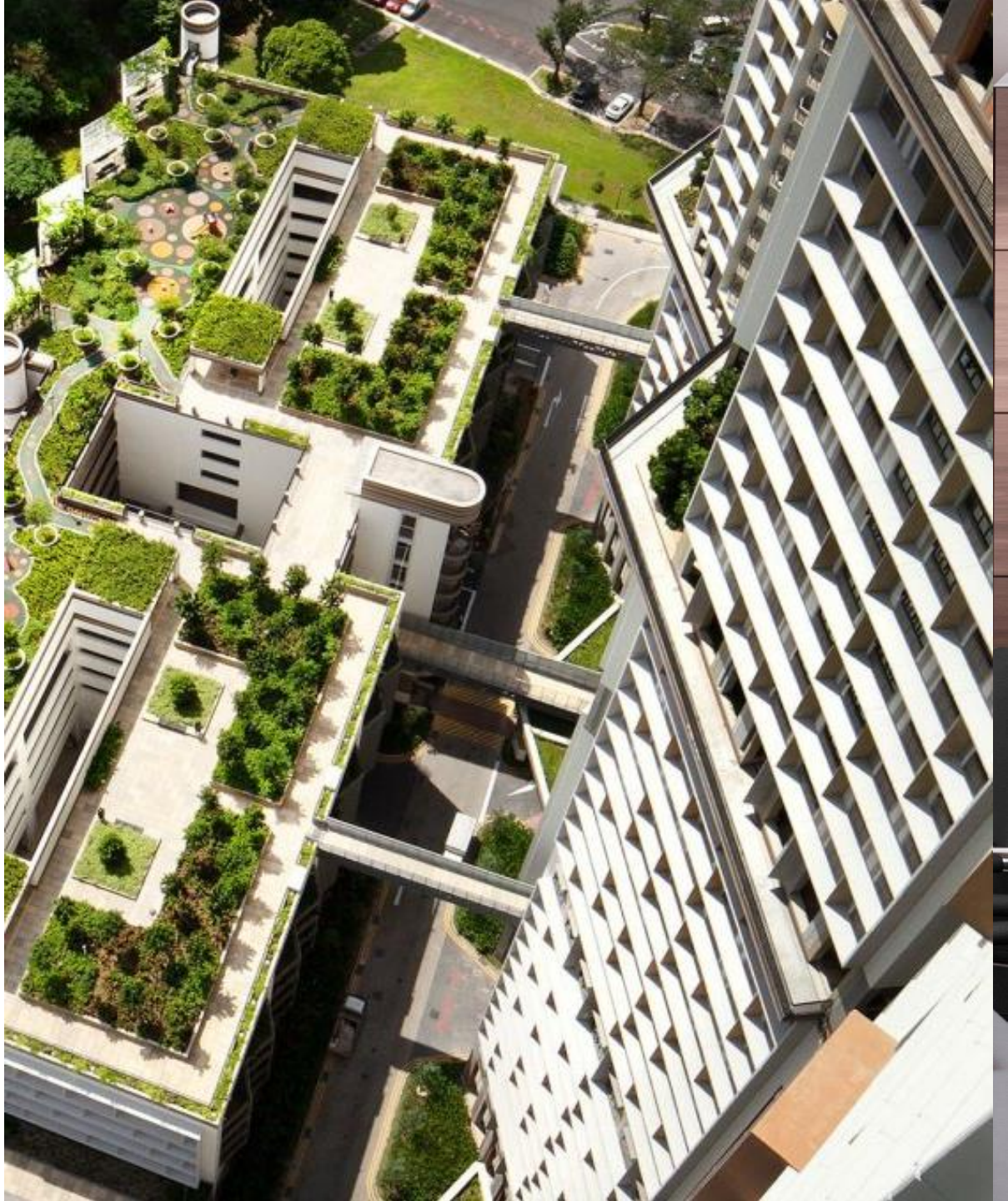
Solution Scale Up



Lighting and Controls

Networked System

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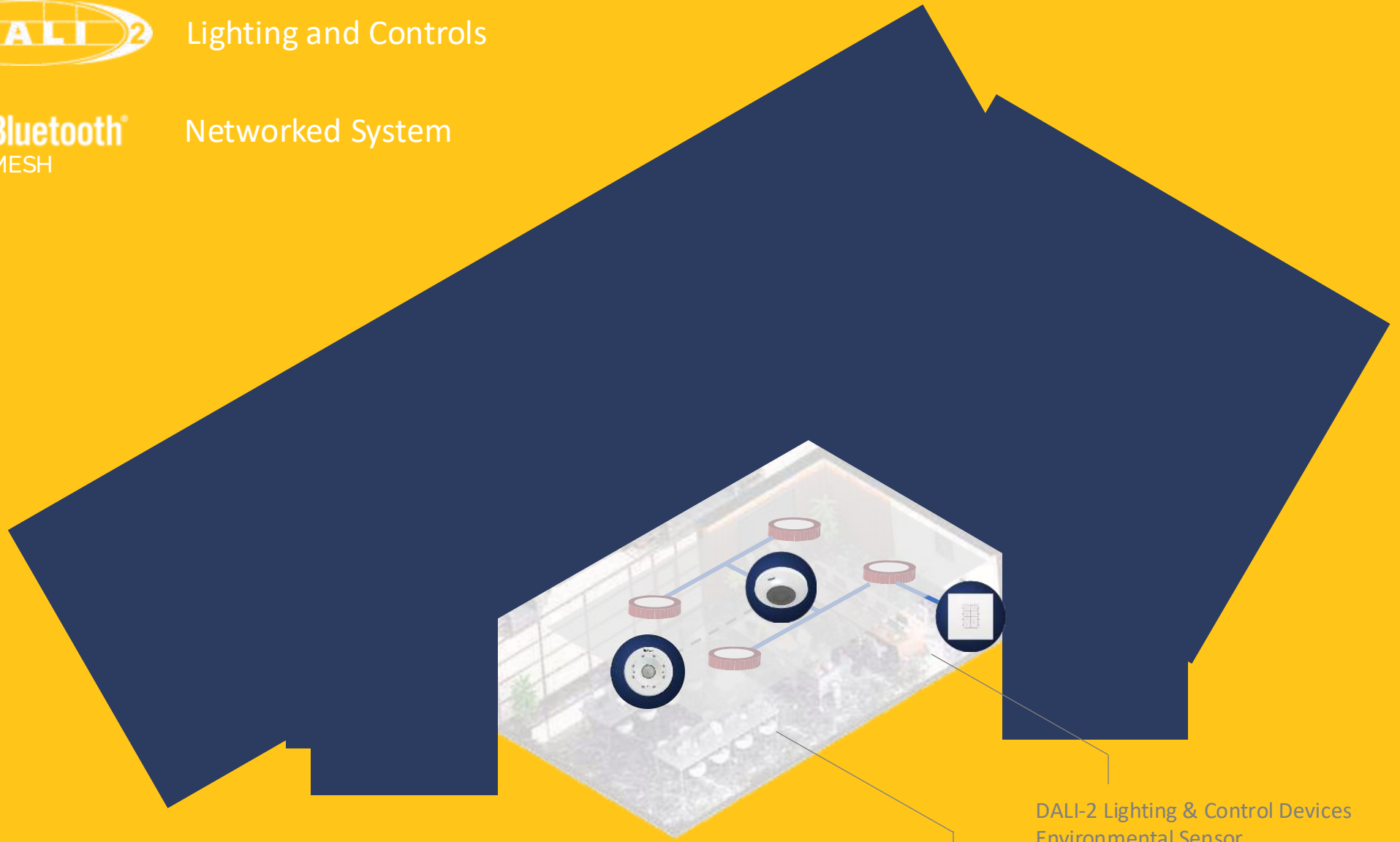

DALI-2 Lighting & Control Devices
Environmental Sensor

Single Room

Lighting and Controls

Networked System

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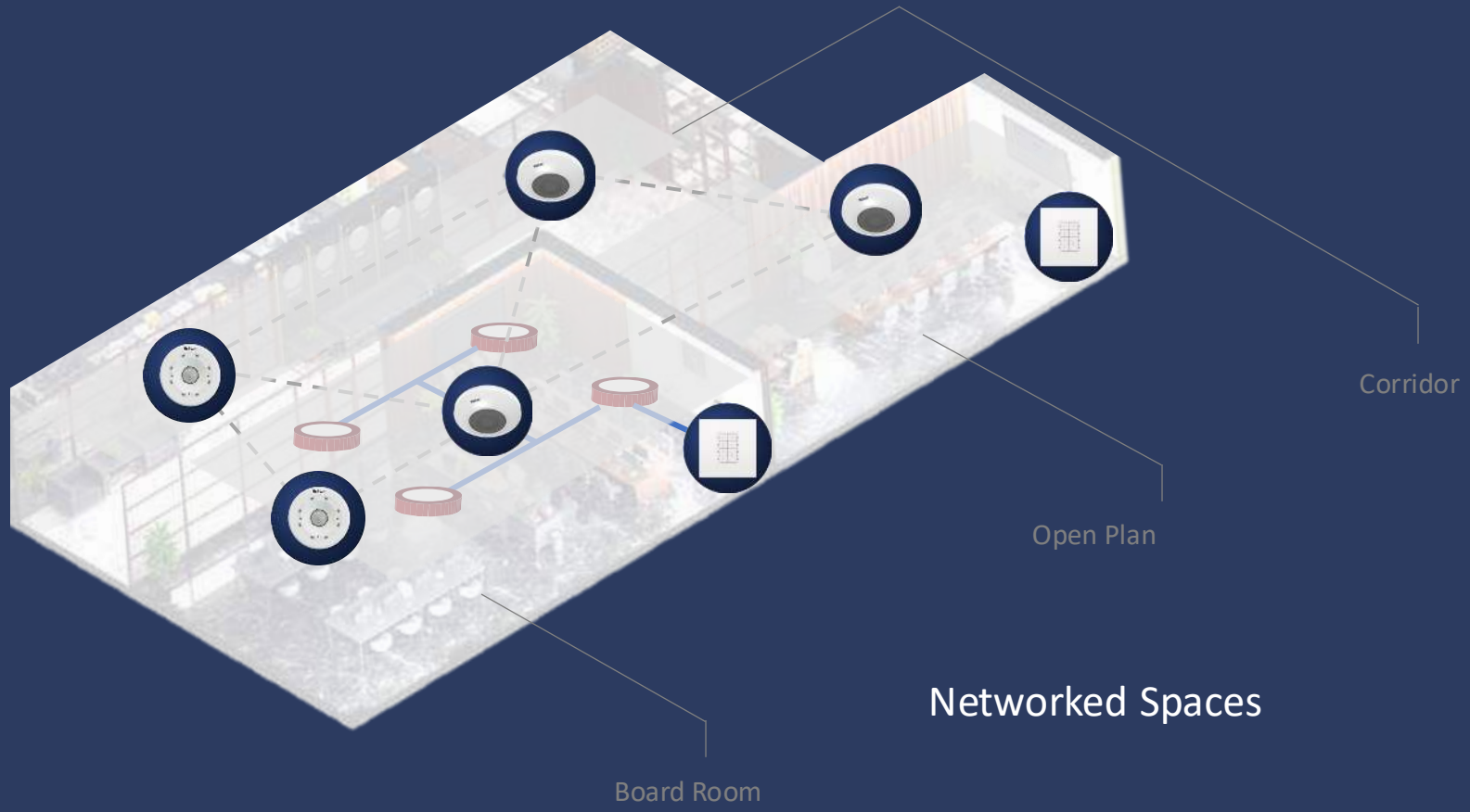

Networked Spaces

DALI 2

Bluetooth MESH

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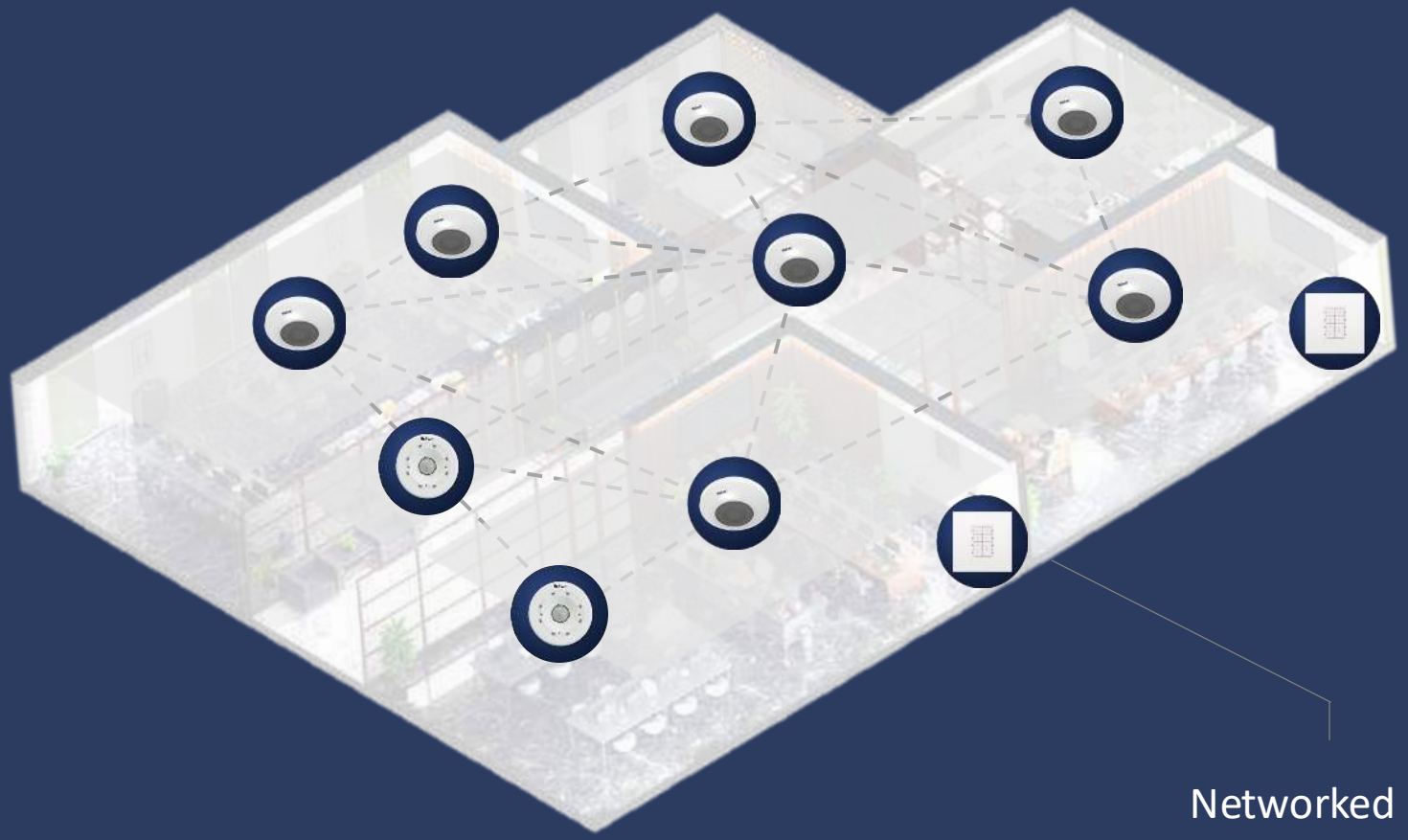

Scale flexibly & add features

Adapt to space changes

Add Features

Feature examples:

Daylight harvesting

Personal control

Master control

Networked Floor

DALI 2

Bluetooth MESH

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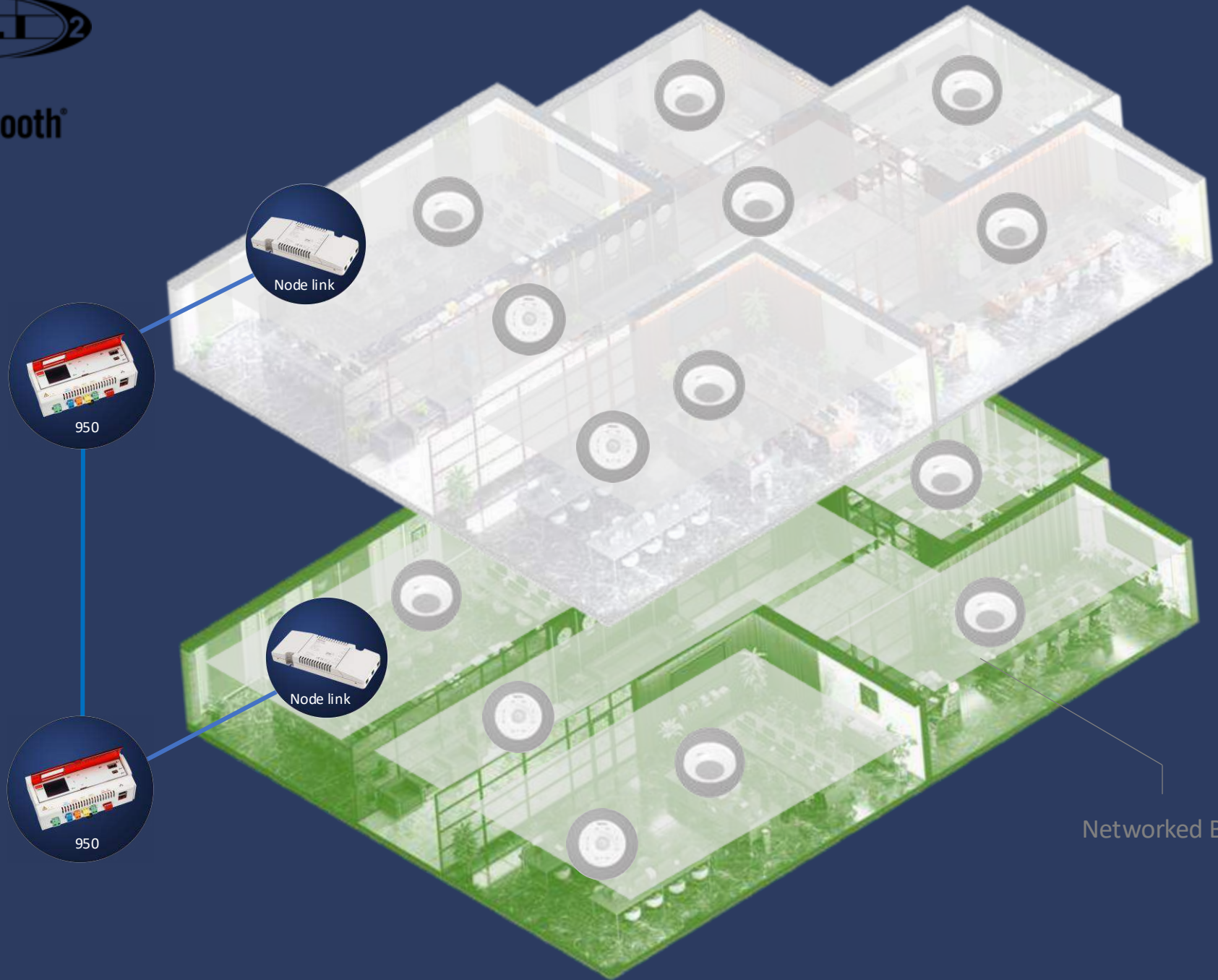

Scale flexibly & add features

Lighting Management

IP network across floors

Schedules

Circadian

Logic

Alarm Overrides

Networked Building

DALI 2

Bluetooth MESH

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Scale flexibly & add features

Lighting Management

Smart Data and Connectivity

24/7 Monitoring & Control

Space Utilisation

Energy Monitoring

Emergency Test & Reports

DALI 2

Bluetooth MESH

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Scale flexibly & add features

Lighting Management

Smart Data and Connectivity

Include IEQ

Air & Environment Quality Monitoring

Next Level Energy Saving

Improved IEQ

DALI 2

Bluetooth MESH

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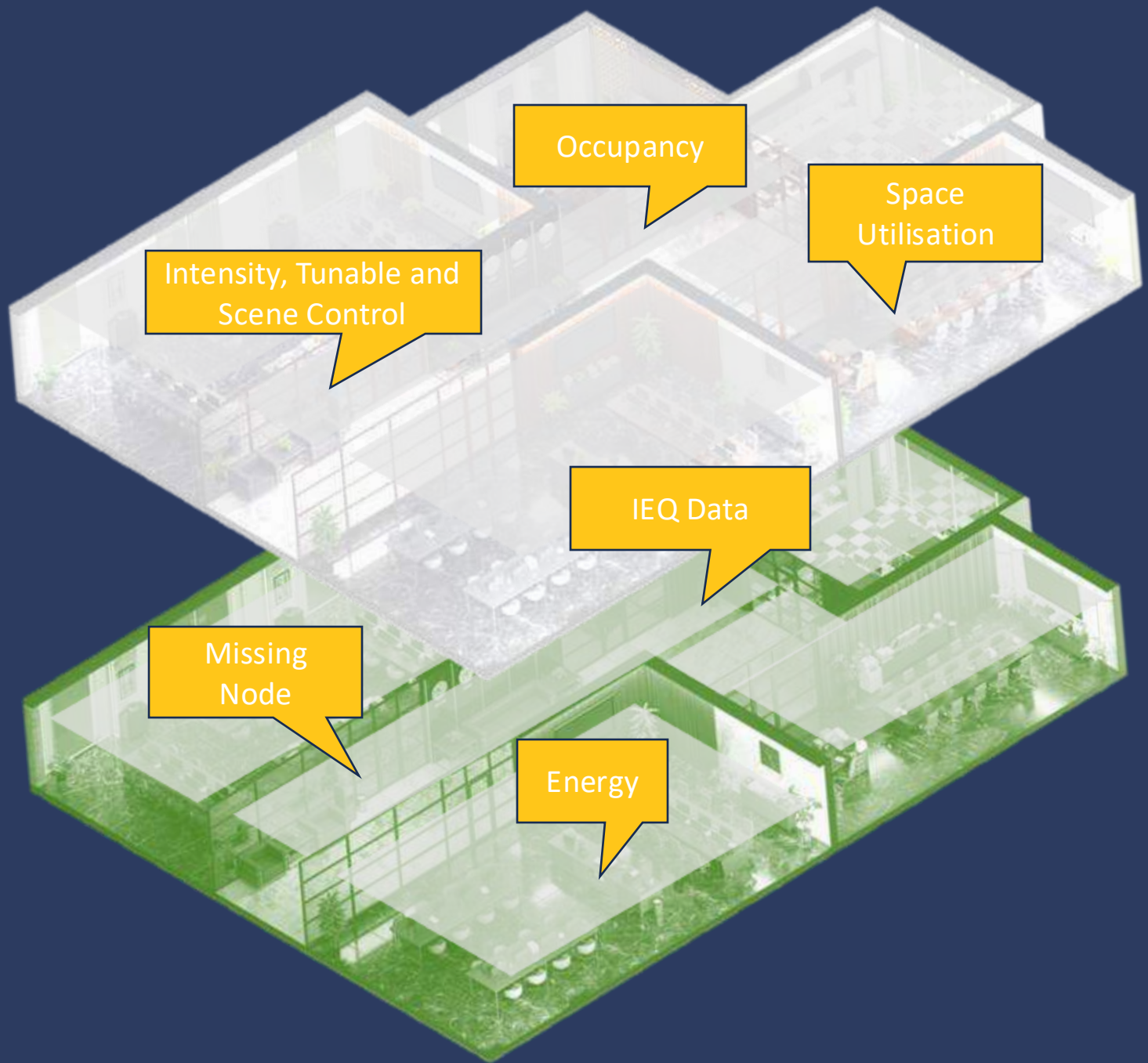

Scale flexibly & add features

Lighting Management

Smart Data and Connectivity

Include IEQ

Data Integration and BMS

REST API

BACnet

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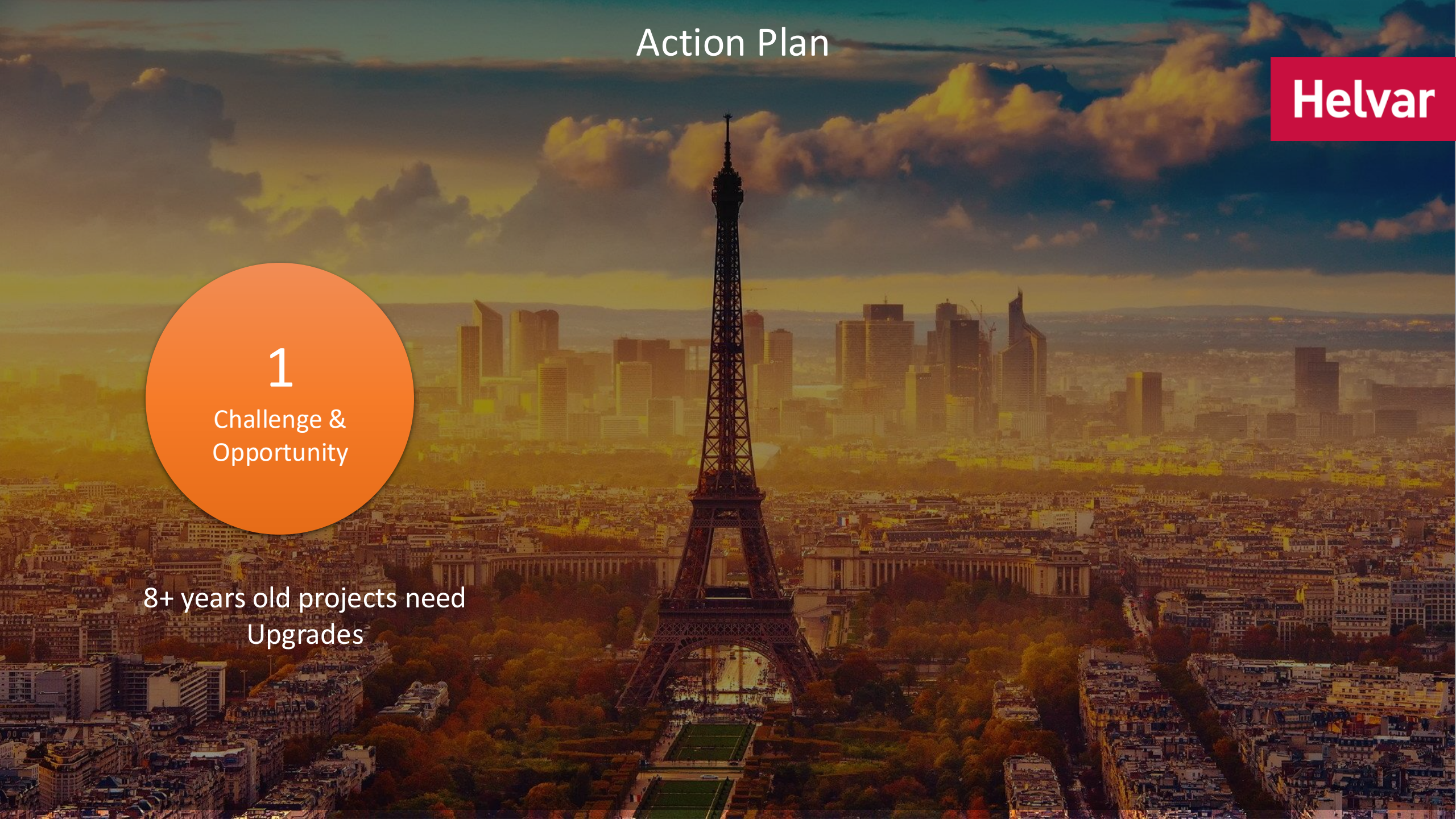
Conclusion
&
Action Plan

Action Plan



1

Challenge & Opportunity

8+ years old projects need Upgrades

Action Plan

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1
Challenge & Opportunity

2
Smart Ready & Automation

8+ years old projects need Upgrades

Enable higher SRI score and greater savings

Action Plan

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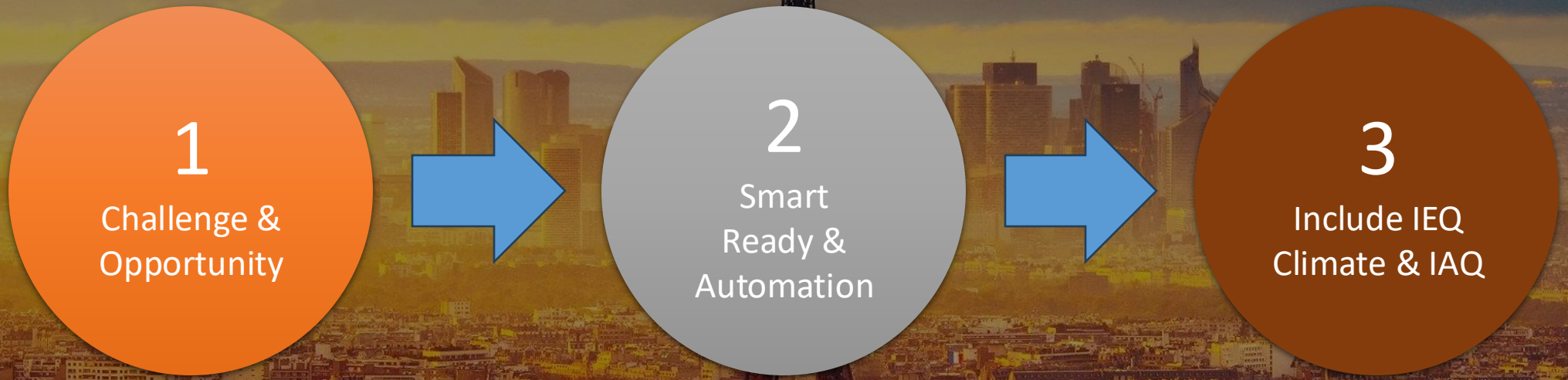
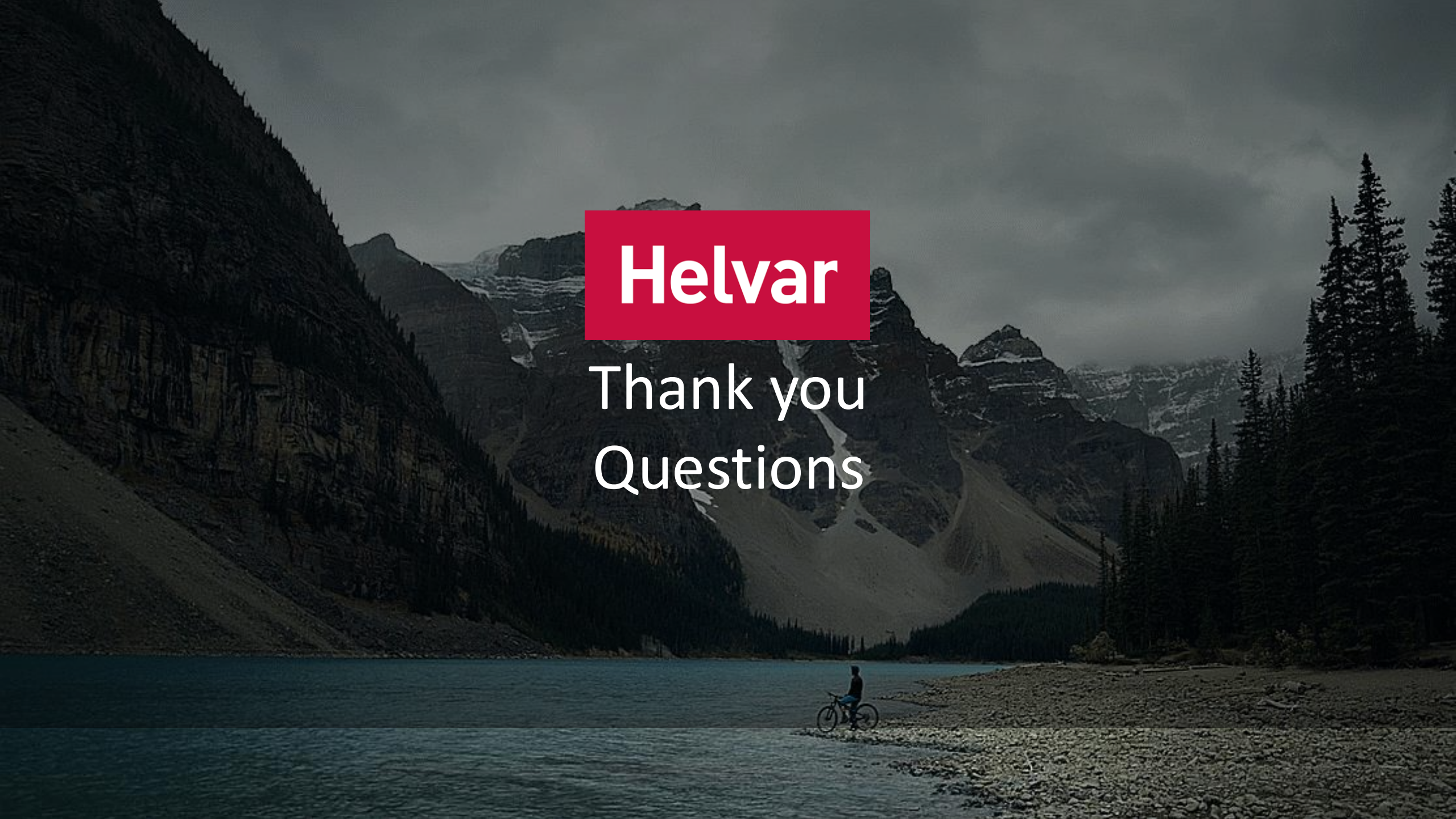


8+ years old projects need Upgrades

Enable higher SRI score and greater savings

Include IEQ Monitoring package to meet legislation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Thank you
Questions