# AI IS YOUR BUILDING READY

**BOMA BEST**
SMART

# THOSE WHO HARNESS AI...

**will lead the charge in creating sustainable, efficient, & adaptable spaces.**

As artificial intelligence (AI) explodes, its impact on commercial real estate (CRE) becomes increasingly profound. Generative AI with the likes of ChatGPT and Google Gemini demonstrate how AI extracts value from massive volumes of data-data far too vast for humans to interpret.

But beyond generating text, code, images, and videos, the same data-driven machine learning (ML) principles that power these AI systems can be applied to building operations. This application of AI offers buildings with the potential to optimize energy, water, and wellbeing across various asset types, from traditional office environments to hospital emergency rooms and even the supply chains that fuel manufacturing floors.

# IN THE BUILT ENVIRONMENT

## AI'S...

....potential extends far beyond mere automation; it redefines how buildings operate, manage resources, and interact with occupants. Key areas of significant impact include:

### Real-Time Location Systems

AI and machine learning are applied to real time location systems, which use sensor data to locate people and equipment and monitor their movement throughout a building. This capability is invaluable in environments like hospitals or large commercial spaces, where tracking the movement of assets and personnel can optimize workflow and enhance safety.

### Intelligent Cleaning Management

In public spaces, AI-driven building management systems enhance cleaning efficiency by analyzing sensor data. Algorithms applied to an intelligent sensor network provide insights into usage patterns, allowing facility managers to better plan cleaning schedules for high-traffic areas like restrooms. This not only improves customer experience but also avoids wasting resources - whether it's cleaning materials or workers' time.

### Energy Management Solutions

AI-based energy management solutions dynamically adjust building systems to minimize energy consumption while maintaining occupant comfort. By analyzing real-time data on occupancy, weather, and energy use, AI can optimize heating, ventilation, and air conditioning (HVAC) systems, resulting in lower energy costs and reduced carbon emissions.

The key to making smart buildings truly effective lies in the strategic use of data. Smart buildings generate enormous amounts of data, and AI thrives on this data, using it to learn, adapt, and optimize building operations in real-time. This ability to harness vast data sets enables AI to deliver better energy management, comfort, and system optimization, ultimately leading to enhanced building operations and saving money.

> " AI-powered valuation tools have been shown to increase valuation accuracy by up to 30%, providing investors with greater confidence in their investment decisions.
>
> — JLL

Energy Usage
Space Utilization
Foot Traffic
Occupancy Rates
Air Quality
Water Consumption
Temperature Levels
Lighting Efficiency
Elevator Traffic
Carbon Emissions
Tenant Satisfaction
Maintenance Needs
Security Incidents
HVAC Performance
Lease Compliance
Rent Trends
Noise Levels
Carbon Reduction
Waste Output
Asset Value

# SMART OPERATIONS & AI

The ultimate goal of any smart building is to improve every aspect of its operations—making them more efficient, comfortable, and sustainable. AI helps achieve these goals through several key mechanisms:

## 1. Data-Driven Decision Making

AI systems analyze data from various sources making informed decisions about building operations. This data-driven approach allows for more precise and efficient management of resources.

## 2. Predictive Capabilities

AI's ability to predict potential issues, such as equipment failures or energy spikes, enables proactive maintenance and avoids costly downtime.

## 3. Custom Building-Specific Characteristics

AI can tailor its operations to the unique characteristics of each building, ensuring optimal performance regardless of the building's size, type, or usage.

## 4. Adaptability and Learning

AI systems continuously learn from data and adapt their operations accordingly. This ongoing learning process ensures that smart buildings remain efficient and responsive to changing conditions.

## 5. Enhanced Safety and Security

AI can monitor and respond to security threats in real-time, integrating data from surveillance systems, access control, and environmental sensors to enhance overall safety.

## 6. Predictive Capabilities

AI helps optimize the use of resources such as energy and water, contributing to sustainability goals while reducing operational costs.

## 7. Enhancing the Visitor Experience

AI can personalize the visitor experience by adjusting lighting, temperature, and other environmental factors based on individual preferences, leading to higher satisfaction and comfort.

# 10 STEPS TO
# INTEGRATE

Introducing AI into a smart commercial real estate building requires a structured approach to ensure effective integration and maximum value. Here are the key steps involved:

### 1. Assess Current Building Technology & Needs
- Evaluate Existing Infrastructure
- Identify Key Areas for AI

### 2. Define Objectives and Use Cases
- Set Clear Goals
- Prioritize Use Cases

### 3. Select the Right AI Technologies and Partners
- Choose the Appropriate AI Tools
- Collaborate with Tech Partners

### 4. Upgrade Infrastructure for AI Readiness
- IoT & Data Collection Capabilities
- Enhance Connectivity

### 5. Integrate AI with Existing Building Management Systems (BMS)
- Connect AI to BMS
- Data Integration

### 6. Develop and Train AI Models
- Use Historical Data
- Customize AI Solutions

### 7. Pilot Test the AI System
- Run a Pilot Program
- Evaluate Performance

### 8. Rollout AI Solutions Across the Buildings
- Implement at Scale
- Train Staff and Tenants

### 9. Monitor and Optimize Performance
- Implement at Scale
- Train Staff and Tenants

### 10. Ensure Compliance and Data Security
- Compliance with Regulations
- Enhance Cybersecurity

# SMART WILL DRIVE

# SUSTAIN - ABLE

Building managers, operators and sustainability professionals across the commercial real estate industry are starting to understand the symbiotic relationship that smart building certifications have with driving sustainability initiatives. Smart sensors and the ability to interpret significant data points are crucial. If used correctly, this data can identify trends, anomalies, and patterns in resource usage, helping make informed decisions to optimize sustainability efforts.

Smart sensors have the ability to provide real-time monitoring of energy consumption, water usage, indoor air quality, occupancy patterns, and more. This data allows the building operations team to monitor resource usage and identify inefficiencies immediately, enabling them to take prompt corrective actions. This data can then be used to benchmark against industry standards or other buildings within a portfolio. The reports generated can speak to sustainability initiatives already in place or support new initiatives being recommended.

Predictive maintenance is another area where smart sensors excel. Sensor data can be used to predict maintenance needs for various building systems, reducing downtime and ensuring the efficient operation of equipment. Rather than replacing all the filters on a schedule, only the filters that have reached manufacturers' specs will be replaced, which means reduced costs and less unnecessary waste in the landfill. With the expectation that government regulations

will only become stricter, reporting becomes more of a challenge. Data from smart sensors can be used to demonstrate compliance, making the entire process less onerous and more transparent.

Smart sensors can also make tenants' lives happier and their teams more productive. Indoor air quality sensors can provide data on air quality in real time. This will allow to implement measures to ensure a healthy and comfortable indoor environment, which is essential for sustainability and occupant well-being. Data from occupancy sensors can help the building operations team to optimize space usage. By understanding when and how spaces are used, they can adjust lighting, heating, and cooling to match actual demand, reducing wastage. All of this makes tenants more comfortable in the spaces they occupy.

From an energy and carbon perspective, the data from smart sensors on electricity and HVAC system usage allows the building operations team to understand peak consumption times and make adjustments to reduce energy usage during high-demand periods. With this data, they can calculate and reduce their carbon footprint by tracking energy consumption and resource usage. All of this can be used to predict cost savings and how to reach carbon reduction goals more effectively.

While smart technology is evolving at an ever-increasing pace, a smart building certification can give building managers, operators and sustainability professionals the tools to support and enhance their sustainable initiatives. It also provides valuable insights, optimizes resource usage, and supports informed decision-making to reduce environmental impact and operational costs.

# CERTIFICATIONS STANDARDS & AI

## How do they help?

SMART
SMARTER
SMARTEST

As AI becomes more integral to building operations, the importance of adhering to established standards and obtaining relevant certifications cannot be overstated. Certifications like the BOMA BEST Certification Program provides a framework for ensuring that AI-driven solutions are implemented safely, effectively, and sustainability.

These certifications serve as benchmarks for quality and performance, offering building owners and operators a clear understanding of how their buildings measure up in terms of smart technology adoption. They also assure tenants and stakeholders that the building is managed according to best practices, capable of delivering the benefits promised by smart technology.
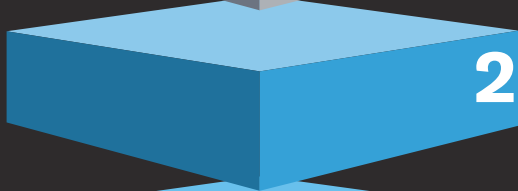
# FIVE
# KEY AREAS
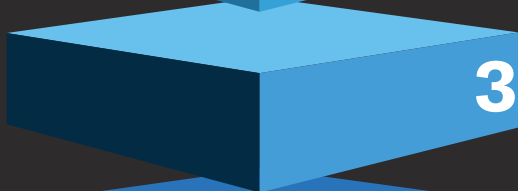## BUILDINGS SHOULD LOOK AT
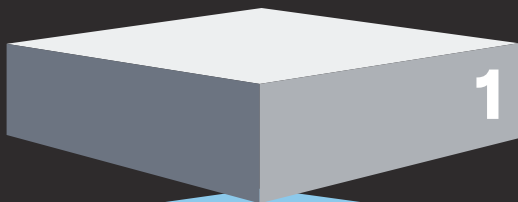
**1** — **Security and Safety**
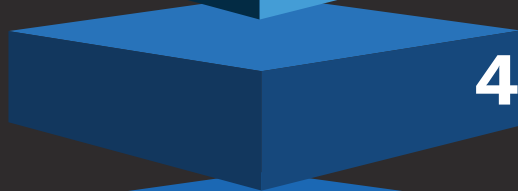Protect your building and its occupants from digital and physical threats

**2** — **Operations and Management**
Optimize your building systems from digital and physical threats.
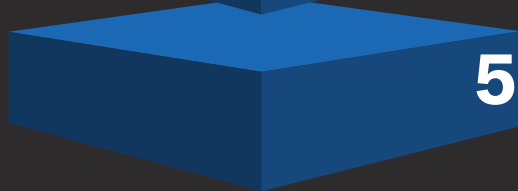
**3** — **Network and Integration**
Seamlessly connect all your building's systems for streamline management

**4** — **End User Experience**
Create an environment that enhances comfort, well-being and productivity

**5** — **Reporting and Analysis**
Use data to continuously improve and make informed decisions

# BASELINE
## PRACTICES

**Getting your building started on its digital transformation journey is easier than you think.** BOMA BEST utilizes a baseline in its Smart programs to provide a consistent, measurable, and transparent framework for assessing and enhancing smart building performance over time. Establishing a baseline ensures that a solid foundation is in place, one that will act as the cornerstone for future improvements. This foundation is critical for a Smart-certified building to excel and achieve higher levels of efficiency and sustainability.

The BOMA BEST Smart baselines starts by assessing these five essential areas:

1. **Do you have a data privacy policy in place?**

2. **Is there a cybersecurity management policy?**

3. **Do you have a process for managing system changes during operation?**

4. **Is there a training plan for using all integrated systems?**

5. **Are your building systems and architectures documented?**

**BOMA BEST also highlights the role of AI in building management.**

**One key question asks:**
**Can your equipment performance be optimized using AI algorithms?**

**Rules-based and AI informed decision-making can help buildings optimize equipment performance, including equipment run times, output levels and setpoints. Reduce energy costs and equipment maintenance requirements**

# SO....

# WHERE

# IS

# IT

As the technology evolves, so too will the standards and certifications that guide its integration into smart buildings. The sector is highly competitive, with no room for missed opportunities, making AI the technology with the power to deliver a matchless edge. Those who explore AI's potential, embed it into their everyday operations, and allow it to drive their planning will emerge as industry leaders.

The BOMA BEST Smart Certification Program is a tool for navigating this complex landscape. By aligning with this certification, building owners and operators can ensure their properties are at the forefront of innovation, meeting the highest standards of environmental performance and sustainability while leveraging AI to enhance every aspect of building operations.

In the era of AI, the future of smart buildings—and commercial real estate - is not just about being smart. It's about being AI smart.

# GOING

"BOMA BEST Smart sets the bar for your entire portfolio. It gives you the baseline to measure where each building is and where it needs to go.

— Bill Masse
Vice President – Digital Building Projects
QuadReal Property Group

**BOMA BEST**
SMART

Your building just got a whole lot smarter.

**BOMA BEST**
SMART