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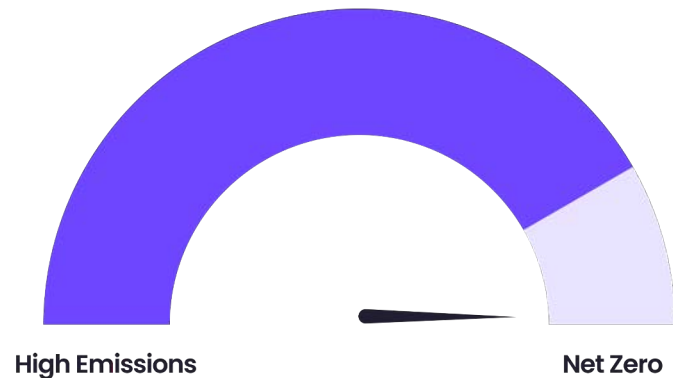

Smart Buildings SHOW
18-19 October 2023 • ExCel London

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Technology/Software-led roadmap to decarbonization in building operations

High Emissions

Net Zero

AI-driven Property Operations Software Platform for Real Estate Portfolios

backed by

Accel   TIGERGLOBAL   DRAGONEER INVESTMENT GROUP | Brookfield

❯ Global company **HQ-ed in New York** with offices in Dubai, Chennai (India), UK, Australia, and Singapore.

❯ **Enterprise clients** across real estate verticals —Office, Retail, Higher-ed, Healthcare, Service Providers

❯ **50+ Global partners**—OEMs, SIs, ISVs, Energy, Govt Bodies

❯ **Over 190+ employees** across global offices

Trusted by Enterprises Across 250+ million Sq.Ft

Office Owner/Operators

British Land   investa   Brookfield

DUBAI WORLD TRADE CENTRE   Mercatus   MOLONGLO

Other Categories

Gatwick LONDON AIRPORT   CUSHMAN & WAKEFIELD   al tayer

Large Grocers, C-store, & Retailers

Robert Dyas   dfs   sofology

THE ENERGY DUEL

Vehicles vs Buildings

25–30%
global energy consumption

25–30%
global carbon emissions

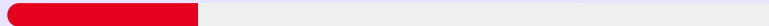2010   2023

70%

40–50%
global energy consumption

30–40%
global carbon emissions

2010   2023

30%

Moving from energy management to carbon targets

⚙️ Physical Retrofits ✅

🌀 Heat Pumps ✅

🔌 Electrification / Grid ✅

⚠️ Capital heavy
⚠️ Time Consuming
⚠️ Longer time-to-value
⚠️ Dead-ends (single site level)

Our focus today

Decarbonization Opportunities
⚡ **Technology & Data** ✅

◎ **Faster time-to-value**
◎ **Low-hanging opportunity**
◎ **Portfolio-wide gains**

Enabling **the most practical path to net-zero targets** with a **unified, platform-based approach**

Close the efficiency loop without human intervention via **cloud-based optimization**

Proactively **identify system faults/energy anomalies** and **automate corrective actions** (cdnt-based maintenance)

Open up BAS data, address system-level inefficiencies, **visualize portfolio-wide insights**—take stock of **all possible ECMs in one place**

Demand reduction through **benchmarking utility** data and metering - the first step to net zero

PATH TO DECARBONIZATION

ADVANCED SUPERVISORY CONTROL

FDD	ENHANCE ORM	MBCX

AUTOMATION	CENTRALIZE, VISUALIZE, NORMALIZE DATA	RCx, ENERGY RETROFITS INTERVAL METER

UTILITY DATA ANALYTICS	INTERVAL METER ANALYTICS

A strong tech foundation at Levels 1 and 2 are foundational to see success with Levels 3 and 4

Optimize portfolio performance in real-time

and lower operating costs with Facilio's Connected Buildings Solution

Level 1

VISIBILITY & MONITORING

What can you achieve?

- Automated utility reporting
- Portfolio benchmarking
- Granular understanding of what's driving up cost
- Drill-down reports for internal audit/compliance

DATA REQUIRED: Historical utility data(spreadsheets), access to utility provider APIs

Level 2

ANALYTICS & INSIGHTS

What can you achieve?

- Equipment performance in real-time
- Heatmaps, regression, demand vs consumption
- Savings dashboard (site & asset-wise)
- FDD & potential for further savings

DATA REQUIRED: sub-meter/VM data, BMS data, available sensor data

Level 3

OPTIMIZATION

What can you achieve?

- Human-touch optimization: automated alarm to work order/low-effort maintenance task
- Cloud optimization: remote command and controls to optimize setpoint, schedules, sequences

DATA REQUIRED: BMS/BAS access + cloud platform (Facilio)

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Two ways to take tech action towards carbon management

POINT SOLUTIONS

Fault Detection

CLOCKWORKS ANALYTICS · enertiv

KAIROS · facilio

Johnson Controls · Ravti

Air Quality

airlite · arbnco · enertiv

nuwave SENSORS · MOLEKULE · FLAIR

VFA-Solutions · NOVAERUS · WYND

75F · facilio Aura · Swegon · TZOA

Energy Management

75F · LOGICAL BUILDINGS · MESA by Sidewalk Labs · DAVID ENERGY · Comfy

CARBON LIGHTHOUSE · SWITCH AUTOMATION · enertiv · energywatch

SENTIENT BUILDINGS · PEAK POWER · facilio · CORTEX

- Redundant integration
- Data storage
- Multiple data models

- Inefficient/task switching
- Delayed results
- Dead-ends/more complexity

PLATFORM APPROACH ✓

applications

cloud platform

workflows · analytics · identity · mobile UI

data models · db/storage · out-of-box integrations · API

iot edge

- Common data infrastructure
- Integration with existing business systems

- Clear path to net-zero
- Future-proofed for new use cases

Connected Buildings—a platform based-approach to net-zero journey

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Connected Buildings—modular, start-to-scale

Level 1 - Visibility & Monitoring

Utility Tracking

Historical Bill Analysis
Bill Validation
Multi-tenant Billing
Energy budgeting

Portfolio Benchmarking

EUI (Energy Usage Index)
Consumption Analysis (portfolio, site-level, asset-level)
Building Score

ESG Reporting

Emissions calculation
Emissions reporting
Benchmarking [Energy Star / NABER Scoring]

Level 2 - Analytics & insights

Monitoring

Sub-meter/VM/interval data Real-time consumption monitoring (portfolio, site, floor, asset level)
Indoor Air Quality, CO2 emissions

Analytics & Dashboard

Demand vs consumption
Regression analysis
Load curves, Heatmaps
Operating/non-operating hours

FDD

On cloud, Unified fault/alarm view
Cost impact, Root Cause Analysis
Predictive analytics, Smart filtering, Correlation

Level 3 - Optimization

Alarm to Work Order

Alarm to Automated Work Order
Corrective workflow / Customizable Pre-configured Templates
Scheduled workflows

Cloud Based Optimization

Cloud command and control
Optimize for occupancy, comfort, energy efficiency
Cloud-based set point, schedules, and sequences configuration

Platform Capabilities

Facilio IoT Edge
real-time data acquisition from BMS/BAS systems

Workflows
Drag and drop workflow builder

FDD Engine
out-of-box rule library + custom rule builder

Common Data Model
Centralized and normalized data nomenclature

Analytics
out-of-box reports, time-series comparison

API
Integrate with existing business systems

Success Stories

How Facilio is changing the game for owner/operators with a unified, platform-based approach to net-zero.

Robert Dyas' Vision for Energy Efficiency

- To create a culture of using energy at work as you would at home

- To place ownership of energy consumption in the right hands

- To enjoy a reduction in our carbon emissions at the same time as reducing our costs

Challenges

- Installing smart meters

- Collecting & standardizing usage data

- Bringing physically distant teams on board

- Continued adoption

Impact & way forward

20% YOY
Reduction in energy consumption

£600,000+
285 tonnes of Co2 saved & 1.4M kwh

£175,000
Potential further energy savings & 500,000 kwh

What's next for Robert Dyas

To continue to embed energy saving culturally into the business by making 'Top Shops' more visible to drive competition.
To complete our LED roll out programme to optimise usage and reduce costs further.
Spread the word across other group companies & retailers to help on a collective journey towards net zero.

BritishLand Solution Summary

- Cloud overlay solution for portfolio wide analytics and optimization

- Connects automation controls (hvac, lighting, lifts, occupancy sensors, etc)application software (visitor, room booking, helpdesk, CaFM)

- 350+ FDD rules for asset lifecycle management

Challenges

- Occupancy based dynamic HVAC & lighting scheduling

- Automated daylight savings aligning indoor conditions, daylight, comfort

- FDD to isolate issues and improve MTTR

- Space insights for better planning (visitor data, behavior, conference room usage, help desk)
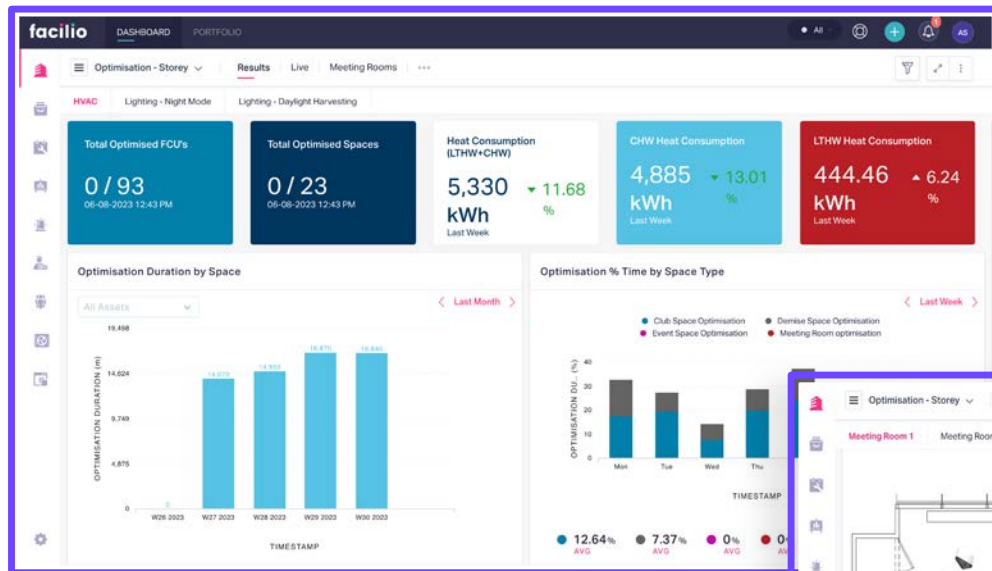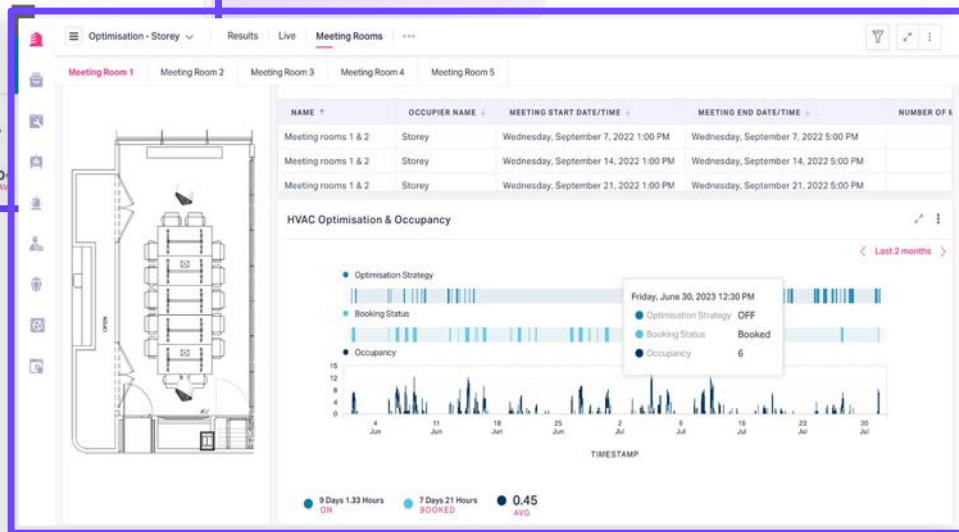
Impact & way forward

50% reduction in Heating/Cooling energy consumption

Optimized over 300,000 minutes of HVAC operations in a month (July '23)

Energy/cost savings via optimizations (occupancy based, not in use etc)

Ian Pierce
Senior product manager

July has just delivered us our greatest results so far in our efforts to reduce our energy consumption. As part of our HVAC Optimisation strategy through British Land's smart building platform, BL:Connected, we have been able to **reduce our Heating/Cooling Energy consumption by 50%, year on year** comparison, for our Storey space at 100 Liverpool Street!

Through the 45,000 sq ft of space, we have delivered an **Optimisation Strategy that automatically alters the air conditioning operations** based on the demand of the space be it meeting rooms, desks, lounge areas and event spaces. To achieve this we've used technology to gather this understanding from Occupancy Sensors, Air Quality Sensors, access-controlled entries, Lighting PIR Sensors, and meeting room bookings. **For July alone, this has seen us optimise over 300,000 minutes of the air conditioning unit operations**. Another step forward in reducing our energy impact and automating the way we manage our spaces without affecting the experience for the people who use them.

Greener Spaces, Thriving Places, Responsible Choices.

#smartbuildings #sustainablepathways #optimisation
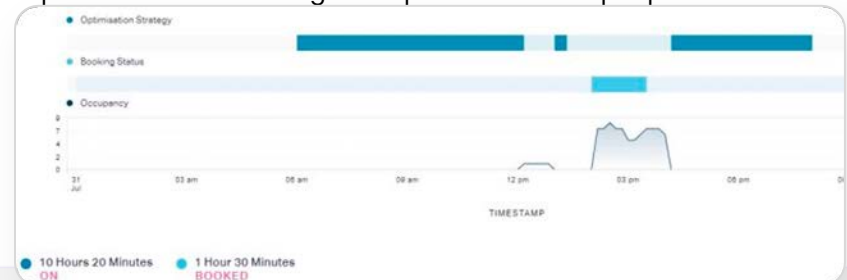
Connected Buildings | **Proven technology for multi-site energy and carbon efficiency**

Technology roadmap to decarbonization in building operations

Q&A

Smart Buildings

SHOW

9-10 October 2024 • ExCeL London

We look forward to seeing you in 2024