

This presentation was live at:



Smart Buildings

SHOW

18-19 October 2023 • ExCel London

Creating Smart and Healthy Buildings with Fexillon Twin

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19th October 2023

Your Build. One Place.



fexillon®

Fexillon

- Supports Owner Operators from Strategy to Operations for over 20 years
- ISO27001 certified Microsoft ISV
- At DCW 2022 announced collaboration with Microsoft on development of Digital Twins
- Helping Owner Operators to achieve their ESG targets
- Enabling a 'single source of truth'
- Providing a real-time access to mission-critical information
- Available as a transactable offer on Microsoft Azure Marketplace



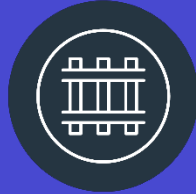
Serving:



Transport



Education



Rail &
Infrastructure



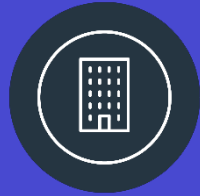
Commercial
Real Estate



Healthcare



Construction



Public Sector



Pharma



Data Centres



Sporting &
Entertainment

Your Build. One Place.

Clients:



Comhairle Contae
Fine Gall
Fingal County
Council



aptitude[™]
intelligent integration



Hines



fexillon[®]

The Challenge

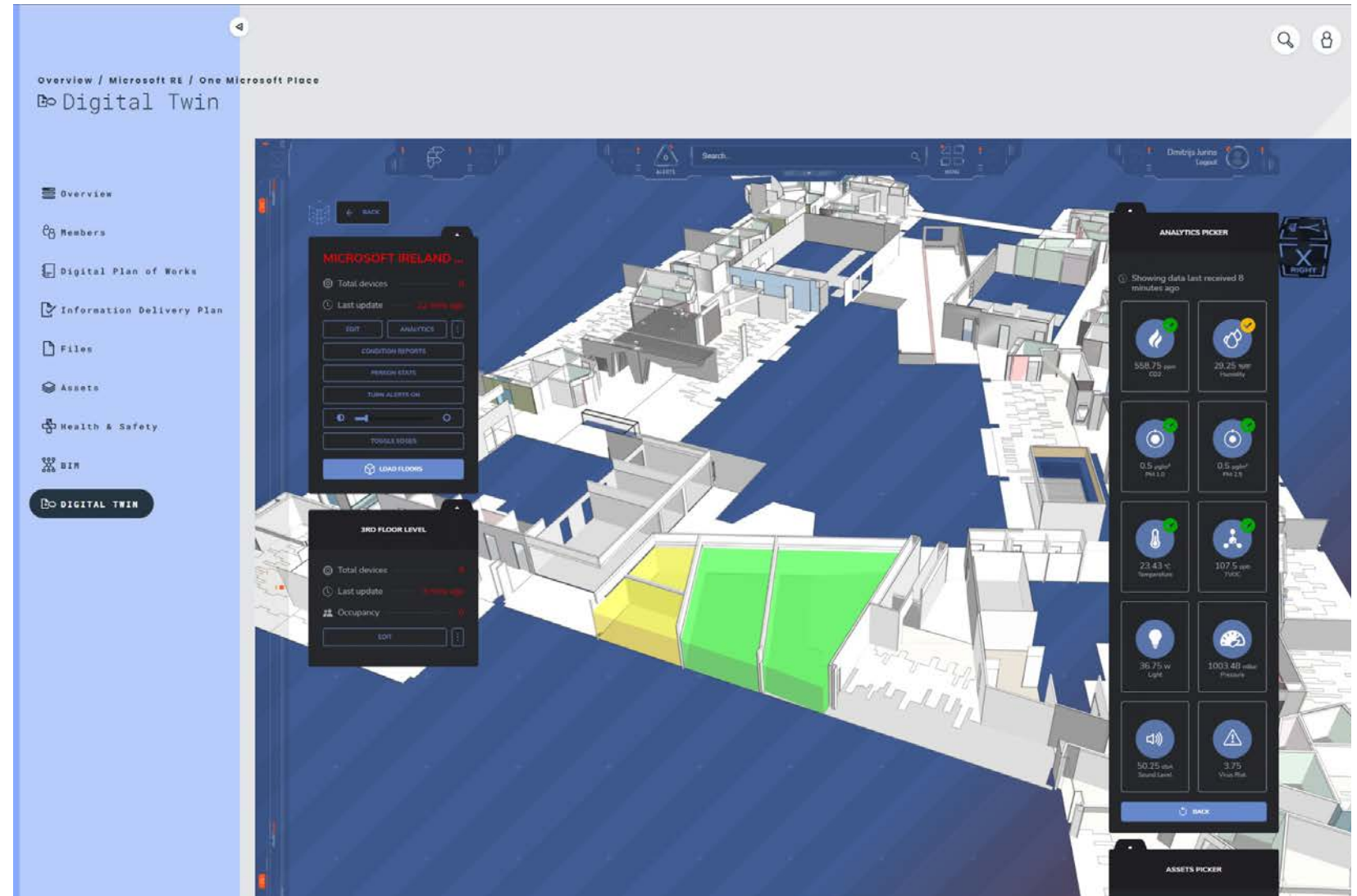
Necessity for Smart and Efficient Built Environments

Key challenges:

- Understanding of Smart Buildings capabilities in 2023
- Energy Efficiency
- Sustainability
- Operational Effectiveness
- Healthy buildings: Indoor Air Quality and Health Considerations

Proposed solution:

- “You can change only what you can measure” - the need for a single Change Facilitation Toolkit



Digital Twins

The Change Facilitation Toolkit

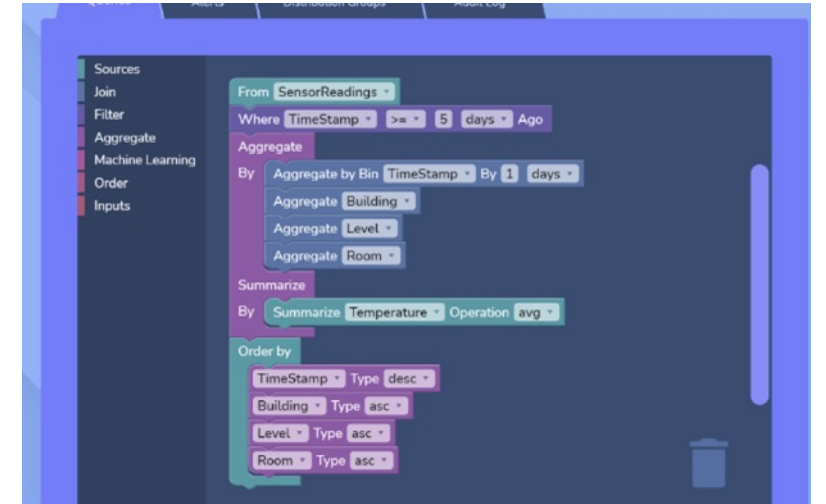
- Introduction to Digital Twins Technology
- The Role of Digital Twins as the Change Facilitation Toolkit
- Single Source of Truth for:
 - Static building information
 - Live operation data
 - Future forecasts
- Integration capabilities are paramount:
 - One way for data
 - Two way for automation
- Standards are important (next slide)



Single source of truth for the handover information



Immersive Digital Twin experience



Powerful analytical engine with a sprinkle of ML

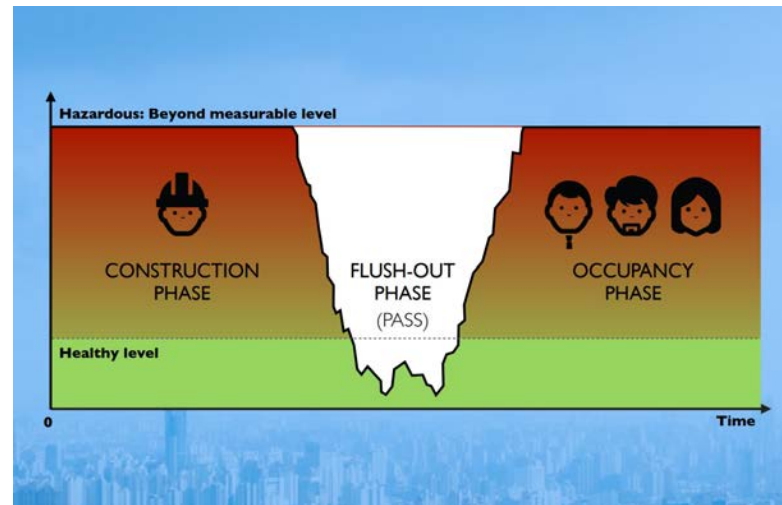


Accredited hardware for live environmental factor monitoring

RESET Certification

Continuous Environmental Factor Commissioning

- The RESET Standard is a data quality standard explicitly designed for continuous monitoring sensors in the built environment
- Continuous Environmental Factor Commissioning:
 - Real-time insights
 - Proactive issue resolution
 - Enhanced building performance
 - No green washing
- Owners first approach

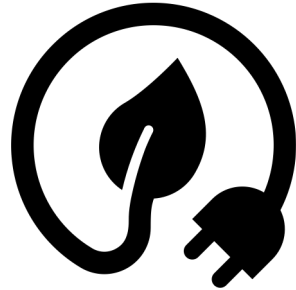


Case Study Introduction: Aptitude II JE Dunn regional Office



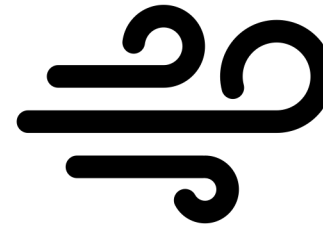
Partner

Atlanta, Georgia, USA
30,000ft² building
150+ desks



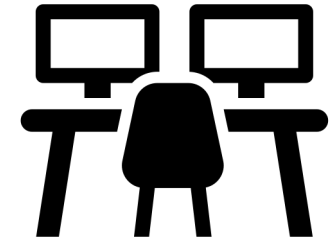
Energy Consumption

Goal was set to enable granular visibility of the energy consumption by different systems, as well as generation from solar



Air Quality

Adhere to international environmental quality monitoring standards.
Elevate marketing message, create a healthy building



Desk Occupancy

Understand if the building is at occupancy capacity and suggest ways forward

Case Study Introduction: Aptitude II JE Dunn regional Office

1. Occupancy

Uncertainty if the building has sufficient working space for all hybrid workers, new joiners, and visiting staff. Mixed messages were received, actionable clarity was required.

2. Energy

Although the building was commissioned as energy efficient and green, it was not possible to verify this any longer. Extra visibility was required.

3. Health

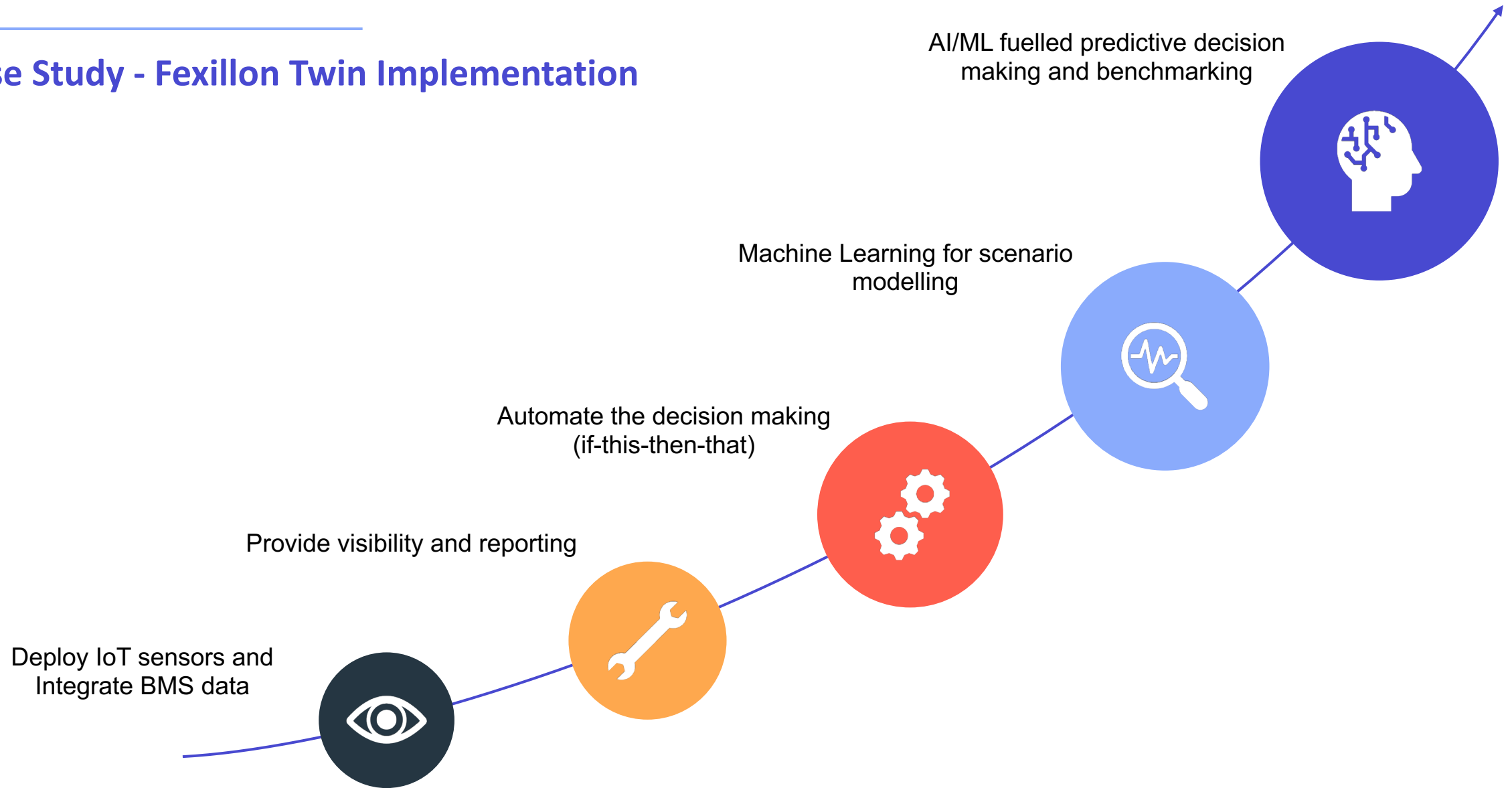
Implement RESET-certified IAQ monitoring solution to:

- Accumulate labour-related **savings** and gains (up to 20k pa per person)
- Increase up to 6% tenant retention and 10% building value increase

Expectations

Use Fexillon Twin to help train internal teams to better understand data for more educated decision making, provide the team with a versatile toolkit to **address current and upcoming environmental challenges**

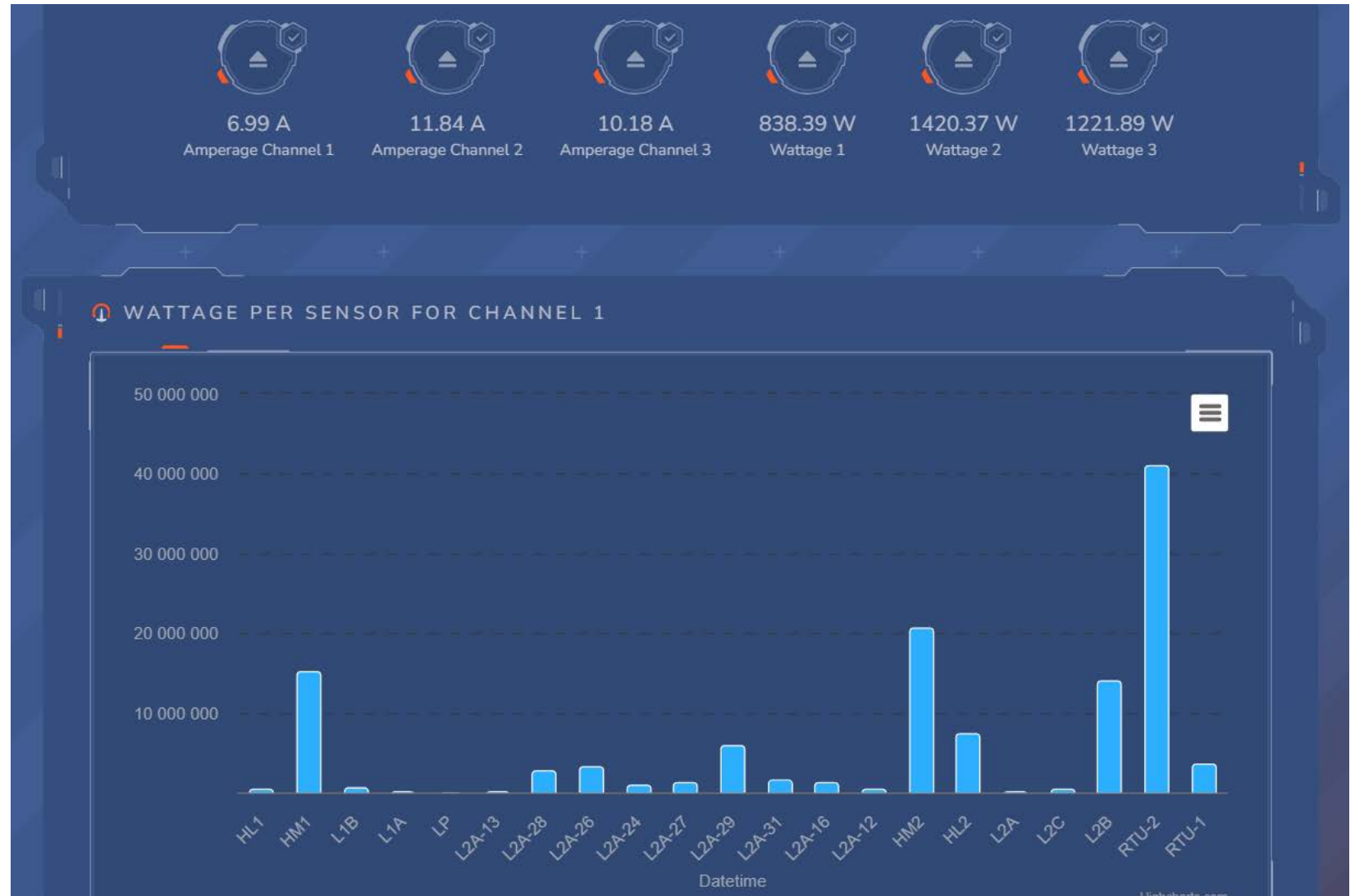
Case Study - Fexillon Twin Implementation



Key Highlights

Continuous Energy Monitoring

- Extra visibility: monthly usage breakdown by system
- Environmental considerations:
 - Solar panels
 - Electric vehicle charging
- Demand-induced energy savings:
 - Correlations from BMS
 - Correlations from Occupancy sensors
- 20 x Current Monitors by Pressac



Key Highlights

Desk Occupancy Monitoring

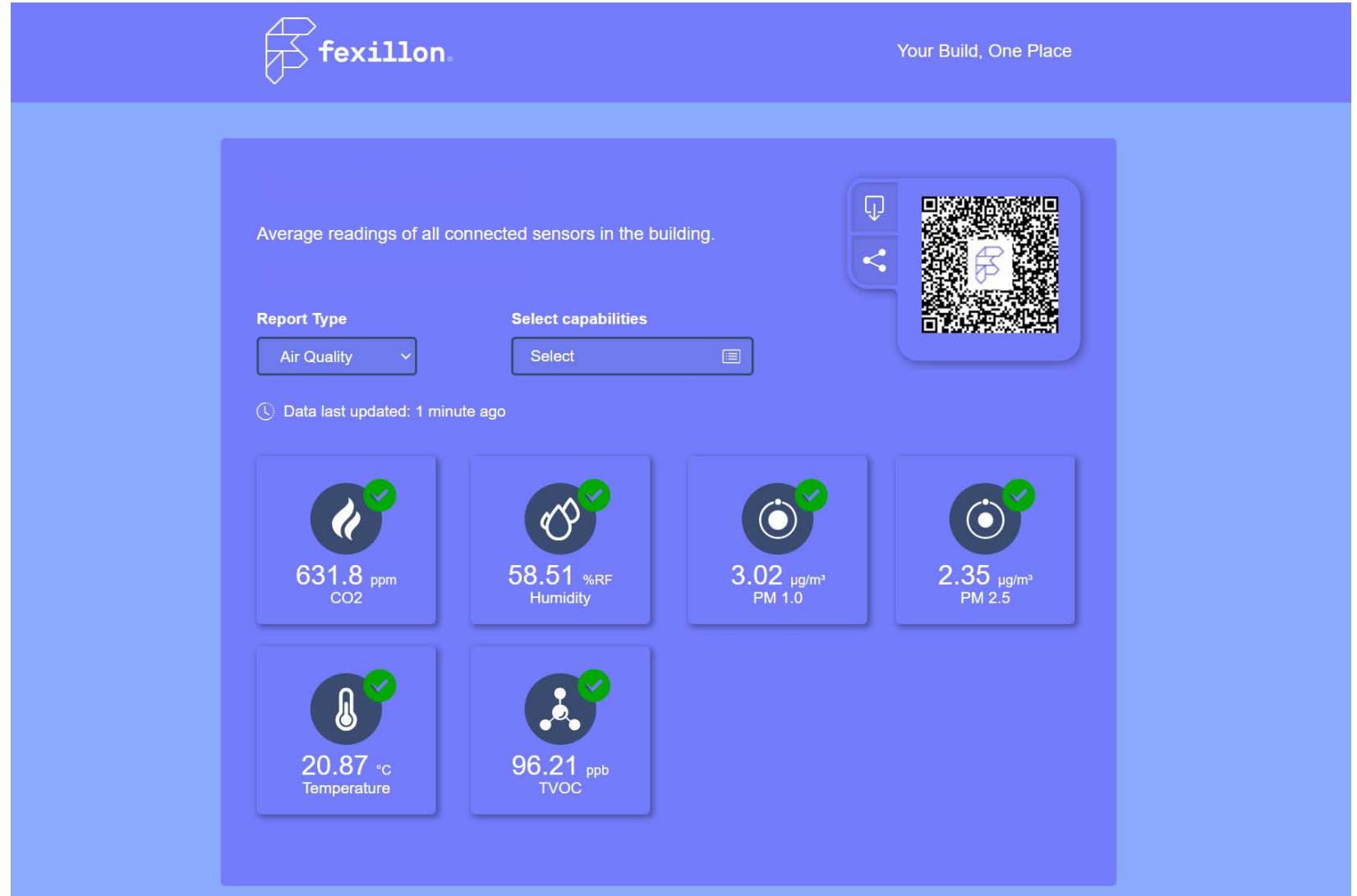
- ML models with Energy Usage and IAQ correlations
- Actionable reports & notifications:
 - Outlier Detection
 - Hot spot visualisation
 - Departmental desk allocation improvements
 - Desk 'taxi' service improvements
- 153 x Desk Occupancy sensors by Pressac



Key Highlights

Facilitating the Path to Net Zero

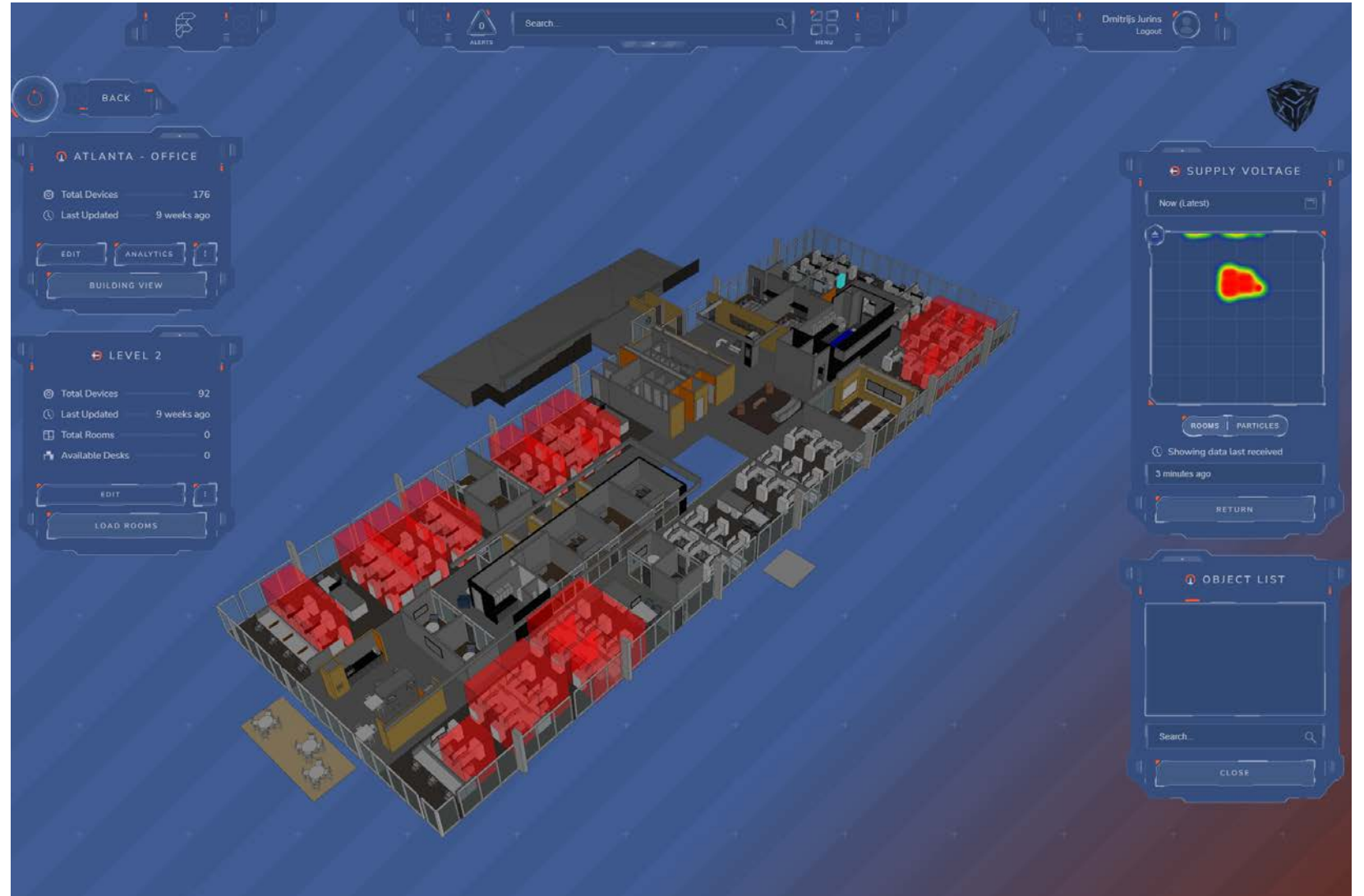
- Measuring and Optimizing Renewable Energy
- Tracking ESG Metrics and Sustainability Cloud Integration
- Public pages for visitors and members of staff to assess the live indoor air quality
- 20 x Air Quality Monitors by Pressac



Key Highlights

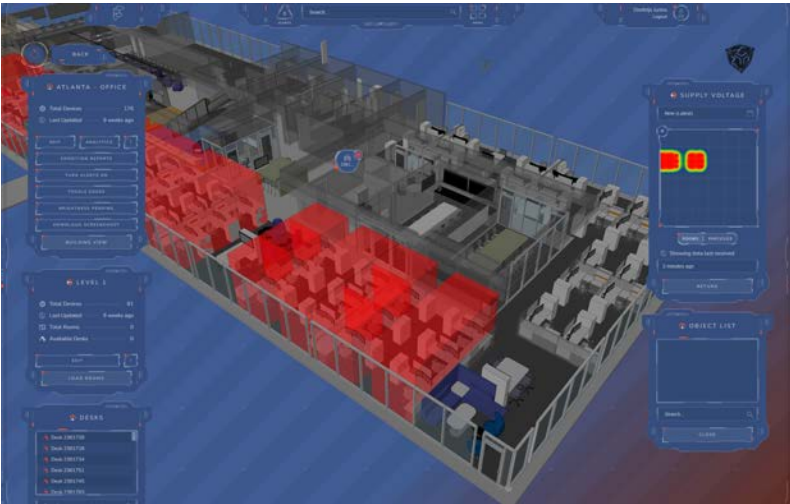
Gamifying Sustainability

- Data Visualization and Incentives
- Promoting a Culture of Sustainability
- Actionable toolkit for facilities management
- In partnership with industry-leading experts:

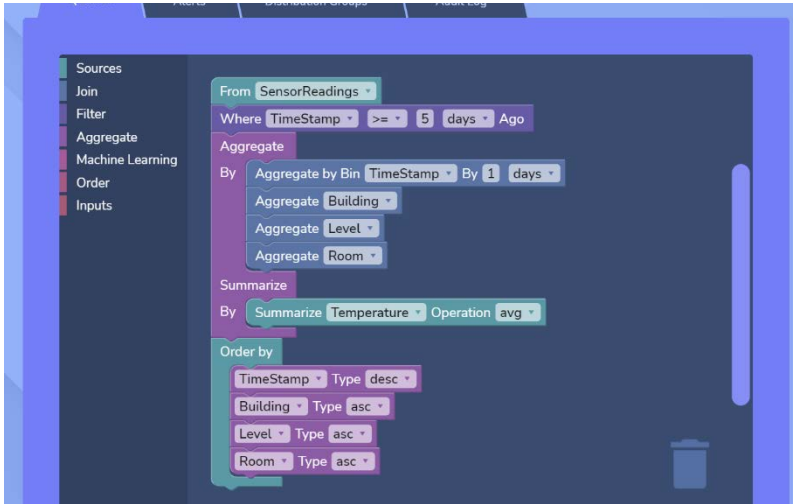


Case Study - Results and Benefits

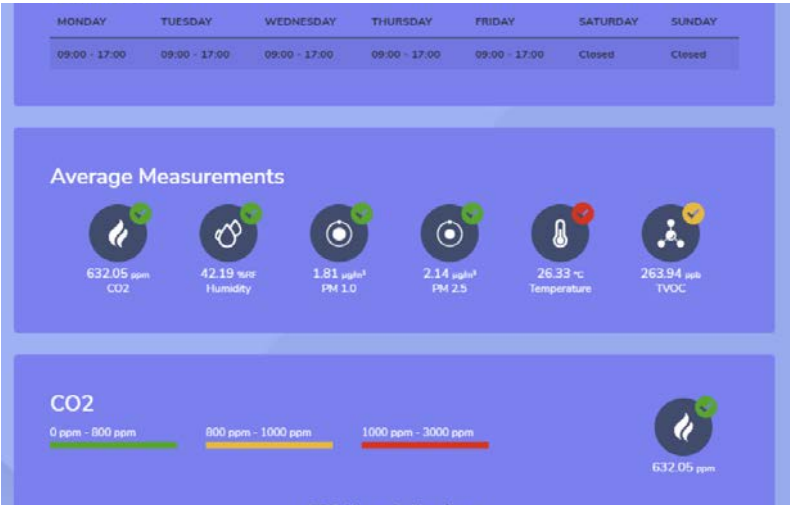
- Results Achieved with Fexillon Twin
 - Improved Indoor Air Quality
 - Energy Consumption Optimization
 - Space Utilization Insights
 - BMS knowledge transfer into Twin
- RESET Certification:
 - Air
 - Energy
 - Water
- Main achievements:
 - Operational change facilitation toolkit
 - Future proofing



Immersive data visualisation and change management toolkit



Advanced data analytics: alerts, BMS automation, Machine Learning



Dashboards, reports, API integrations, and public pages for visitors



Certified IAQ monitors with e-ink display to elevate the marketing message to visitors

Future Plans

Scale

Rollout the solution to all JE
Dunn office buildings in USA

Achieve the same goals

Learn more and adjust the
tools for purpose

Knowledge

Create a single source of
truth allowing fair and
transparent built
environment management

Stop relying on local
knowledge – standardize the
building operations

Education

Use the tool to send the right
message to all stakeholders

Showcase the successful
application of Digital Twins to
the built environment
industry to facilitate the
positive change

Change

Have a future proof system
with actionable insights and
fair degree of predictive
automation.

Be ready for any future
challenges that require a
change in your built
environment



Your Build. One Place.



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Thank You: Q&A



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Microsoft Technology
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Marketplace



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We look forward to seeing you in 2024