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ICT FORUM COSTA RICA 2023

Expandiendo el universo de la inteligencia, la conectividad y el conocimiento

ORGANIZA:

LATAM RED

Using Smart Building Verification to Drive Business Outcomes

Case Study with Microsoft - 2022

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UL SPIRE™ Case Study with Microsoft

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Executive Summary

- Microsoft has world-class facilities equipped with smart technologies around the world
- These facilities are critical to drive the mission of Microsoft in serving its customers and enable innovation
- Several Microsoft facilities have undergone a comprehensive Smart Building Assessment by UL: there are a many observations of excellence and a few areas of improvements

AGENDA

- Why is there a need to define a “smart building”?
- What is a Smart Buildings Verification?
- What was done with Microsoft to understand the smart level of select buildings?
- How is Microsoft using these findings to drive business outcomes?
- Open discussion with Q&A

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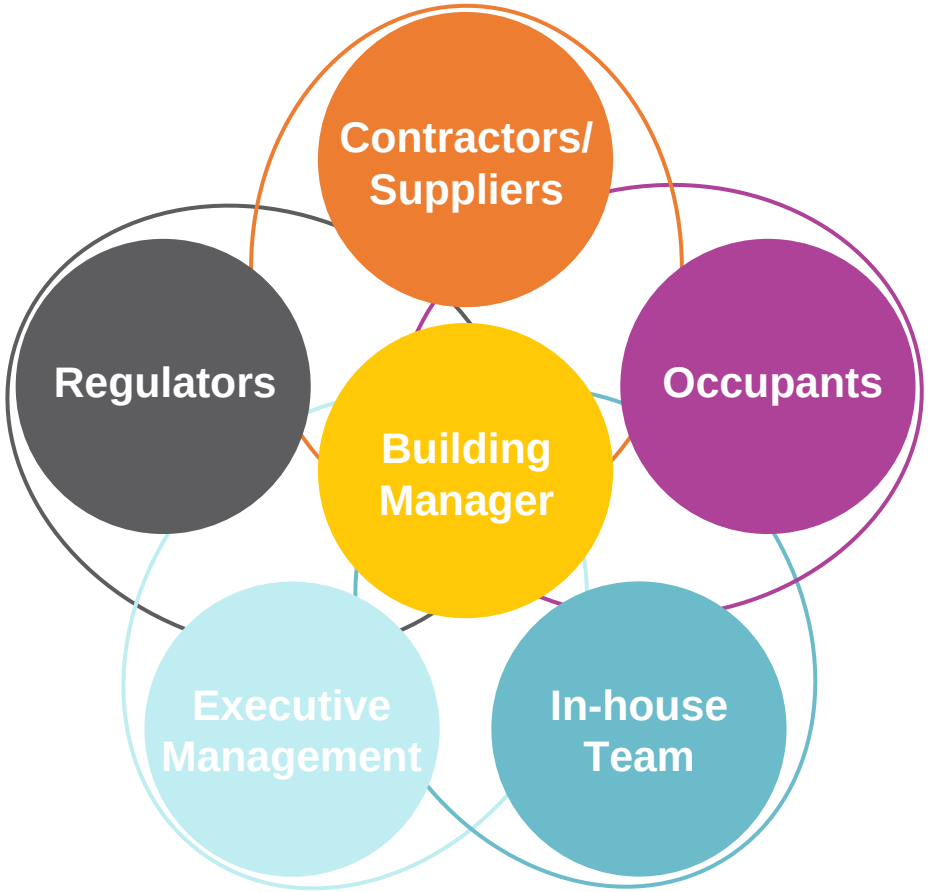
Buildings are complex ecosystems to manage with often conflicting priorities

Major influences on smart buildings:

- Decarbonization of energy and mobility
- Aligning the business and building mission
- Occupant experiences and productivity
- Aging building stock
- Cybersecurity
- AI – ML, NLP, image perception, robotics
- 5G
- Autonomous systems



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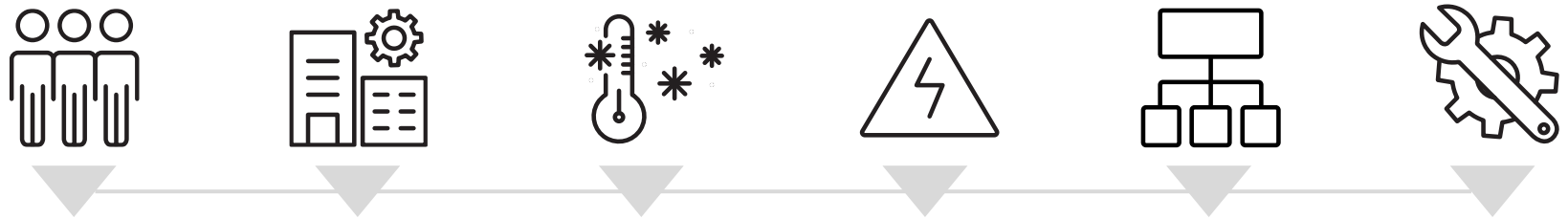
Inefficiencies exist in how buildings are operated and maintained



Adapting buildings to fluctuating occupancy levels and usage

Improving building resiliency and space utilization

Automating control sequences to operate in different conditions

Reducing avoidable energy usage and operating cost

Optimizing interplay of different building systems

Modernizing critical building systems to adapt to new requirements and/or leverage new technologies

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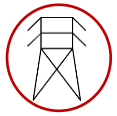
Smart Buildings™ — objective smart building assessment

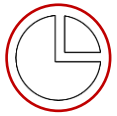


Power and Energy: Capability of a building to monitor and manage power and energy both within its own boundaries and with the local electric utility grid.

- Energy Use Management & Analysis
- Demand Response & Grid Interoperability
- Distributed Energy Resources

Health and Well-being: Capability to monitor and react to indoor environmental quality conditions.

- Indoor Air Quality
- Thermal Management
- Visual Comfort/Light and Noise Control
- Water Management
- Waste and Odor Management



Life and Property Safety: The extent to which smart building technologies may optimize the safety of buildings.

- Building Emergency Plan
- Integrated System Performance
- Situational Awareness
- Distributed Energy Resources

Connectivity: Capability to transmit internal and external data and adapt to the needs of future innovations within intelligent buildings.

- Media
- Coverage
- Security
- Expansion
- Building Resilience

Cybersecurity: Uses the NIST CSF 5, a voluntary framework consisting of standards, guidelines and best practices to manage risk, organized by sections

- Identify
- Protect
- Detect
- Respond
- Recover
- Best Practices

Sustainability: Assesses smart sustainable building concepts by evaluating

- Water/Waste Management
- Building Life cycle and Operations
- Smart Integrations and Tools
- Awareness & Engagement

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Smart Buildings Assessment of 3 Microsoft buildings

Microsoft Buildings

Torre Universal
San Jose, Costa Rica
Remote Assessment

Building 121
Redmond, WA USA
On-site and Remote Assessment

Building 122
Redmond, WA USA
On-site and Remote Assessment

General Experience

- Strong sponsorship and engagement from all MSFT teams
- Integral to locate resources to answer questions and provide evidence
- Confidentiality considered, especially for cyber
- Management support critical for success
- Directly engaged 26 resources in 16 different organizations

UL Assessment Team

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UL Lead Auditor
Buildings 121, 122
Cybersecurity

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Buildings 121, 122
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Many observable smart building best practices

- Continuous cycle of technology innovations, e.g., Azure Digital Twin, occupancy solutions
- Physical security of critical network and building assets
- Flexible and rich reporting from connected building systems using Power BI
- Focus on building life cycle and operational management
- Ongoing maintenance, support, and awareness of IT network
- Enterprise cyber security practices and policies

- ✓ Mature preventive maintenance
- ✓ Occupant engagement in building technology and experience innovation
- ✓ Sustainability commitments
- ✓ Technology assessment

- ✓ Smart building network design and security
- ✓ Wi-Fi technologies
- ✓ Training of the building operations team

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Microsoft future state impact based on detailed results

Existing Understanding

- Benchmark across existing building portfolio
- Independent review
- Nuances between different building vendors

Impact Change

- Assess the impact of digital transformation programs
- Inform priority of technology investments

Meet Enterprise Goals

- Staff retention
- Sustainability

THANK YOU!

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