



The Internet of Things in Smart Commercial Buildings 2020 to 2025

MARKET PROSPECTS IN THE AGE OF COVID-19

Published: Q2 2020

The IoT in Smart Commercial Buildings



meemori
Synopsis

This report will be of value to all companies engaged in managing, operating and investing in commercial real estate technology around the world.

© 2020 Meemori
Research AB

Introduction

This Report is a new 2020 Study which Makes an Objective Assessment of the Market for Internet of Things Technologies, Networks and Services in Buildings 2020 to 2025

Our 4th edition of research into the Market for the Internet of Things in Smart Buildings (BloT) focuses on market sizing and opportunities for Smart Commercial Buildings. It provides a completely fresh market assessment of the industry based upon the latest information. Regions for this edition of the study are split into 5 categories representing the international markets of North America, Latin America, Europe, Asia Pacific and The Middle East & Africa.

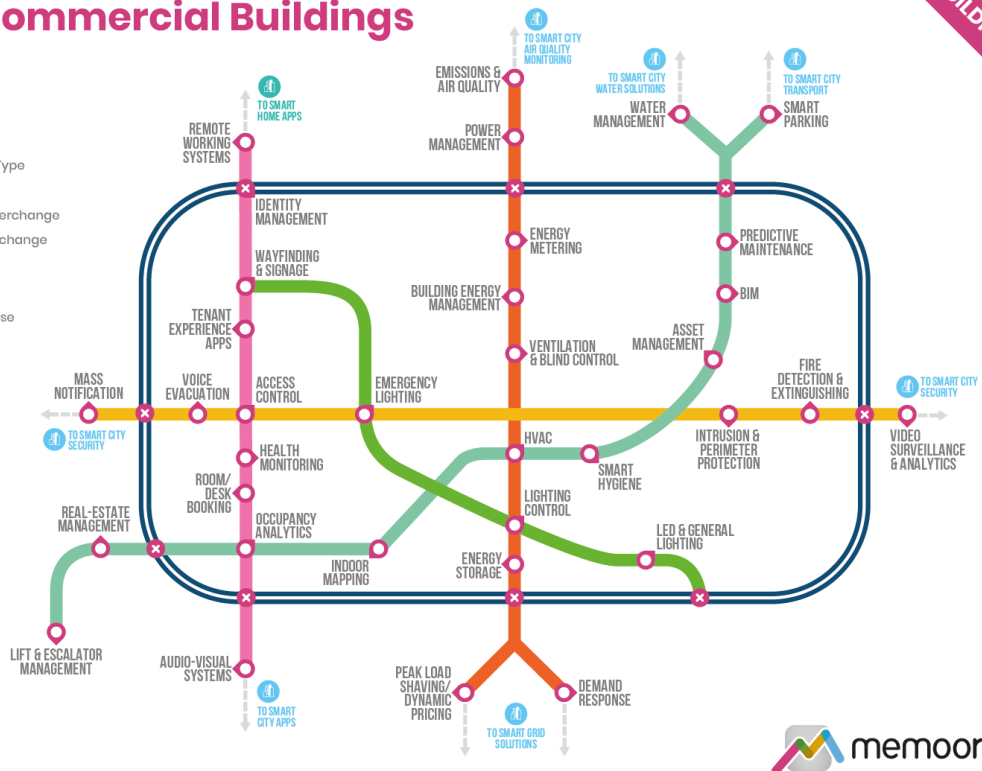
The Internet of Things in Smart Commercial Buildings 2020 - v4.0

- Key to symbols**
- Technology/Service Type
 - ⊗ Data Exchange
 - ⌚ Smart Home Data Interchange
 - ⌚ Smart City Data Interchange

- Key to lines**
- The Business Enterprise
 - User Experience
 - Security
 - Energy
 - Lighting & Signage
 - Facilities

How Data is Connected

- TCP / IP
- Wi-Fi
- Bluetooth
- BacNET
- ModBUS
- ONVIF
- LonWorks
- KNX
- DALI
- EnOcean
- Z-Wave
- Zigbee
- OpenADR
- RFID
- LPWAN
- 5G
- Li-Fi



Why Do You Need This Report?

The publication of this report comes at a time of unprecedented challenge for society. As March of 2020 progressed, it became increasingly obvious, that the rapid spread of the novel coronavirus COVID-19 would go on to pose major challenges to all aspects of how we live and work in societies across the globe. The Built Environment will play a huge part in how we rise to meet these challenges.

Section 5 of the report is dedicated to helping readers adapt to the “new normal” and prepare for the future by understanding what the market impacts may be. This section will help the reader make sense of the economic, supply chain, technological, ways of working, and building usage impacts of COVID-19.

Fundamental changes to user interactions between buildings and the rest of society will need to be supported by new technology solutions, that help maintain hygiene, facilitate social distancing, and maintain building user trust and confidence in their places of work. The role of Smart Building Technologies in helping to mitigating the negative impacts of COVID-19 is investigated in section 6 of the report.

In order to account for market uncertainties and still provide valuable insight into the potential impact of the virus on BIoT technologies; In sections 9 and 10 of the report we consider best-case and worst-case scenarios, providing global and regional market forecasts to 2025.

A series of inter-related challenges (driven by the COVID-19 crisis) will make 2020 a tough year for the market for BIoT in smart commercial buildings, and we predict a drop in revenues compared to 2019. However over our forecast period (to 2025), we predict global growth of 11.6% in the best case, with overall market revenues rising from \$42.8Bn in 2019 to \$82.7Bn in 2025, versus 7.3% in the worst case, with more modest total revenues of \$65.2Bn by 2025.

Our latest assessment of the number of connected devices in operation in the commercial smart building’s vertical is for the installed base of connected devices to grow from 1.7 Billion in 2020 to just under 3 Billion by 2025 representing a CAGR of 10.8%. Sensors and devices to track occupancy movement and analytics look set to experience some the highest rates of growth over the forecast period at 14% per annum.

Within its 217 pages and 53 charts and tables, the report filters out all the key facts and draws conclusions, so you can understand exactly what is shaping the future of the global IoT market.

Significant revenue opportunities will still persist in 2020, particularly in relation to data analytics to support increased demands for space utilization analytics. Commercial building owners and occupiers will need spatial data analytics to review their ongoing property requirements and drive down property related expenditure.

We have also observed a notable trend towards the adoption and support of protocols that are prevalent in the wider IoT landscape and used for IT-oriented web services. Building services specific protocol standards were not initially designed for integration with wider IoT applications and regarded by some as either outdated or unduly “heavyweight”. So use of IoT protocols such as MQTT, and AMQP is growing.

Some market frustration persists over the sheer number of competing platform solutions offering overlapping functionality to serve these demands. The leading platform solution providers are beginning to emerge, however, and the user-base seems likely to coalesce around a more limited number of platform providers, with those unable to maintain a sustainable user base being forced to merge or withdraw from the market.

While we expect consolidation in the wider platforms space, there remain considerable market opportunity for cloud-based software offerings for specialist applications or vertical markets. These can include vertical market specific analytics, third party service management, or building data monetization.

Who Should Buy This Report?

The information contained in this report will be of value to all those engaged in managing, operating and investing in Commercial Smart Buildings (and their Advisers) around the world. In particular those wishing to understand exactly how the Internet of Thing is impacting Commercial Real Estate will find it particularly useful.

The Global market for the Internet of Things in Smart Commercial Buildings (\$Bn, 2019–2025)

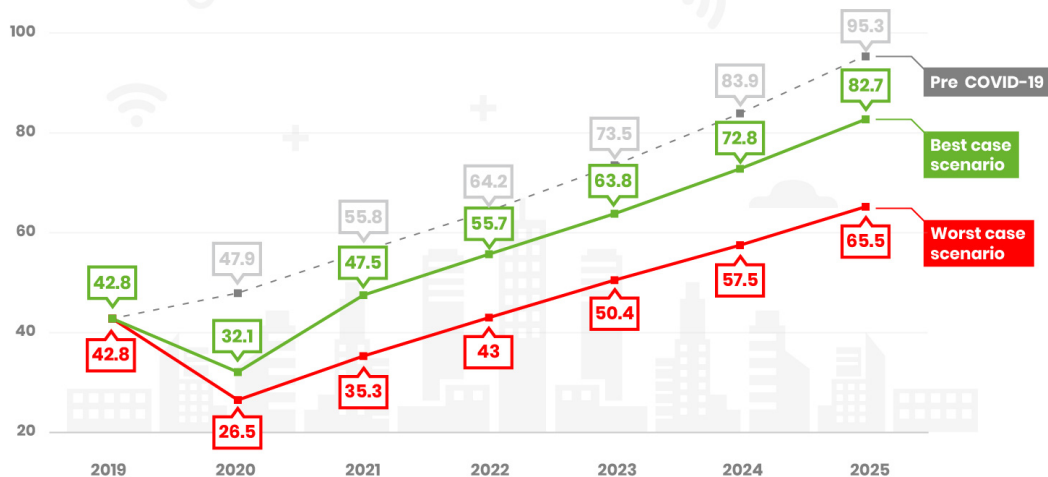


Table of Contents

Preface

Executive Summary

1. Key Elements of the IoT

- 1.1 Sensors & Connected Devices
- 1.2 Data Integration & Analytics
- 1.3 Data Processing (Cloud / Edge)
- 1.4 AI & Machine Learning

2. The Building Internet of Things (BloT)

- 2.1 Mapping the BloT
- 2.2 The BloT Supply Chain

3. The State of the Market to March 2020

- 3.1 IoT Device Projections
- 3.2 BloT Device Projections
- 3.3 Data Volumes
- 3.4 Market Adoption
- 3.5 BloT Solution Maturity
- 3.6 The Connectivity Landscape

4. Standards & Protocols

- 4.1 The Importance of Open Standards
- 4.2 Smart Building Protocols
- 4.3 Building Data Management & Metadata
- 4.4 Smart Building APIs

5. COVID-19 Market Impacts

- 5.1 Global Economic Impacts
- 5.2 Manufacturing & Supply Chain Impacts
- 5.3 Technology and Network Implications
- 5.4 An Increasing Cyber Threat
- 5.5 Ways of Working & Behavioral Change
- 5.6 Impacts on Building Usage & Demand

6. BloT Market Applications

- 6.1 Security & Access Control
- 6.2 Smart Operations & Maintenance
- 6.3 Occupancy Analytics & People Movement
- 6.4 Hygiene, Health & Wellness
- 6.5 Contactless Technologies
- 6.6 Air Quality & Environmental Control
- 6.7 Tenant Experience Apps
- 6.8 Robotics
- 6.9 AV, Wayfinding & Signage
- 6.10 Smart Lighting
- 6.11 Fire & Safety

7. Smart Building IoT Platforms

- 7.1 IoT Platforms
- 7.2 The Platform Ecosystem
- 7.3 BloT Platform Offerings

8. Vertical Market Analysis

- 8.1 Commercial Offices
- 8.2 Retail
- 8.3 Hospitality
- 8.4 Other Buildings
- 8.5 Real Estate Management & Proptech
- 8.6 New Buildings vs Existing Buildings

9. Global BloT Market Forecasts

- 9.1 COVID-19 Scenarios
- 9.2 Market Revenue Projections
- 9.3 Market Revenue by Hardware, Software & Services

10. BloT Market Analysis by Region

- 10.1 Regional Comparisons
- 10.2 North America
- 10.3 Latin America
- 10.4 Asia Pacific
- 10.5 Europe
- 10.6 Middle East & Africa

11. Market Drivers

- 11.1 Economic & Business Drivers
- 11.2 Technology Drivers
- 11.3 Energy Efficiency & Environmental Drivers
- 11.4 Health & Wellbeing Drivers
- 11.5 Policy & Regulatory Drivers

12. Market Barriers & Challenges

- 12.1 Cybersecurity & Data Privacy
- 12.2 Implementation Cost & ROI
- 12.3 Knowledge & Skills
- 12.4 Data Challenges
- 12.5 Cultural & Governance Challenges
- 12.6 Commissioning & Procurement Challenges

13. The BloT Competitive Landscape

- 13.1 The Competitive Landscape
- 13.2 Partnering & Strategic Alliances

List of Charts & Figures

Fig 1.1 – Leading Cloud Infrastructure Service Providers

Fig 1.2 – Leading Edge Computing Applications

Fig 2.1 – The Internet of Things in Smart Commercial Buildings 2020 v4.0

Fig 2.2 – The BloT Supply Chain

Fig 3.1 – Global IoT Device Projections (Bn)

Fig 3.2 – Installed Base of IoT Devices, Commercial Smart Buildings (2020 – 2025, Mn)

Fig 3.3 – Commercial Smart Building IoT Devices by Application (2020 – 2025, Mn)

Fig 3.4 – Commercial Smart Building IoT Devices by Region (2020 – 2025, Mn)

Fig 3.5 – Commercial Smart Building IoT Device Projections by Market Vertical (2020 – 2025)

Fig 3.6 – IoT Adoption Rates, % of Decision Makers in Adoption

Fig 3.7 – IoT Adoption Rates by Industry

Fig 3.8 – IoT Adoption Rates by Geographic Market

Fig 3.9 – IoT Project Failure Rates, % of Projects Failed in the Trial / POC Phase

Fig 3.10 – Smart Building Solution Maturity

Fig 5.1 – GDP Growth Forecasts from leading banks and economic consultancies (22nd March to 1st April 2020)

Fig 5.2 – Global Composite PMI (April 2019 – March 2020)

Fig 5.3 – COVID-19 Containment Measure Effects on GDP

Fig 5.4 – COVID-19 Containment Measure Effects on Relevant Market Sectors

Fig 5.5 – COVID-19 Tech Sector Impacts

Fig 5.6 – US Network Activity Increases in the Initial Weeks of the COVID-19 Pandemic

Fig 5.7 – Daily Property Sales in 30 Major Cities in China (% of 2019, units)

Fig 7.1 – IoT Platform Functionality

Fig 8.1 – Global Office Completions 2016 – 2020 (Mn Sq Ft)

Fig 8.2 – Flex Office Penetration (%)

Fig 8.3 – Hotel Occupancy Rates during the COVID-19 Pandemic

Fig 9.1 – The Global Market for the Internet of Things in Smart Commercial Buildings (\$Bn, 2019-2025)

Fig 9.2 – The Global Market for the Internet of Things in Smart Commercial Buildings: Best Case (\$Bn, 2019-2025)

Fig 9.3 – Fig 9.2 – The Global Market for the Internet of Things in Smart Commercial Buildings: Worst Case (\$Bn, 2019-2025)

Fig 9.4 – BloT Market Breakdown by Hardware, Software & Services (% of Total Market)

Fig 10.1 – The Market for the Internet of Things in Buildings by Region (2020-2025)

Fig 10.2 – US Consensus Construction Forecasts

Fig 10.3 – The Market for the Internet of Things in Smart Commercial Buildings – North America: Best Case (2019-2025, \$Bn)

Fig 10.4 – The Market for the Internet of Things in Smart Commercial Buildings – North America: Worst Case (2019-2025, \$Bn)

- Fig 10.5 – The Market for the Internet of Things in Smart Commercial Buildings – Latin America: Best Case (2019-2025, \$Bn)
Fig 10.6 – The Market for the Internet of Things in Smart Commercial Buildings – Latin America: Worst Case (2019-2025, \$Bn)
Fig 10.7 – The Market for the Internet of Things in Smart Commercial Buildings – Asia Pacific: Best Case (2019-2025, \$Bn)
Fig 10.8 – The Market for the Internet of Things in Smart Commercial Buildings – Asia Pacific: Worst Case (2019-2025, \$Bn)
Fig 10.9 – The Market for the Internet of Things in Smart Commercial Buildings – Europe: Best Case (2019-2025, \$Bn)
Fig 10.10 – The Market for the Internet of Things in Smart Commercial Buildings – Europe: Worst Case (2019-2025, \$Bn)
Fig 10.11 – The Market for the Internet of Things in Smart Commercial Buildings – The Middle East & Africa: Best Case (2019-2025, \$Bn)
Fig 10.12 – The Market for the Internet of Things in Smart Commercial Buildings – The Middle East & Africa: Worst Case (2019-2025, \$Bn)
- Fig 11.1 – Leading Drivers for IoT adoption
Fig 11.2 – Average IoT Sensor Costs 2004 – 2020, USD per Sensor
Fig 11.3 – Building Sector CO2 emissions, Gigatons
- Fig 12.1 – Leading IoT Challenges
Fig 12.2 – Smart Building Cybersecurity Attack Vectors

How to Order

The report is priced at \$1,995 USD for a Single User License, and ONLY \$2,250 USD for an Enterprise License. It is delivered as an electronic PDF download, via email.

To order, or if you require further information please contact;

Jim McHale - jim@memoori.com / +46 8 501 64 177

Alternatively you can order through our Website - <https://memoori.com/portfolio/the-internet-of-things-in-smart-commercial-buildings-2020-to-2025/>