

# CREATING SMART COMMERCIAL BUILDINGS WITH THE IOT

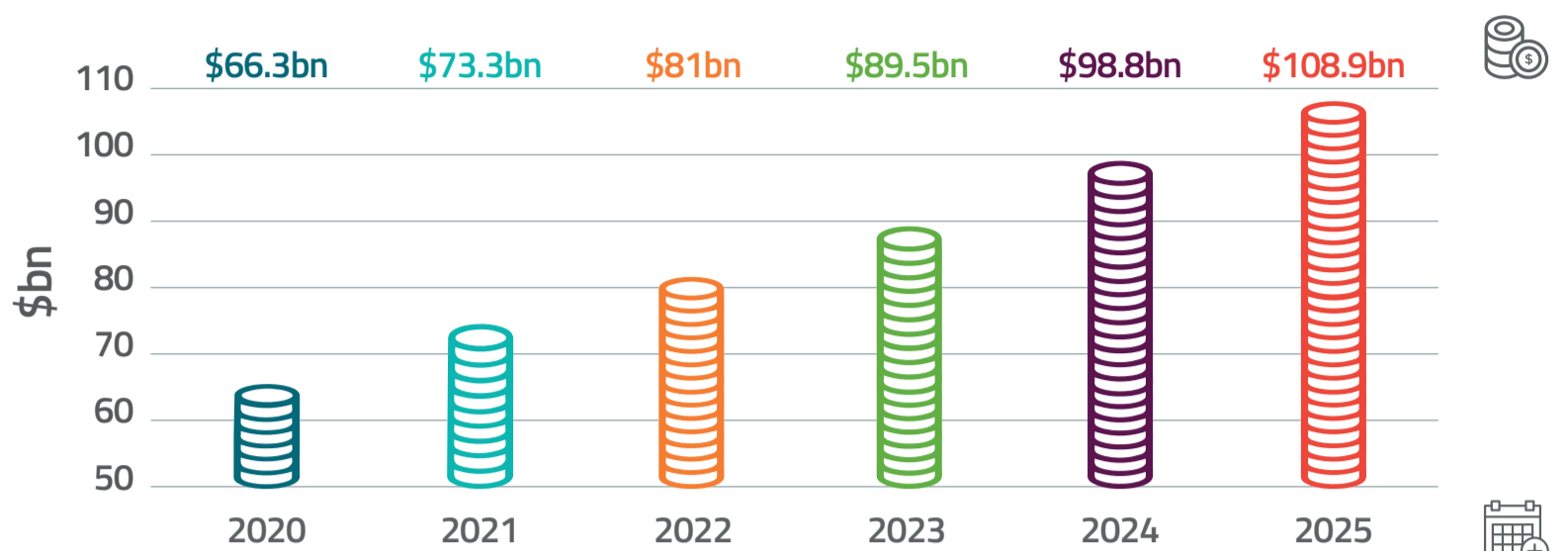


Buildings are more than just places to work. They have become business assets for companies, who must manage them for maximum productivity while minimizing cost. They are also playing a major role in the health of the overall environment. Commercial buildings account for 18% of US energy consumption overall.<sup>1</sup> Internet of Things (IoT) devices have improved efficiencies in many environments. Their ability to harvest data and send it back to a central point also makes them ideal for automating management in complex environments like commercial buildings.



## THE GLOBAL MARKET FOR SMART BUILDINGS

The connected market for smart buildings was worth **\$66.3 billion** in 2020, and is forecast to grow at an annual growth rate (CAGR) of 10.5% between 2020 and 2025.



Source: Markets and Markets

## There are many potential use-cases for the IoT in commercial buildings

### HVAC



IoT systems can automatically adjust temperatures in different rooms based on occupancy or usage.

### Lighting



IoT can monitor activity throughout the building and automatically dim or shut off lights when not needed.

### Security



Data can be relayed in real time, facilitating fast authentication and authorization and enabling facial recognition technology.

### Maintenance



Sensors can monitor equipment and predict when it is likely to fail or might need servicing.

### Improving working environments



IoT devices can track air quality and other environmental indicators to improve conditions for employees.

### Space management



IoT can help building designers to use space more efficiently, limiting crowds and congestion, or managing meeting rooms and desk occupancy.

## IoT challenges for smart commercial buildings

### Integration

Collecting and integrating data from a wide range of different equipment types.



Commercial buildings with a large number of connected devices face many challenges:

### Global management

Having to manage multiple different SIM vendors in different countries can be expensive and time consuming.



### Security

Ensuring that data is transmitted safely and protecting it from interception and tampering.



### Reliability

Keeping connections running reliably, especially for mission-critical building applications such as surveillance cameras and security alarms.



### Performance

Delivering data in real time where necessary, such as in access control situations where users need an instant response.

## SIERRA WIRELESS' SOLUTIONS

Sierra Wireless offers several products that combine to produce an end-to-end solution for smart buildings.

### Octave® the all-in-one platform for connecting IoT assets to the cloud

Sierra Wireless' Octave collects and connects building data to back-end management and analytics systems.



The Octave solution supports building automation, from data extractions at the edge sensor device, to data aggregation in the cloud.



It is a collection of technologies encompassing Sierra Wireless hardware, connectivity solutions, and cloud components to provide a fast, easy-to-use development and deployment platform for IoT projects.



Our solution sends data to AirVantage®, a management system that runs in Microsoft's Azure cloud service and enables building operators to collate and manage device telemetry across multiple buildings at once.

## Keep your devices connected anywhere in the world with smart connectivity

Sierra Wireless' Smart Connectivity solution allows you to simplify your IoT deployment and maximize your coverage, getting the benefits of a cellular solution without the technical or operational drawbacks.



### Global connectivity

Sierra Wireless' Smart Connectivity solution offers instant connectivity with over 600 partner networks in 190 countries.



### Geo-redundant network

If a single network fails in any location, then we can instantly switch to the next best available option, minimizing downtime.



### Worldwide SIM

Instead of having to manage multiple different SIMs with different vendors, our clients can connect all of their medical devices using a single uniform SIM that is not tied to a specific location or carrier.



### Network operations center

Our Global Network Operation Center (GNOC) works 24/7/365 to proactively prevent disruptions happening in the core network.



### Simplified management

Sierra Wireless' management platform provides a unified view of all of the devices and SIMs in your network, including third-party SIMs.

1. US Energy Information Administration, June 15, 2020. "How much energy is consumed in US buildings?" Available at: 2020 <https://www.eia.gov/tools/faqs/faq.php?id=86&t=1>. Accessed January 2021