

INCREASING PROPERTY OWNER PROFITABILITY WITH THE INTERNET OF THINGS



IoT solutions based on open platforms give property owners and managers a higher level of command and control

IoT solutions help property owners optimize revenues, improve operations, and enhance the occupant experience.

When it comes to building automation, it seems that everyone these days is saying their solutions are “smart”. Many commercial properties already have building automation systems (BAS), which makes property owners and building managers scratch their heads about what has changed and how it will benefit them.

Smart Building Example

Although many buildings today are automated, what’s missing is a common network that ties different systems (e.g., lighting, security, HVAC, and energy) together, making it easier to increase profitability by sharing information between systems, building managers and engineers, the back office, and occupants. Connecting disparate systems enables more intelligent building functions, like turning off the lights and lowering the HVAC when a conference room has been vacated, instead of waiting for a prescribed time (e.g., 6 pm) programmed by the building engineer.



Figure 1. Intelligent Building Network

In this example, existing building systems, sensors, and devices are connected to the property's IT network, allowing operations and IT to securely share information used to improve the control of different building systems. Such an intelligent building solution can be retrofitted on top of existing building equipment without incurring the high capital costs associated with equipment replacement. Profitability can be further improved with incremental retrofit solutions that immediately take advantage of the power of the Internet of Things (IoT).

Property Stakeholder Priorities

Commercial property owners will likely choose smart building solutions that best align with their main focus areas, which typically include optimizing revenue, improving operations, and providing the best experiences for tenants. Also attractive are solutions that enable higher rents by making properties more attractive to tenants, perhaps through higher energy efficiency or lower common area maintenance (CAM) expenses.

Capabilities Enabled by IoT Technologies

The following provides a few examples showing how IoT technologies can help property owners increase their profitability in today's competitive real estate market.

Optimize Revenue

Decrease operating expenses: Reduce the amount of time building managers, maintenance technicians, and engineers spend assessing and troubleshooting issues, because the right information is available in real time.



PROPERTY OWNERS

Optimize Revenue

- Decrease Operating Expenses
- Drive Down Maintenance Costs
- Apply Best Practices Across Properties

Improve Operations

- Resolve Issues Faster
- Increase Staff Efficiency
- Streamline Internal Communications

Enhance Occupant Experience

- Improve Environmental Quality
- Satisfy Occupant Expectations
- Automate Building Services
- Provide a Safer Environment
- Reduce Energy Costs

TENANTS

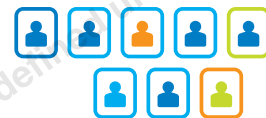


Figure 2. Capabilities Enabled by IoT Technologies

Drive down maintenance costs: Switch from routine preventive maintenance with scheduled part replacement (e.g., air/water filters) to less costly predictive maintenance with continuously monitored systems to determine when service is really needed.

Apply best practices across properties: Deploy IoT technologies across different types of building systems so cost-saving measures (e.g., Operations & Maintenance) can be more easily implemented across all properties.

Improve Operations

Resolve issues faster: Take advantage of web-based applications that allow building engineers to quickly assign repair tasks to the most suitable repair technician based on skill set, availability, and location.

Increase staff efficiency: From wireless tablets or mobile devices, enable building engineers to control building systems at anytime or from anywhere – instead of walking back and forth from a management console.

Streamline internal communication: Simplify information sharing between facilities management and back office with a common network and database that minimize manual intervention and errors.

Enhance Occupant Experience

Improve environmental quality: Create a more comfortable, productive environment by actively measuring and managing temperature, carbon dioxide levels, and lighting levels throughout the building.

Satisfy occupant expectations: Allow occupants to interact with building systems – such as HVAC, parking, surveillance, and room scheduling – from their mobile devices, in keeping with a “connected-world”.



Figure 3. Building Control from a Mobile Device

Automate building services: Make everyday occupant tasks easier, like finding the nearest parking space or parking lot, setting up voice/data connections for new users, or checking conference room availability.

Provide a safer environment: Take security systems to the next level with facial recognition, motion detection, elevator access control, intrusion alerts, and real-time information when incidents occur.

Reduce energy costs: Use HVAC performance, occupancy, weather forecasts, occupant preferences, typical arrival and departure patterns, and various data points to create the optimal daily start-up and ramp-down schedules.

Implementing IoT Solutions

IoT solutions based on open platforms give property owners and managers a higher level of command and control (Figure 3) compared to today's closed and proprietary building management systems. The solutions can be used across large and small properties and various asset classes, including office, industrial, retail, commercial, and mixed use.

Although the capabilities offered by open IoT solutions are highly desirable, most property owners have too much invested in existing systems to simply abandon them. When “rip and replace” is not an option, it is possible to use IoT technologies to instrument buildings with utility meters, people counters, and other sensors.

**Increasing Property Owner Profitability
with the Internet of Things**

IoT Platforms for Buildings

Intel is working with a large community of solution providers to develop open and secure IoT solutions for smart buildings. Intel® products and technologies are helping make smart buildings a reality by providing fundamental building blocks for a robust ecosystem. These solutions can be readily applied to help property owners optimize revenues, improve operations, and enhance the occupant experience.



For more information about Intel solutions for smart buildings, visit www.intel.com/iot/smartbuilding

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