

Decarbonization in Building Operations

A technology roadmap
for smart building operations



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From the CEO's desk

The pandemic has transformed our world, pushing digital transformation to the forefront, and the built environment must keep up. Smart buildings are soon becoming the key to sustainability and energy efficiency. If done right, they leverage data, automation, and connectivity to create intelligent ecosystems that meet occupants' needs while minimizing environmental impact.

In this new world, decarbonization is both an ecological imperative and an economic opportunity. Forward-thinking real estate leaders understand that sustainability and energy management drive profitability and tenant satisfaction. The solutions we develop today will shape our cities and communities for generations.

At Facilio, our vision is to empower building stakeholders, enabling them to unlock their assets' full potential in an environmentally conscious manner. We provide a unified platform that seamlessly integrates data from various building systems, empowering informed decisions, optimized resource utilization, and reduced carbon emissions. Our mission is to make sustainability accessible, scalable, and impactful for all.



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CEO at Facilio

Summary

In this e-book, we will guide you in embracing the power of technology for seamless integration with your daily property operations. By making smarter, data-driven decisions, you can effectively address the growing importance of sustainability as an executive concern. We will explore why a cloud-based property operations solution should be a fundamental part of your tech stack and how it can monitor, analyze, and optimize energy consumption in your buildings, driving efficiency and cost savings.

We have also designed a framework that provides a clear roadmap for your energy management journey. We'll help you assess your current energy performance, set goals, develop an action plan, and implement energy-saving measures. Additionally, we'll explore the transformative potential of a connected building operating system, integrating systems and data sources to optimize energy performance, detect anomalies, and streamline operations.



Sustainability is
now a C-suite issue



How smart
buildings work



Benefits of using a
connected O&M
solution for your
buildings

Sustainability is now a C-suite agenda

Property leaders are increasingly committed to transforming their buildings into sustainable entities. However, their ambitions go beyond mere sustainability; they strive to revolutionize their organizations' approach to energy conservation. This profound shift will redefine the behavior and practices of these leaders, driving them to adopt measures that prioritize energy efficiency and contribute to a greener future.

In a very subtle way, this has already started happening in a lot of commercial buildings. For example, replacing traditional lighting with LEDs, or using water saving fixtures in hotels etc. By introducing more of these practices backed by powerful building data, the C-suite is rightfully trying to earn themselves a seat at table by pioneering positive change.

However, there are several barriers that property leaders must overcome on their path to decarbonization and sustainability, such as:

- 1 Siloed data systems
- 2 Lack of visibility
- 3 Reliance on point solutions

These challenges hinder the ability to track and analyze energy consumption trends across portfolios and identify areas for improvement, leaving executives to operate from a vacuum

To overcome these obstacles, leaders in the smart building industry are adopting connected operations platforms that bring together data from various assets across their entire portfolio. These platforms offer real-time insights into energy usage patterns and offer numerous advantages in both the short and long run.

Short term benefits	Long term benefits
• Cost savings • Enhanced operational efficiency • Improved occupant comfort • ESG compliance • Enhanced brand image • Improved equipment performance • Risk mitigation	• Increased energy performance • Reduced environmental impact • Improved bottom line • Competitive advantage • Future-proof buildings • Asset value appreciation • Energy price surge resilience

Real world impact of embracing technology

But these goals are more than just a pipe dream. Property leaders already see value in partnering with technology to make their buildings more sustainable and accelerate their decarbonization journey.



British Land, a leading UK property development and investment company, faced siloed systems and manual reporting challenges. With Facilio's cloud-based connected operations solution, they created BL connect, which improved occupant comfort by bringing together data from over 9000 assets, leading to a **50% reduction in lighting and energy savings in just two months.**



A large retail and lifestyle street in the Middle East, known for large art and fashion festivals in the Middle East, needed more visibility into asset performance, leading to increased energy costs. They have now **reduced their water consumption by 24% and overall energy consumption by 15% within four months** of deploying a cloud-based technology solution.



One of London's busiest airports faced vast energy wastage due to an archaic BMS. By deploying dynamic asset operational schedules with the help of a connected O&M solution, they have **realized energy savings of £10,000 per month** through consistent set point optimization.

What are Smart Buildings and how they work

Smart buildings are technologically advanced structures that utilize sensors, automation systems, and IoT devices to optimize operations, enhance occupant comfort, and improve energy efficiency. These interconnected buildings collect real-time data for intelligent decision-making, automating processes like lighting, HVAC, security, and facility management. They aim to create sustainable, efficient, and comfortable environments while adapting to occupants' needs and the changing environment.

- Improved occupant comfort
- Enhanced equipment lifespan
- Compliance with local energy regulations
- Increased property value
- Improved financial performance
- Increased visibility and control
- Reduced carbon footprint

It is easier said than done when implementing new changes in any organization, especially when adopting new technologies. There are some common obstacles that many organizations need to tackle.

Here are a few examples of these frequently encountered challenges:



Complexity

Smart Buildings can be complex and require specialized design, installation, and operation knowledge. Organizations may need to invest in training and expertise to fully utilize their benefits.



Data Management

They generate a large amount of data that needs to be managed and analyzed. Organizations may need to invest in data management tools and expertise to maximize outputs.



Integration

They should integrate with existing building systems and infrastructure. This can be challenging, especially if the building systems are older or not designed to work with newer solutions.

Navigating complex integration at every system/store/building level to derive data insights takes time and effort to scale. Further, the lack of visibility into insights traps potential energy savings in data silos at every level. You need a cloud-supervisory platform that centralizes all energy usage data in real-time and in one place and allows you to deploy and control optimization strategies at a portfolio level.

Unlocking the benefits of Smart Building Technology

By leveraging advanced systems and real-time data analytics, smart buildings can optimize energy consumption in a way that traditional buildings cannot. Monitoring and controlling energy usage in real-time empowers building managers to identify areas of improvement and implement targeted measures to reduce carbon emissions. As a result, energy efficiency becomes a seamless part of daily operations, resulting in significant energy savings and a more sustainable future.

O&M with a cloud-supervisory platform

Manage

Unified remote command center

Control

Automate manual operations

Optimize

Identify cost saving opportunities

Engage

Open stakeholder communication



A Connected property solution sits on top of your existing software and IoT systems to combine all building data into a single pane of glass.

Here are some ways in which a cloud-based platform makes your building smart:



Data collection and analysis

Collect and analyze data from sensors and devices throughout the building, providing valuable insights into the performance of the building's systems and helping to identify opportunities for improvement.



Automation

Automate many tasks involved in managing the building's systems, such as monitoring, maintenance, and repairs, which can improve efficiency and reduce the workload for building staff.



Integration

Integrate with other building management systems, such as security systems, energy management systems, and maintenance management systems, which can provide a more comprehensive and integrated approach to managing the building.



Remote access and control

Offer a web-based interface or mobile app that allows building staff or occupants to access and control the building's systems remotely, improving convenience and flexibility.



Predictive maintenance

Use data analytics to predict when maintenance or repairs are likely to be needed, and schedule them in advance, which can help to improve the overall maintenance and operation of the building.



Energy optimization

With rich building data on an asset, area, and floor level, you can continuously enhance your energy management process. A platform-led technology like Facilio can help improve occupant comfort, reduce operational outlays, deliver high-performing buildings from a centralized platform, and see ROI in just weeks.

Transitioning towards net-zero with tech-led building operations.

The transformation of buildings into smart, sustainable entities is not just an option but a necessity in today's rapidly changing world. Here are some key takeaways from this e-book:

- Optimizing building operations is a low-hanging avenue for decarbonization
- Investing in technology can give you quicker ROI than physical retrofits
- A cloud-based supervisory platform is the future of building energy management

Stay tuned for our next e-book where we talk about how you can revolutionize your buildings with smart proptech, create a framework for your building techstack and how you can embrace cloud-based technologies to transform your portfolio.

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across 200+ million sq.ft**

