

The Global Commercial Building Automation Market



The Global Commercial Building Automation Market is the first report from Berg Insight analysing the latest developments on the smart buildings market.

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- **Insights** from 30 executive interviews with market leading companies.
- **360-degree overview** of the smart building & building automation ecosystem.
- **Summary** of industry trends in key vertical market segments.
- **Statistical data** on adoption of building automation systems worldwide by region.
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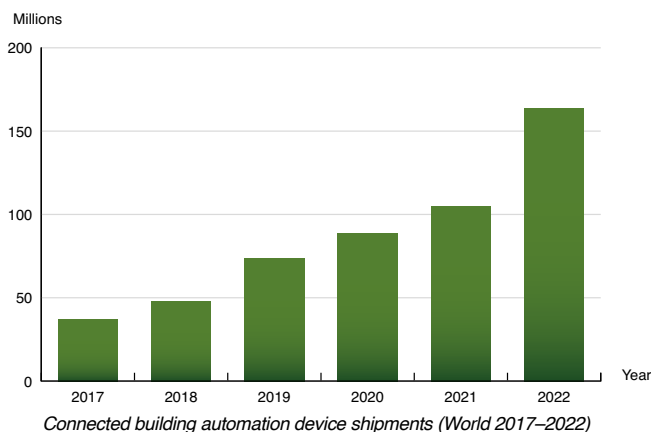


Where is the global smart building market headed?

Smart buildings and building automation are ambiguous terms used in reference to a wide range of solutions for controlling, monitoring and automating functions in buildings such as commercial office spaces, retail stores, hotels, schools, hospitals and industrial buildings. Berg Insight's definition of a building automation system requires that it has a smartphone app or a web portal as a user interface. Devices that only can be controlled with switches, timers, sensors and remote controls are thus not included in the scope of this study. Smart building systems can be grouped into twelve primary categories: HVAC systems; lighting and window control; occupancy comfort and productivity systems; fire and safety; access and security; water management; refrigeration; elevators and escalators management; pool and spa management, irrigation systems; charging for electric vehicles; and audio, video and entertainment.

Berg Insight estimates that 48 million connected devices were shipped globally into the BloT market in 2018. Note that by connected devices we mean the functions encapsulated in sensors and actuators, I/O modules, controllers and gateways used to control the functions in a smart building. It does not include the servers that may run the dashboard & apps, nor does it include data storage & analytics. The market is broken down into twelve segments of which the access and security market was the largest, followed closely by the fire and safety segment. This intuitively makes sense because these two segments are not just "nice-to-have", but critical in any commercial building. Moreover, access and security for a commercial building will comprise of a large number of units; sensors and actuators have to go into multiple doors and entrance ways into lobbies, laboratories, IT and server rooms, gym and fitness centres and supply rooms. In terms of the fire and safety segment: heat detectors, smoke alarms, sprinkler device placements are governed by regulations. There has to be a minimum number spaced a certain distance apart. This segment thus turns out to be the second largest market. Berg Insight estimates that shipments for all segments will grow at a CAGR of 36.0 percent to reach 163 million units worldwide in 2022.

Berg Insight estimates that more than 151 million connected devices for BloT were in operation throughout the world at the end of 2018. ►



► By 2022, Berg Insight estimates that roughly 483 million units will be active worldwide, representing a CAGR of 33.3 percent between 2018 and 2022. About 4.5 million of these devices were connected via cellular networks in 2018. The number of cellular connections in the building automation market will grow at a CAGR of 44.1 percent to reach 19.4 million in 2022. In terms of revenues, Berg Insight estimates that connected devices into the global BloT market generated revenues of more than US\$ 1.2 billion in 2018. This figure will grow at a CAGR of 21.4 percent to almost US\$ 2.65 billion in 2022.

The most successful building automation solutions to date, in terms of sold units, include access and security, fire and safety, HVAC systems and elevators and escalators management. These solutions are marketed by product OEMs such as Assa Abloy, Avigilon, AMAG Technology, HID Global, Comark, Tyco, Albireo Energy, Cimetrics, Delta Controls, ENGIE Insight, Silvair, KONE, Otis, Schindler and ThyssenKrupp. The automatic control may be done through a centralized system such as a Building Management System (BMS). Examples of BMS solution providers include ABB, Honeywell, Johnson Controls, Schneider Electric, Siemens and United Technologies.

Building automation has been around for many decades but there is a new urgency due to factors such as energy conservation as well as mandates for green construction. IoT offers the technologies for building owners to easily measure and conserve energy. A major change is starting to happen now especially in new construction, where the primary driver is changing from cost reduction to features that enhance the user experience and change how users and buildings interact. Instead of there being a single "killer-app" for user-experience, we are starting to see a combination of use-cases. These use-cases leverage the Internet of Things, sensors and connectivity to enable customization of spaces in offices and conference rooms based on occupancy levels and occupant preferences, efficient mobility throughout the building, and they help occupants with location and wayfinding – all controllable by mobile platforms. Most important, they are capable of predictive awareness of individual needs.

This report answers the following questions:

- Which are the main verticals within smart buildings and building automation?
- What are the main drivers behind growth in this market?
- What are the challenges and roadblocks towards widespread adoption?
- What are the business models and channels-to-market for smart building solutions?
- Which are the leading building management system (BMS) vendors?
- How are product OEMs and BMS vendors positioning themselves?
- What connectivity technologies are smart building system vendors betting on?
- What is the potential market size for cellular IoT in building automation?
- How will the smart building market evolve in the next five years?

Executive Summary

1 Introduction to smart buildings

1.1 Introduction

1.1.1 Global population growth and urbanisation

1.1.2 Sustainable development and building strategies

1.1.3 Energy demands

1.1.4 Definitions and brief history of commercial building automation

1.1.5 Market penetration of building automation

1.1.6 From building automation to smart buildings

1.1.7 Smart buildings are an integral part of smart cities

1.2 Market drivers

1.2.1 Energy consumption of commercial buildings

1.2.2 Optimising energy consumption in commercial buildings

1.2.3 The next frontier – zero energy buildings

1.2.4 Operational efficiency

1.2.5 Occupancy comfort and productivity

1.2.6 Space optimisation

1.2.7 Regulations and standards

1.2.8 Grants, loans, rebates and deductions

1.3 Technology drivers

1.3.1 IoT and Building IoT

1.3.2 Big data and data analytics

1.3.3 Cloud and edge computing

1.3.4 Deep learning and artificial intelligence

1.3.5 Wireless connectivity

1.4 Market barriers

1.4.1 Lack of clarity on return on investment

1.4.2 Competitive markets versus oligopolies

1.4.3 Proprietary solutions and lack of interoperability

1.4.4 Security and privacy concerns

1.5 Startup activity

1.6 Partnerships

1.7 Regional versus global efforts

1.8 Types of commercial building automation

1.8.1 HVAC systems

1.8.2 Lighting and window control systems

1.8.3 Occupancy comfort and productivity systems

1.8.4 Fire and safety

1.8.5 Access and security

1.8.6 Water management

1.8.7 Refrigeration

1.8.8 Elevator and escalator management

1.8.9 Pool and spa management

1.8.10 Irrigation systems

1.8.11 Electric vehicle charging

1.8.12 Audio, video and entertainment

1.8.13 Renewable energy sources

1.8.14 Building management systems

1.9 Automation market segments

1.9.1 Government buildings

1.9.2 Healthcare buildings and hospitals

1.9.3 Hospitality buildings and hotels

1.9.4 Office buildings

1.9.5 Production buildings and factories

1.9.6 Retail outlets

1.9.7 New buildings versus existing buildings

1.10 Commercial building stock by region

2 Networks and communications technologies

2.1 Overview

2.1.1 Integration in building automation

2.1.2 Approaches to establishing interoperability

2.1.3 Network protocols and topologies

2.1.4 Technology choices of product OEMs

2.1.5 Combine IT networks and building automation networks or keep them apart?

2.2 Smart building protocols

2.2.1 BACnet

2.2.2 DALI

2.2.3 INSTEON

2.2.4 KNX

2.2.5 LonWorks

2.2.6 M-Bus

2.2.7 Modbus

2.2.8 OpenTherm

2.2.9 SNMP

2.3 Smart building physical layer technologies

2.3.1 ANT

2.3.2 Bluetooth

2.3.3 DECT ULE

2.3.4 EnOcean

2.3.5 Li-Fi

2.3.6 LPWAN

2.3.7 Power over Ethernet

2.3.8 Thread

2.3.9 Wi-Fi

2.3.10 ZigBee

2.3.11 Z-Wave

2.4 Wireless versus wired communications

2.5 Getting meaning out of data: Project Haystack

2.6 Software and middleware

2.7 Building automation platforms

2.7.1 Sensors

2.7.2 Actuators

2.7.3 Gateways

2.7.4 Processors

2.7.5 Dashboards and user interfaces

2.8 Automatic calibration and automated diagnostics

2.9 Remote network monitoring and trouble-shooting

2.10 Industry bodies, certifications and standards

2.10.1 ASHRAE

2.10.2 BRE and BREEAM

2.10.3 CSTB

2.10.4 DGNB

2.10.5 Energy Star

2.10.6 GABC

2.10.7 GBCA and Green Star

2.10.8 GBI

2.10.9 GRESB

2.10.10 GRIHA

2.10.11 HOE

2.10.12 IAPMO

2.10.13 ICC

2.10.14 NABERS

2.10.15 USGBC and LEED

2.10.16 WorldGBC

2.11 Industry consortiums

2.11.1 BOMA

2.11.2 BPIE

2.11.3 CABA

2.11.4 EU.BAC

2.11.5 GBPN

2.11.6 SBA

2.12 Indoor environment quality standards

2.13 Water efficiency standards

2.14 Sustainable sites standards

3 Technology providers and OEMs

3.1 Market overview

3.2 HVAC systems

3.2.1 Albireo Energy

3.2.2 Asset Mapping

3.2.3 Autani

3.2.4 Cimetrics

3.2.5 Delta Controls

3.2.6 Distech Controls

3.2.7 ENGIE Insight

3.2.8 J2 Innovations

3.2.9 KGS Buildings

3.2.10 Levaux

3.2.11 Lynxspring

3.2.12 National Renewable Energy Laboratory

3.2.13 Silvair

3.2.14 SkyFoundry

3.2.15 Verdigris Technologies

3.3 Lighting and window control

3.3.1 Digital Lumens

3.3.2 Echelon (Adesto Technologies)

3.3.3 Enlighted

3.3.4 Lutron

3.3.5 Signify

3.4 Occupancy comfort and productivity systems

3.4.1 Automated Logic

3.4.2 BuildingIQ

3.4.3 Building Robotics

3.4.4 PointGrab

3.4.5 75F

3.5 Fire and safety

3.5.1 Comark

3.5.2 Renesas Electronics

3.5.3 Texas Instruments

3.5.4 Tyco

3.6 Access and security

3.6.1 AMAG Technology

3.6.2 Assa Abloy

3.6.3 Avigilon

3.6.4 HID Global

3.6.5 Nortek Security & Control

3.6.6 Zaplox

3.7 Water management

3.7.1 Apana

3.7.2 Intelligent Water Management

3.7.3 SenseWare

3.8 Refrigeration

3.8.1 Accruent

3.8.2 Amphenol Advanced Sensors

3.8.3 Daikin

3.8.4 Danfoss

3.8.5 Entouch Controls

3.9 Elevator and escalator management

3.9.1 KONE

3.9.2 MERak Telsis

3.9.3 Otis

3.9.4 Schindler

3.9.5 ThyssenKrupp

3.10 Pool and spa management

3.10.1 AstralPool

3.10.2 Hayward

3.11 Irrigation systems

3.11.1 BlueSpray

3.11.2 Rachio

3.12 Electric vehicle charging

3.12.1 Advantech

3.12.2 ChargePoint

3.12.3 Delta

3.13 Audio, video and entertainment

3.13.1 Alpiq InTec

3.13.2 Bosch

3.13.3 Crestron

3.13.4 Harman

3.13.5 Elan Systems

4 Service providers and building management system vendors

4.1 Market observations

4.1.1 Confluence of technology and regulations

4.1.2 Trying to find a scalable model for building automation

4.1.3 Building automation systems increasingly being targeted for cyberattacks

4.1.4 Occupant demand for high-tech in the building

4.1.5 Using the cloud to connect portfolio of buildings together

4.2 Go-to-market strategies

4.2.1 The BIoT ecosystem and business models

4.2.2 One-off project pricing

4.2.3 Maintenance agreements

4.2.4 Software-as-a-Service (SaaS)

4.2.5 Return-on-Investment

4.3 Building management system vendors

4.3.1 ABB

4.3.2 Honeywell

4.3.3 Johnson Controls

4.3.4 Schneider Electric

4.3.5 Siemens

4.3.6 United Technologies (UTC)

4.3.7 Yanzi Networks

4.4 Building automation service providers

4.4.1 Cisco Digital Ceiling

4.4.2 GE Predix

4.4.3 Hitachi Lumada

4.4.4 IBM Watson

4.4.5 Legrand ELIOT

4.4.6 Switch Automation

4.5 Case studies

4.5.1 Daikin Technology and Innovation Center in Japan

4.5.2 Dell Children's Medical Center in the US

4.5.3 Duke Energy Center in the US

4.5.4 The Edge in the Netherlands

4.5.5 Hyatt Regency in the US

4.5.6 Isquare in Hong Kong

4.5.7 The Living Building at Georgia Tech in the US

4.5.8 Los Angeles Convention Center in the US

4.5.9 MGM Resorts in the US

4.5.10 National Stadium in China

4.5.11 Providence St. Peter Hospital in the US

4.5.12 RBC Waterpark Place in Canada

4.5.13 San Francisco Public Utility Commission in the US

4.5.14 Shanghai Tower in China

4.5.15 Subaru of America headquarters in the US

4.5.16 Technische Betriebe Glarus Nord in Switzerland

5 Market forecasts and conclusions

5.1 Market trends and analysis

5.1.1 Major changes are coming to buildings

5.1.2 How does NOI and capitalization rate change with smart buildings?

5.1.3 BIoT has started a new trajectory for building automation

5.1.4 BIoT enables integration of different building functions

5.1.5 Regional differences continue to be important

5.1.6 When is the right time for building owners to engage?

5.2 Europe

5.2.1 Revenues

5.2.2 Shipments

5.2.3 Installed base

5.3 North America

5.3.1 Revenues

5.3.2 Shipments

5.3.3 Installed base

5.4 Asia-Pacific

5.4.1 Revenues

5.4.2 Shipments

5.4.3 Installed base

5.5 Rest-of-World

5.5.1 Revenues

5.5.2 Shipments

5.5.3 Installed base

5.6 Cellular IoT device shipments and connections

Glossary

About the Author

Alan Varghese has more than 25 years of experience in the wireless, semiconductor and broadband industries and serves as a strategic advisor to companies in these segments. He holds a Master's degree in Electrical Engineering from Rensselaer Polytechnic Institute, New York. Alan is an experienced analyst and author of numerous reports and articles about various telecom topics for leading analyst firms.

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