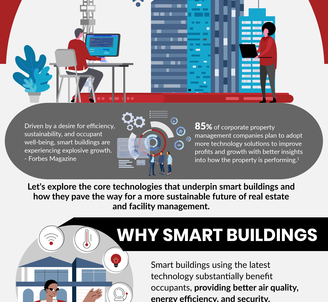
Smart Building Technology and Infrastructure for Real Estate and Facility Management



Driven by a desire for efficiency, sustainability, and occupant well-being, smart buildings are experiencing explosive growth. - Forbes Magazine

85% of corporate property management companies plan to adopt more technology solutions to improve profits and growth with better insights into how the property is performing.[1]

Let's explore the core technologies that underpin smart buildings and how they pave the way for a more sustainable future of real estate and facility management.

WHY SMART BUILDINGS

Smart buildings using the latest technology substantially benefit occupants, **providing better air quality, energy efficiency, and security.**

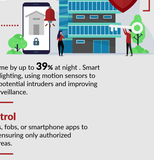
Studies indicate a **79.8%** increase in positive interactions with residents, attributed to smart technology improving tenant relationships.

4.8% annual growth driven by technology adoption shows smart buildings enhance resident experience, streamline communication, and advance the industry.

IoT Smart Sensors

Tiny Tech Big Benefits.

IoT sensors are electronic devices that act like the building's eyes and ears, constantly collecting real-time data on various aspects of the environment. Here's how they're transforming real estate management:



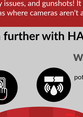
Environmental Sensors

Imagine automatic adjustments for air quality or alerts for temperature and humidity changes. Monitoring these factors, IoT ensures occupant comfort and building efficiency. One study found that IoT devices in properties can reduce energy costs by an eye opening **30%**.[2]

Occupancy Sensors

More than just detecting presence,they track usage patterns, allowing for predictive maintenance and anticipate equipment wear and tear, scheduling proactive fixes before breakdowns occur.

IoT sensor data underpins all decisions and enhancements. Using AI, this data gains even more value, analyzing sensor readings to discern patterns, forecast issues, and suggest solutions. That enable proactive, real-time preventive maintenance.



Studies show property management firms utilizing AI report **30%** faster problem resolution.[4]

Over **40%** of real estate companies already use IoT sensors, making buildings smarter, more efficient, and more cost-effective.[5]

Security Systems

Peace of Mind and Prosperity

Smart security systems go beyond traditional methods, offering a layered approach:

Light it Up

Outdoor lighting deters crime by up to **39%** at night . Smart security systems integrate lighting, using motion sensors to activate lights, discourage potential intruders and improving image quality for better surveillance.

Smart Access Control

Grant entry using key cards, fobs, or smartphone apps to allow for granular control, ensuring only authorized individuals enter specific areas.

Physical Security

Increase physical security with reinforced doors, secure windows, and intruder detection systems to provide a first line of defense, deterring break-ins and minimizing damage.

Surveillance and Analytics

High-resolution, weatherproof cameras with advanced technology provide clear visuals, even in challenging conditions. Analytics software can then detect suspicious activity, alerting personnel in real time.

Emergency and Blue Light Phones

Strategically placed emergency phones allow occupants to quickly contact security or first responders in case of an incident.

Mobility Solutions

Boosted Convenience and Control

Mobile apps provide valuable insights into building usage.

Real-time occupancy data allows for efficient space allocation and resource management.

Ultimately, smart building mobile apps bridge the gap between occupants and the building itself, fostering a more connected and efficient experience for everyone.

Location services within the app can be used for emergency response or wayfinding purposes.

Continuous air quality monitoring helps maintain a healthy environment, while two-way communication tools ensure occupants stay informed and safe.

HALO Smart Sensors

Detect vaping, smoking, air quality issues, and gunshots! It also detects unusual noise and motion, monitoring areas where cameras aren't allowed.

This system goes even further with HALO Amplify:

Panic Buttons
Give occupants a quick and discreet way to signal for emergency help.

Water Leak Detection
Provide early warning of potential leaks, allowing prompt intervention to mitigate damage and prevent costly repairs.

People Counting
Maintain occupancy limits and ensure compliance with safety regulations with real-time insights, helping facility managers make informed decisions.

Door and Window Alerts
Detect and alert users to unauthorized access, helping to prevent intrusions and unauthorized entry into secure areas.

Temperature and Humidity Monitoring
Protect sensitive equipment and occupant comfort by continuously monitoring environmental factors, providing alerts when conditions deviate from preset thresholds.

VIRTUAL AND AUGMENTED REALITY IN SMART BUILDINGS

Virtual Reality (VR) and Augmented Reality (AR) are projected to reach $2.6 billion in the real estate sector by 2025.[7]

VR allows tenants to tour spaces, virtually experiencing the layout and smart building functionalities.

AR can enhance the experience by overlaying information about energy-efficiency or showcasing how smart lighting systems work.

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Sources:

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