

Realcomm IBCon 2025

POWER OVER YOUR PORTFOLIO



Smart Building Basics

What is a smart building? When you ask ChatGPT, it will tell you that a smart building uses advanced technology and integrated systems to enhance its safety, comfort, and overall functionality. However, that is just the tip of the iceberg. There are many ways to make a building "smart," but overall, the goals of a smart building focus on efficiency and experience, as detailed in Figure 1. REDUCE Operational Expense
REDUCE Capital Expense
DECREASE Operational Risk
IMPROVE Sustainability
INCREASE Occupancy/Space Utilization
IMPROVE Occupant & Tenant Satisfaction

Figure 1: Smart Building Goals

To make a building "smart," you must:



Create operational efficiency through the integration of systems that can communicate and share data.

EFFICIENCY

EXPERIENCE



Enhance user experiences through automated and seamless interactions.



Deliver sophisticated support enabled by data-driven operational models, processes, and sequences.



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Deploy a well-designed, secure network and application infrastructure that supports current and future-state capabilities.

Operate a cohesive and integrated ecosystem (platform) enabling strategic initiatives, goals, and objectives across multiple stakeholder groups.



Figure 2: Smart Building Stack with Use Case Example

The Stack

Building owners and asset managers can look to a building's Stack to support their smart building goals. A building's Stack is the unique combination of attributes, systems, use cases, user journeys, and stakeholders. It supports the project's business model, budget, and vision. Figure 2 shows a use case example on the Stack (Energy Use Analysis).



Smart Building Attributes

These are the foundational building blocks that each operational technology (OT) system must maintain to support a robust and reliable smart building. SONIC (Figure 3) means systems must be secure to prevent data breaches, open for integration (through open protocols or application programming interfaces (APIs)), normalized to allow for data comparison across systems, interoperable to allow for direct communication between systems, and converged on a single network.

ecure Networks & Systems

A robust and secure cybersecurity policy centered around OT systems will help prevent potential data breaches that can cost millions of dollars.



S

pen Systems

Non-proprietary communications and protocols between building systems that provide a path for systems to communicate with each other.

ormalized Data

Different controls manufacturers, or even disparate systems, can share data, allowing for more flexibility and management control.

nteroperability

Real-time data exchange between different systems that speak directly to one another.

c onverged Networks

Common sense elimination of overlapping controls infrastructure, such as conduit, closets, and cabling and networking.

Figure 3: SONIC Smart Building Attributes



Figure 4: Converged Networks

SONIC systems in a building create a smart building platform (SBP), which can be software or a logical connection that allows OT systems to interact. This connectivity between systems and data sources allows for new capabilities and functions that are the basis of use cases. Without this connectivity, systems will be siloed and unable to positively impact business objectives. Traditional building construction and operation creates siloes, risk, and inefficiencies (Figure 4). A smart building leverages data from a converged network to support business decisions.

Use Cases

The best "smart" approach is use cases. Use cases are the building blocks of a smart building, providing a common language for smart building concepts for the entire organization (Figure 5).



Figure 5: What is a use case?

A systems and features conversation is a solution looking for a problem, and technical conversations miss the goal. Building technology is abundant to satisfy use cases, so by focusing on goals and capabilities rather than the technology itself, use cases align stakeholder groups across real estate, marketing, construction, engineering, informational technology (IT), and more. This reduces technology risk and drives downstream activities concerning building system readiness, system and solution definition, and specific design requirements. See Figure 6 for an example use case.



Figure 6: Implement a single pane of glass (SPOG) or unified user interface (UUI) use case

As depicted in Figure 7, a use case defines the systems that are necessary to achieve the desired business objectives. These systems determine what data is needed, which then informs the analytics that are required. These analytics detail the improvement actions needed, which outline the key performance indicators (KPIs) to measure. This sequence then impacts the business objectives.



Figure 7: How does a use case impact a business objective?

Cybersecurity



The commercial real estate industry has a systemic, embedded soft underbelly from 40 years of digital systems being designed, installed, and maintained by a value chain devoid of IT and cybersecurity expertise. These systems include HVAC, elevator, lighting, metering, parking, access control, video surveillance, etc. This security gap threatens the very availability of the facility, as well as costs, productivity, life safety, and brand. Figure 8 lists areas of cyber risks that can lead to incidents.

These incidents have increased significantly but are not frequently in the news because the incidents rarely involve personal information that is required to be disclosed. However, our customers have learned there are startlingly increasing numbers of examples, including ransomware, killware, hacks, and contractor mismanagement (Figure 9).



Figure 8: Cyber Risk Areas

Where Do I Start?



Intelligent Buildings, LLC

Intelligent Buildings is a pioneer in smart building services, founded in 2004 with a mission to simplify the complex technology challenges within commercial real estate buildings. Our complete suite of services assesses, advises, integrates, and manages both IT and OT within a building:

Assessment Services: We assess your building's technology to give you a greater understanding and visibility of its capabilities.

Advisory Services: We provide strategic advice to empower you to cut through all the smart tech noise.

IntelliNet Managed Services: Our proactive services monitor and protect critical building and IT systems across your portfolio. We identify known issues, address them, and continuously monitor and fix new issues as they arise 24/7, 365 days a year. This gives you the power to stay in control rather than being at the mercy of industry changes.

Our work includes some of the most iconic, multi-million-square-foot developments in the world, along with many of the largest portfolios in commercial real estate. We regularly work throughout the real estate lifecycle and with all stakeholders, so we are aware of upfront cost and the longer-term impact on cost structure, valuation, and risks.

Come visit us at booth 311!

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