

# **Industrial IoT Market Report by Component (Hardware, Software, Services, Connectivity), End User (Manufacturing, Energy and Utilities, Automotive and Transportation, Healthcare, and Others), and Region 2024-2032**

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## **Abstracts**

The global Industrial Internet of things (IIoT) market size reached US\$ 255.3 Billion in 2023. Looking forward, IMARC Group expects the market to reach US\$ 806.0 Billion by 2032, exhibiting a growth rate (CAGR) of 13.2% during 2024-2032. The rising demand for connected devices, the increasing utilization of IoT across different industry verticals, and the introduction of advanced technologies in manufacturing semiconductors and electrical appliances are some of the major factors propelling the market.

Industrial Internet of Things (IIoT), often referred to as Industrial IoT, is a transformative technological concept that involves the integration of Internet of Things (IoT) technologies into industrial and manufacturing processes. It extends the principles of IoT, which connect everyday objects and devices to the internet to gather and share data, to industrial settings and machinery. IIoT systems use advanced connectivity technologies, including Wi-Fi, cellular networks, Bluetooth, and low-power wide-area networks (LPWAN), to transmit data from sensors to central platforms for analysis. The primary objective of IIoT is to improve efficiency, productivity, and safety in industries such as manufacturing, energy, transportation, healthcare, and more.

The market is experiencing a significant boost due to several key factors. One of the primary drivers is the rapid urbanization and industrialization occurring worldwide, accompanied by a growing global population that is fueling the demand for connected devices. Additionally, the widespread adoption of the Internet of Things (IoT) across various industry sectors, including transportation, oil and gas, retail, and infrastructure,

is contributing positively to market growth. Moreover, the manufacturing industry is embracing AI and IoT technologies for applications like predictive maintenance, early warnings, optimizing production processes, and enhancing quality control. Furthermore, continuous advancements in semiconductor manufacturing and electrical appliances are making significant contributions to the market's expansion. Besides, the utilization of cloud computing platforms and the standardization of IPv6 are further driving market growth by providing scalable and efficient solutions. Additionally, industry players are increasing their investments in extensive research and development (R&D) activities to stay at the forefront of technological advancements, which is expected to further propel the market's growth.

#### Industrial IoT Market Trends/Drivers:

##### Escalating demand for connected devices

As industries and businesses seek to enhance their operational efficiency and gather more data for informed decision-making, there is a growing need for interconnected devices and sensors. These devices enable real-time data collection, sharing, and analysis, leading to improved productivity and cost savings. Besides, IIoT allows for remote monitoring and control of industrial equipment and systems. This capability reduces the need for on-site inspections and manual interventions, leading to cost savings and improved safety, especially in hazardous environments. Moreover, IIoT complements the trend of automation in industrial processes. The integration of connected devices with automation systems enhances overall efficiency by minimizing human intervention and enabling processes to run autonomously.

##### Increasing utilization of IoT across different industry verticals

IoT devices in various industry sectors, such as manufacturing, energy, healthcare, and transportation, are continuously collecting vast amounts of data from sensors and connected devices. This data includes information about equipment performance, environmental conditions, product quality, and more. The integration of IoT into these verticals enables businesses to gather real-time data, providing valuable insights for decision-making and process optimization. Moreover, IoT devices are used to automate and control industrial processes. This automation leads to increased efficiency and accuracy in production, as well as reduced human intervention. IIoT enables remote monitoring and control of equipment and processes, enhancing operational control and flexibility. IoT sensors and connected systems are used to monitor and manage energy consumption in industrial facilities. This leads to energy savings by identifying opportunities to optimize energy usage, reduce waste, and implement more efficient

energy management practices, which is propelling the market.

Introduction of advanced technologies in manufacturing semiconductors and electrical appliances

Advanced semiconductor manufacturing techniques have led to the development of more precise and efficient sensors. These sensors can collect data with higher accuracy and at a faster rate, which is crucial for IIoT applications. For instance, in smart manufacturing, precise sensors can monitor equipment performance and detect anomalies in real time, enabling predictive maintenance and reducing downtime. Besides, semiconductors are now being designed with built-in IoT capabilities. These IoT chips can be embedded into various electrical appliances and industrial equipment, allowing them to connect to the internet and share data seamlessly. This integration simplifies the deployment of IIoT solutions, making them more accessible to manufacturers. Moreover, advanced semiconductor technologies enable better connectivity options, including low-power wireless communication protocols like Bluetooth Low Energy (BLE) and Zigbee. These technologies facilitate the creation of IoT networks within industrial environments, ensuring reliable and efficient data transmission between devices.

Industrial IoT Industry Segmentation:

IMARC Group provides an analysis of the key trends in each segment of the global industrial IoT market report, along with forecasts at the global and regional levels for 2024-2032. Our report has categorized the market based on component and end user.

Breakup by Component:

Hardware

Software

Services

Connectivity

Hardware represents the most used component

The report has provided a detailed breakup and analysis of the market based on the component. This includes hardware, software, services, and connectivity. According to the report, hardware components represented the largest segment.

Hardware components include a wide range of sensors and devices that are essential for collecting data from the physical world. These sensors can monitor various

parameters such as temperature, pressure, humidity, vibration, and more. They serve as the eyes and ears of IIoT systems, capturing real-world data that is crucial for monitoring and controlling industrial processes. Moreover, they provide the means for connectivity in IIoT. This includes communication modules, such as Wi-Fi, cellular, Bluetooth, and LPWAN, that enable data transmission from sensors to central processing units or cloud platforms. Besides, IIoT hardware includes processing units, microcontrollers, and edge computing devices that can perform initial data analysis and preprocessing. This capability is vital for reducing latency and ensuring timely decision-making, especially in applications where real-time responses are critical.

#### Breakup by End User:

Manufacturing

Energy and Utilities

Automotive and Transportation

Healthcare

Others

Manufacturing industry accounts for the majority of market share

A detailed breakup and analysis of the market based on the end user has also been provided in the report. This includes manufacturing, energy and utilities, automotive and transportation, healthcare, and others. According to the report, the manufacturing industry represented the largest segment.

Manufacturing processes are inherently complex, involving various machines, equipment, and production lines. IIoT technology can seamlessly connect and monitor these components, making it highly beneficial for optimizing production efficiency, reducing downtime, and enhancing overall productivity. Besides, IIoT solutions enable predictive maintenance, allowing manufacturers to identify and address equipment issues before they lead to costly breakdowns. This results in reduced maintenance costs, minimized production disruptions, and improved resource allocation. Moreover, quality control is critical in manufacturing to ensure that products meet industry standards and customer expectations. IIoT sensors and data analytics help in real-time quality monitoring, enabling immediate adjustments and reducing defective product output.

#### Breakup by Region:Hardware

Software

## Services Connectivity

Hardware represents the most used component

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## Breakup by End User:

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Others

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#### Breakup by Region:

North America

Europe

Asia Pacific

Middle East and Africa

Latin America

Europe exhibits a clear dominance in the market

The market research report has also provided a comprehensive analysis of all the major regional markets, which North America, Asia Pacific, Latin America, and the Middle East and Africa. According to the report, Europe accounted for the largest market share.

Europe has a robust and diverse industrial base, encompassing manufacturing, automotive, aerospace, healthcare, and more. This strong industrial presence creates a substantial demand for IIoT solutions to enhance efficiency, productivity, and competitiveness. Moreover, European countries have a long history of innovation and investment in technology. Governments and industries in Europe have been at the forefront of adopting emerging technologies like IIoT to maintain a competitive edge in the global market. Besides, the region has implemented regulations and standards that promote the adoption of IIoT for various purposes, including environmental monitoring, energy efficiency, and safety. These regulations drive the demand for IIoT solutions that help companies comply with these standards.

#### Competitive Landscape:

The competitive landscape of the market is characterized by the presence of multiple players that include established brands, emerging startups, and specialty manufacturers. Presently, leading companies are expanding their product and service offerings to cater to a broader range of industries and applications. This includes



developing specialized IIoT solutions for sectors like manufacturing, energy, healthcare, and logistics. They are also forming strategic partnerships and alliances with other technology companies, system integrators, and industry-specific organizations. These collaborations help create comprehensive IIoT ecosystems and provide customers with end-to-end solutions. Moreover, companies are allocating significant resources to R&D efforts to develop cutting-edge IIoT technologies, including advanced sensors, communication protocols, and analytics capabilities.

The market research report has provided a comprehensive analysis of the competitive landscape in the market. Detailed profiles of all major companies have also been provided. Some of the key players in the market include:

Cisco Systems, Inc.  
General Electric  
Honeywell International Inc.  
Intel Corporation  
International Business Machines Corporation  
ABB Group  
Rockwell Automation  
Siemens AG  
Huawei Technologies Co., Ltd.  
Bosch  
KUKA Robotics  
Texas Instruments Incorporated  
Dassault Systèmes SE  
PTC  
Arm Limited  
NEC Corporation.

#### Recent Developments:

In February 2023, Cisco Systems added new products to its cloud tools to provide further visibility and control over networks. The new cloud management tools are designed for industrial IoT (IIoT) apps to simplify IT and OT operations dashboards and provide flexible network intelligence for industrial assets.

In June 2020, Intel Corporation in partnership with Nebbiolo for edge computing software, helped German automaker Audi automate and enhance critical quality-control processes in its factories.

In October 2020, Honeywell International partnered with Microsoft to integrate the Honeywell Forge industrial analytics platform with the Dynamics 365 Field Service offering and Azure

## Key Questions Answered in This Report

1. What was the size of the global industrial IOT market in 2023?
2. What is the expected growth rate of the global industrial IOT market during 2024-2032?
3. What are the key factors driving the global industrial IOT market?
4. What has been the impact of COVID-19 on the global industrial IOT market?
5. What is the breakup of the global industrial IOT market based on the component?
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7. What are the key regions in the global industrial IOT market?
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