

Internet of Things (IoT) Hardware - A Global Market Overview

<https://marketpublishers.com/r/I75F033F17EFEN.html>

Date: August 2025

Pages: 502

Price: US\$ 5,490.00 (Single User License)

ID: I75F033F17EFEN

Abstracts

Global Internet of Things (IoT) Hardware Market Trends and Outlook

The global Internet of Things (IoT) hardware market is witnessing rapid evolution as edge computing, AI integration, and industry-specific demands reshape its strategic role across digital infrastructure. Valued at approximately US\$262.1 billion in 2024, IoT hardware accounts for nearly 35% of total IoT spending, underscoring its critical position in enabling real-time, decentralized decision-making. Comprising sensors, secure modules, edge servers, storage, and embedded systems, these components serve as the interface between the physical world and digital platforms.

By 2030, the market is projected to reach US\$426.2 billion, registering a CAGR of 8.4% between 2024 and 2030. Growth is being driven by widespread adoption across manufacturing, utilities, transportation, and healthcare sectors. Trends such as AI-capable modules, secure edge hardware, and vertically tailored device ecosystems are fueling market expansion. Asia-Pacific leads the market both in size and momentum, while North America continues to innovate in secure, standards-driven deployments. SMEs are emerging as a key growth driver, embracing cost-effective and scalable hardware solutions tailored for their needs.

Major players in the global IoT hardware market include Intel, Qualcomm, Texas Instruments, STMicroelectronics, Bosch Sensortec, NXP Semiconductors, Renesas, Advantech, Huawei, and Murata, among others. These companies lead the ecosystem in sensor development, secure microcontrollers, edge computing modules, and domain-specific hardware innovations.

Internet of Things (IoT) Hardware Regional Market Analysis

Among all regions, Asia-Pacific dominates the global market with an estimated 35.5% share of global IoT hardware spending in 2024. This dominance is primarily attributed to robust deployments in China, India, Japan, and South Korea, driven by aggressive smart manufacturing initiatives, national digital infrastructure programs, and high adoption across utilities and transportation sectors. North America follows as the second-largest regional market, fueled by early enterprise adoption, edge-native infrastructure, and security-focused innovation in sectors such as healthcare, automotive, and energy. In terms of growth trajectory, Asia-Pacific is forecast to be the fastest-growing region, expanding at a CAGR of 11.1% between 2024 and 2030. This rapid growth is underpinned by government-backed smart city initiatives, 5G deployments, industrial IoT (IIoT) investments, and the emergence of edge-AI enabled modules tailored for local and vertical-specific needs.

Internet of Things (IoT) Hardware Market Analysis by Hardware Type

The IoT hardware market is led by the Modules & Sensors segment, accounting for 77% of the total market in 2024. This dominance is attributed to the pervasive use of smart sensors and connectivity modules in virtually every IoT deployment, from industrial automation and environmental monitoring to consumer electronics and smart cities. These components form the foundational layer of IoT infrastructure, capturing and transmitting real-time data from edge environments to cloud platforms. With strong demand across industrial, transportation, healthcare, and energy sectors, this segment will continue to anchor market value through the decade. However, the fastest-growing segment is Security Hardware, projected to expand at a CAGR of 12.3% between 2024 and 2030. The surge in demand for secure elements, TPMs, hardware encryption modules, and secure microcontrollers is being driven by increasing IoT security threats, privacy regulations, and the critical need for tamper-proof data integrity, especially in sectors like automotive, healthcare, finance, and critical infrastructure.

Internet of Things (IoT) Hardware Market Analysis by Application

In 2024, Predictive Maintenance is the largest application area for IoT hardware, contributing 19.3% of the global market. Its dominance is fueled by widespread adoption across industrial and manufacturing sectors, where downtime prevention, equipment longevity, and operational efficiency are critical. Sensor-driven hardware combined with edge intelligence enables real-time condition monitoring and fault detection across factories, logistics, energy plants, and transportation systems. Smart Metering emerges as the second-largest application. Utility providers across electricity, gas, and water

networks continue to deploy smart meters for remote diagnostics, usage-based billing, and grid optimization. Regulatory mandates and sustainability targets in developed and emerging markets alike are further accelerating smart metering installations. In terms of growth momentum, Smart Metering is also the fastest-growing segment, projected to expand at a CAGR of 10.5%. This growth is driven by government-backed smart grid rollouts, electrification trends, and rising demand for resource efficiency in cities and industrial parks.

Internet of Things (IoT) Hardware Market Analysis by Company Type

Large enterprises continue to represent the majority of IoT hardware spending, accounting for 68.5% of global market value. This dominance stems from their substantial investments in industrial automation, digital transformation, smart manufacturing, and infrastructure projects across sectors such as automotive, energy, utilities, and logistics. These organizations are integrating advanced edge hardware, AI-powered modules, and secure gateways to enhance real-time decision-making and resilience at scale. However, SMEs are the fastest-growing user group, projected to expand at a CAGR of 9.4% from 2024 to 2030. This acceleration is driven by the rising availability of affordable, plug-and-play IoT hardware solutions, combined with cloud-native platforms that reduce setup complexity and cost barriers. Key SME-led adoption areas include smart farming, remote asset monitoring, retail automation, and building management, particularly in Asia-Pacific and South America, where government-backed digitalization initiatives and startup ecosystems are flourishing.

Internet of Things (IoT) Hardware Market Analysis by Industry Sector

Manufacturing remains the leading vertical for IoT hardware investments, representing 24.9% of the global market in 2024. This leadership is reinforced by ongoing investments in Industry 4.0, predictive maintenance, machine condition monitoring, and factory automation across major economies. As industrial enterprises continue to scale digital twins, AI-driven production optimization, and real-time quality control, manufacturing will retain its central role in hardware consumption, reaching US\$99.1 billion by 2030 at a CAGR of 7.2%. Healthcare is projected to be the fastest-growing industry sector, advancing at a CAGR of 10.8% through 2030. This rapid expansion is driven by the proliferation of remote patient monitoring (RPM), connected medical devices, IoT-enabled diagnostics, and hospital asset tracking. The post-pandemic digital health boom and aging population trends have made IoT hardware essential in improving care delivery and operational efficiency.

Internet of Things (IoT) Hardware Market Report Scope

This global report on Internet of Things (IoT) Hardware market analyzes the global and regional market based on Hardware Type, Application, Company Type and Industry Sector for the period 2021-2030 with forecasts from 2024 to 2030 in terms of value in US\$. In addition to providing profiles of major companies operating in this space, the latest corporate and industrial developments have been covered to offer a clear panorama of how and where the market is progressing.

Key Metrics

Historical Period: 2021-2024

Base Year: 2024

Forecast Period: 2024-2030

Units: Value market in US\$

Companies Mentioned: 35+

Internet of Things (IoT) Hardware Market by Geographic Region

North America (The United States, Canada and Mexico)

Europe (Germany, the United Kingdom, France, Italy, the Netherlands, Spain, Russia, Switzerland and Rest of Europe)

Asia-Pacific (China, Japan, India, Australia, Singapore, South Korea and Rest of Asia-Pacific)

South America (Brazil, Argentina, Colombia, Chile, Peru and Rest of South America)

Middle East & Africa (the United Arab Emirates, South Africa, Egypt, Saudi Arabia, Morocco, Kuwait, Qatar and Rest of Middle East & Africa)

Internet of Things (IoT) Hardware Market by Hardware Type

Modules & Sensors

Security Hardware

Servers

Storage

Other Hardware Types

Internet of Things (IoT) Hardware Market by Application

Predictive Maintenance

Smart Metering

Asset Tracking

Remote Monitoring

Smart Buildings

Smart Cities

Other Applications

Internet of Things (IoT) Hardware Market by Company Type

Large Enterprises

SMEs

Internet of Things (IoT) Hardware Market by Industry Sector

Manufacturing

Utilities

Transportation

Retail

Healthcare

Government & Public

Cross-industry

Other Industry Sectors

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Dell Technologies
Dragino
Emerson Electric
Espressif Systems
FOSSA Systems
Garmin
Honeywell
HPE
Infineon Technologies
Libelium
Lumotive
MediaTek
Microchip Technology
Murata Manufacturing
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Security Hardware

Servers

Storage

Other Hardware Types

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Predictive Maintenance

Smart Metering

Asset Tracking

Remote Monitoring

Smart Buildings

Smart Cities

Other Applications

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Utilities

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PART D: ANNEXURE

RESEARCH METHODOLOGY
FEEDBACK

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