

**Deloitte.**

*Together makes progress*



Driving Efficiency and  
Effectiveness with  
Smart Buildings

# Smart Buildings can create shared value across the board

Imagine a building that can not only help increase productivity, but that helps boost efficiency and effectiveness. That's a Smart Building. As digital technology becomes more common in spaces, Smart Buildings are paving the way to greater performance. By incorporating automated systems, continuous data collection, sensors and real-time analysis, Smart Buildings can help owners and operators make data-driven decisions to improve the efficiency and effectiveness of their operations while helping occupants increase productivity. Leaders are paying attention—a survey found that 86% of managers see digital real estate management as a game-changer for their strategies.<sup>1</sup>

## Smart Buildings benefits



### OWNERS

Cost savings from energy efficiency, reduced maintenance, and more efficient resource use.



### OPERATORS

Easier management via centralized control, predictive maintenance, and energy management systems (e.g., Building Management Systems, Building Automation Systems, Advanced Metering Infrastructure).



### OCCUPANTS

Increased productivity and well-being through personalized environments.





## Boosting efficiency

With data from IoT sensors and software, Smart Buildings can help building owners make decisions that enhance efficiency. By linking operational and IT systems, building owners can use smart features to help cut operating expenses and maintenance costs.

Here are some items to consider:



### STREAMLINED MANAGEMENT

Owners and operators can centralize management of building technologies across a portfolio to deliver a digital command center view, which can support smart dispatching, address facilities requests remotely, manage cyber and physical threats and utilize analytics to enhance operations and employee experience.



### ENERGY MONITORING

Connected building technologies such as Energy Management Information Systems (EMIS) can allow owners and operators to track real-time energy usage data and complete thorough energy audits. EMIS, a data-driven software platform, collects, analyzes, and visualizes energy data, which can help inform decision-making and provide greater negotiating leverage to achieve more favorable energy terms and rates. Companies that have implemented technologies like EMIS have seen up to 70% of energy savings after three years.<sup>2</sup>



### SAVINGS

Smart building technologies can help drive cost reduction for heating, cooling, lighting and maintenance. For instance, implementing a connected lighting system alone can generate electricity savings of 50% on average.<sup>3</sup>



### BETTER UTILIZATION

Real-time measurements can optimize space utilization while offering a comprehensive view of the building footprint. This can help decision-makers to accurately assess space needs—whether for a single building or an entire portfolio.

## Increasing effectiveness

Smart buildings streamline operations through centralized control and monitoring of operating technology such as HVAC, lighting, energy and water management, security, access control, and fire safety. This can reduce the need for manual interventions and enables more responsive, efficient management.

These are just some of the benefits:

### PROACTIVE MAINTENANCE

Shifting from reactive to a predictive approach for equipment maintenance can cut costs by up to 40% and extend the life of equipment by 20%.<sup>4</sup>

### ISSUE PREDICTION

Data collected from equipment can be processed in analytic tools to assess trends in equipment performance to predict issues before they arise, helping minimize downtime.

### AUTOMATION

Manual tasks can be reduced, adding efficiencies to operations with features like automated temperature controls, automated check-ins and smart parking.

### SEAMLESS CONNECTIVITY

IoT devices enhance connectivity and enable interactions between building systems and occupants, improving data gathering and collaboration.

### IMPROVED PRODUCTIVITY

Easy-to-use interfaces and apps allow occupants to choose their work environment preferences. Advanced sensors can be configured to adjust temperature, lighting, and ventilation to match user preferences, creating a personalized and optimal work environment.

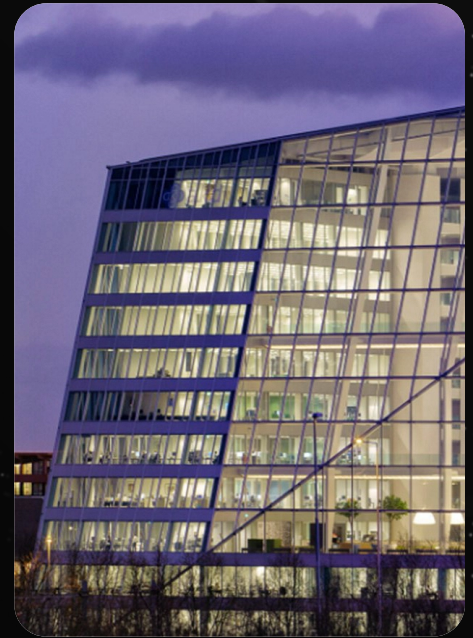
### SCALABLE DESIGN

Smart Buildings can integrate new tech, keeping buildings adaptable and future-ready.

# Smart Building Innovation at Deloitte

## THE EDGE — AMSTERDAM, NETHERLANDS

The Edge, in Amsterdam, is known as the world's most sustainable and smart office, according to the British rating agency BREEAM, achieving the highest sustainability score ever awarded: 98.4%. It uses IoT and data analytics, reuses rainwater, optimizes ventilation, and uses 70% less electricity than a standard office building. Deloitte, the anchor tenant in the Edge, collects gigabytes of data using IoT sensors to create centralized dashboards that allow facility managers to track everything from energy use to coffee machines that need to be refilled. On lower occupancy days, entire sections of the office may be shutdown to reduce heating, cooling, lighting and cleaning costs.<sup>5</sup>



## Efficiency and effectiveness across industries

Smart Buildings help create efficiency and effectiveness across industries. A survey by a building management solutions company indicates that 78% of businesses have adopted some type of building tech.<sup>6</sup> Doing so can help companies with a competitive edge, as they're often more innovative and future-ready, which can appeal to tenants, customers, and investors.

These are some of the potential benefits of Smart Buildings:

### ENHANCING EMPLOYEE EXPERIENCE AT THE WORKPLACE

Adding Smart Building tech like digital signage, kiosks, and workplace apps can make a big difference in office experiences. These tools can provide real-time information on space use and environmental conditions and offer new experiences like wayfinding, automation, and personalized conditions based on occupant preferences.

### IMPROVED PATIENT CARE IN HOSPITALS

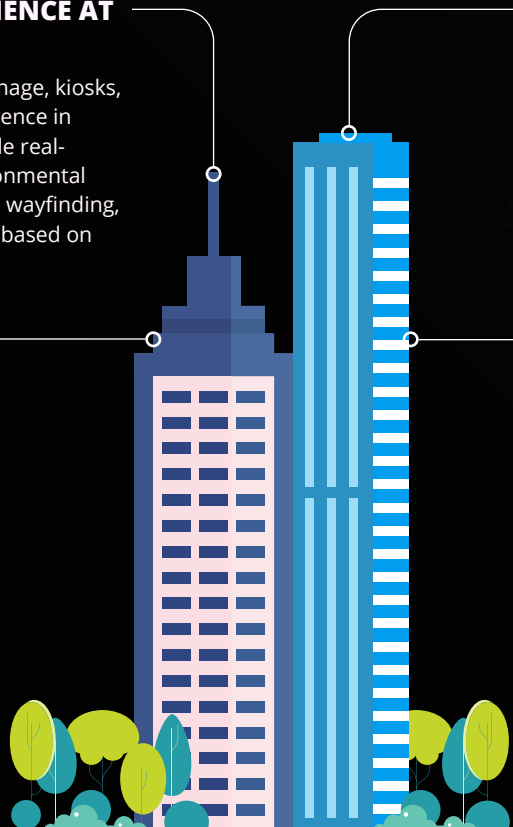
Smart technology is transforming hospitals and patient care facilities by enhancing the patient experience from the moment of arrival. Automated check-ins can reduce wait times, while personalized room controls help patients adjust lighting, temperature, and other settings for greater comfort. IoT sensors enable real-time tracking of medical equipment, and predictive analytics help critical life-saving devices stay operational and available when needed.

### DIGITAL CONTROL TOWER ACROSS FACILITIES

Smart Building platforms connect systems across facilities, helping organizations gather data and use analytics to find trends in asset performance and energy use. This gives the operations team insights to adjust conditions to better manage and anticipate occupant needs.

### IMPROVING OPERATIONS FOR RETAIL

Smart Building platforms in retail can reduce costs by adjusting lighting and HVAC based on occupancy and store hours. They also help prevent product loss from equipment (refrigeration) failures and unplanned downtime by sending alerts to the operations team. Additionally, IoT sensors and cameras with AI/ML processing solutions automate real-time management of inventory minimizing the risk of product shortages or surpluses.



# Unlocking the Full Potential of Smart Buildings

To harness the transformative power of Smart Buildings and achieve peak efficiency and performance, organizations should look at three strategic areas:

## 1 STRUCTURED DATA MANAGEMENT

Data is the lifeblood of Smart Building operations. To extract real value, companies should invest in a strong data infrastructure—whether cloud-based or on-prem—that can store, manage, and scale with vast volumes of structured and unstructured data. A future-ready data architecture lays a foundation for smarter decisions and continuous optimization.

## 2 SYSTEM INTEGRATION

Many buildings operate through siloed systems—HVAC, lighting, security, and more—that function independently. Integrating these systems into a unified ecosystem can enable real-time data sharing, deeper insights, and a comprehensive view of building performance, ultimately helping drive more informed and proactive management.

## 3 TRANSFORMING OPERATIONS

Smart Building technology isn't just about advanced systems—it's about reimagining how buildings are run. Organizations should consider operational models and redefining roles to capitalize on automation, improve responsiveness, and foster innovation across the board.

While the benefits of Smart Buildings are clear, implementation should include strategic planning, seamless coordination, and alignment with broader business objectives. Adopting these technologies often comes with challenges—from managing upfront investments to navigating complex integrations and addressing cybersecurity concerns. These can be managed through thoughtful steps such as piloting solutions, working with experienced system integrators, and involving legal and privacy experts early on. By taking a proactive, balanced approach, organizations can unlock the full potential of Smart Buildings—delivering smarter, safer, and more sustainable spaces.

Reach out to Deloitte to learn how we can help support your Smart Building goals.



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## Appendix

<sup>1</sup> [Verdantix's Market Size and Forecast: Real Estate & Built Environment Management Software 2023-2029](#)

<sup>2</sup> Michele Pelino et al., "Extend IoT smart building solutions to transform the workplace," Forrester, February 1, 2018.

<sup>3</sup> Dean Freeman, Market trends: The five phases that smart lighting providers must address to be successful in the Internet of Things," Gartner, June 2, 2015; Gartner, "Gartner says smart lighting has the potential to reduce energy costs by 90 percent," press release, July 15, 2015

<sup>4</sup> [2024 Deloitte Analysis: Smart-Building-Study-Focus-on-the-facts.pdf](#)

<sup>5</sup> [The Smartest Building in the World: Inside the connected future of architecture, Bloomberg Businessweek, Sept. 23, 2015](#)

<sup>6</sup> [Toggled Smart Building Survey](#)

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