

Industrial IoT Sensors Market Forecasts to 2034 – Global Analysis By Sensor Type (Temperature Sensors, Pressure Sensors, Proximity and Position Sensors, Vibration and Motion Sensors, Humidity and Gas Sensors, Flow Sensors, and Optical and Imaging Sensors), Connectivity, Deployment, Application, End User, and By Geography

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Abstracts

According to Statistics MRC, the Global Industrial IoT Sensors Market is accounted for \$27.9 billion in 2026 and is expected to reach \$69.2 billion by 2034 growing at a CAGR of 12.0% during the forecast period. Industrial IoT sensors are devices that collect and transmit data from machines, equipment, and environments in industrial settings. They measure variables such as temperature, pressure, vibration, and energy usage. Connected through networks, they enable real-time monitoring, predictive maintenance, and process optimization. These sensors help reduce downtime, improve safety, and enhance productivity by providing actionable insights. Their role is central to smart manufacturing, where data-driven decisions drive efficiency and innovation. They are the backbone of Industry 4.0, transforming traditional factories into intelligent systems.

Driver:

Accelerating industrial automation adoption

Accelerating industrial automation adoption is significantly propelling growth in the Industrial IoT Sensors Market. Manufacturing facilities are increasingly integrating sensor-enabled systems to enhance operational visibility and process optimization. Driven by Industry 4.0 initiatives, real-time data acquisition and machine connectivity

are becoming strategic priorities. Additionally, demand for improved asset utilization and reduced downtime is strengthening sensor deployment across production lines. Smart factories are leveraging IoT-enabled sensing technologies to enable autonomous decision-making. Consequently, automation-driven digital transformation continues to reinforce sustained market expansion.

Restraint:

Interoperability challenges across platforms

Interoperability challenges across platforms remain a critical constraint within the market ecosystem. Industrial environments often operate heterogeneous legacy systems that lack standardized communication protocols. Moreover, integrating sensors with diverse cloud architectures and edge computing frameworks increases deployment complexity. Compatibility issues can extend implementation timelines and elevate integration costs. This fragmentation may discourage small and mid-sized enterprises from rapid adoption. Therefore, platform standardization gaps moderate seamless scalability across industrial networks.

Opportunity:

Predictive maintenance analytics deployment

Predictive maintenance analytics deployment presents a substantial growth opportunity. IoT sensors generate continuous performance data that can be leveraged for failure prediction and condition monitoring. Spurred by increasing focus on minimizing unplanned downtime, industries are investing in advanced analytics-driven maintenance models. Integration with AI-powered diagnostic platforms enhances equipment lifecycle optimization. Additionally, data-driven insights improve operational efficiency and cost savings. Consequently, predictive maintenance integration is unlocking high-value enterprise applications.

Threat:

Increasing industrial cybersecurity threats

Increasing industrial cybersecurity threats pose a significant external risk. As sensor networks expand connectivity across production systems, vulnerability to cyberattacks intensifies. Data breaches and ransomware incidents can disrupt critical infrastructure

operations. Furthermore, inadequate security protocols may compromise sensitive industrial data. Compliance requirements for cybersecurity frameworks add to operational complexity. Therefore, escalating threat landscapes create persistent challenges for secure IoT sensor deployment.

Covid-19 Impact:

The COVID-19 pandemic initially disrupted global manufacturing operations and supply chains, delaying sensor installations. However, remote monitoring requirements surged as workforce limitations restricted on-site supervision. Industrial operators increasingly adopted IoT sensors to maintain production continuity with minimal physical presence. Additionally, accelerated digitalization strategies during recovery phases strengthened automation investments. Governments also emphasized resilient industrial infrastructure modernization. Consequently, the pandemic reinforced long-term demand for connected sensing technologies.

The temperature sensors segment is expected to be the largest during the forecast period

The temperature sensors segment is expected to account for the largest market share during the forecast period, driven by extensive utilization across manufacturing, energy, and process industries. Temperature monitoring remains fundamental for equipment safety and quality control. Furthermore, demand for precise thermal management in industrial machinery strengthens deployment volumes. Integration with automation platforms enhances real-time process optimization. Continuous advancements in accuracy and durability further support segment dominance. Consequently, temperature sensors maintain leading revenue contribution.

The wired sensors segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the wired sensors segment is predicted to witness the highest growth rate, supported by reliability and stable data transmission capabilities. Wired configurations are preferred in mission-critical industrial environments requiring minimal signal interference. Additionally, enhanced bandwidth capacity improves high-frequency data communication. Industries prioritizing cybersecurity often favor wired infrastructure for secure connectivity. Growing investment in large-scale industrial automation projects further drives adoption. Therefore, infrastructure reliability is propelling accelerated CAGR expansion.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, supported by advanced automation infrastructure and strong Industry 4.0 adoption. The presence of leading industrial technology providers strengthens regional competitiveness. Moreover, high capital expenditure on smart manufacturing accelerates sensor deployment. Robust digital connectivity frameworks enhance IoT integration capabilities. Favorable regulatory support for industrial modernization further sustains growth. Consequently, North America maintains dominant regional positioning.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, driven by rapid industrialization and expanding manufacturing capacity. Emerging economies are investing heavily in automation and smart factory initiatives. Additionally, increasing foreign direct investment in electronics and automotive sectors strengthens sensor demand. Government-backed digital transformation programs further accelerate adoption. Rising infrastructure development enhances connectivity networks. Therefore, Asia Pacific is projected to emerge as the fastest-growing regional market.

Key players in the market

Some of the key players in Industrial IoT Sensors Market include Siemens AG, ABB Ltd., Honeywell International Inc., Schneider Electric SE, Emerson Electric Co., Rockwell Automation, Inc., Bosch Sensortec GmbH, STMicroelectronics N.V., Texas Instruments Incorporated, NXP Semiconductors N.V., TE Connectivity Ltd., Endress+Hauser Group, Omron Corporation, Pepperl+Fuchs SE, SICK AG, Banner Engineering Corp., Infineon Technologies AG, and Murata Manufacturing Co., Ltd.

Key Developments:

In February 2026, Emerson expanded its industrial sensor portfolio with wireless vibration and pressure monitoring systems. These solutions enable predictive maintenance, improve asset reliability, and support digital transformation initiatives in heavy industries such as power generation and petrochemicals.

In January 2025, ABB unveiled a cloud-enabled automation suite featuring advanced

industrial sensors. The system provides real-time data analytics, remote diagnostics, and adaptive control, enabling manufacturers to improve efficiency, reduce downtime, and optimize production workflows.

In December 2025, Honeywell launched next-generation connected sensors for industrial safety and process optimization. These smart devices integrate with Honeywell Forge, offering predictive insights, compliance monitoring, and enhanced worker safety in oil, gas, and chemical manufacturing environments.

Sensor Types Covered:

Temperature Sensors

Pressure Sensors

Proximity and Position Sensors

Vibration and Motion Sensors

Humidity and Gas Sensors

Flow Sensors

Optical and Imaging Sensors

Connectivities Covered:

Wired Sensors

Wireless Sensors

Bluetooth and BLE-Enabled Sensors

Wi-Fi Enabled Sensors

LPWAN-Based Sensors

5G-Enabled Industrial Sensors

Deployments Covered:

- On-Premise Monitoring Systems
- Cloud-Integrated IoT Platforms
- Edge-Based Sensor Networks
- Smart Factory Installations
- Retrofit Sensor Solutions
- New Industrial Infrastructure Projects

Applications Covered:

- Predictive Maintenance
- Process Automation
- Asset Tracking and Monitoring
- Energy Management
- Quality Control and Inspection
- Safety and Environmental Monitoring

End Users Covered:

- Manufacturing
- Oil and Gas
- Energy and Utilities

Automotive

Chemical and Petrochemical

Food and Beverage

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

Rest of the World (RoW)

Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

Africa

South Africa

Egypt

Morocco

Rest of Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

Contents

1 EXECUTIVE SUMMARY

- 1.1 Market Snapshot and Key Highlights
- 1.2 Growth Drivers, Challenges, and Opportunities
- 1.3 Competitive Landscape Overview
- 1.4 Strategic Insights and Recommendations

2 RESEARCH FRAMEWORK

- 2.1 Study Objectives and Scope
- 2.2 Stakeholder Analysis
- 2.3 Research Assumptions and Limitations
- 2.4 Research Methodology
 - 2.4.1 Data Collection (Primary and Secondary)
 - 2.4.2 Data Modeling and Estimation Techniques
 - 2.4.3 Data Validation and Triangulation
 - 2.4.4 Analytical and Forecasting Approach

3 MARKET DYNAMICS AND TREND ANALYSIS

- 3.1 Market Definition and Structure
- 3.2 Key Market Drivers
- 3.3 Market Restraints and Challenges
- 3.4 Growth Opportunities and Investment Hotspots
- 3.5 Industry Threats and Risk Assessment
- 3.6 Technology and Innovation Landscape
- 3.7 Emerging and High-Growth Markets
- 3.8 Regulatory and Policy Environment
- 3.9 Impact of COVID-19 and Recovery Outlook

4 COMPETITIVE AND STRATEGIC ASSESSMENT

- 4.1 Porter's Five Forces Analysis
 - 4.1.1 Supplier Bargaining Power
 - 4.1.2 Buyer Bargaining Power
 - 4.1.3 Threat of Substitutes
 - 4.1.4 Threat of New Entrants

- 4.1.5 Competitive Rivalry
- 4.2 Market Share Analysis of Key Players
- 4.3 Product Benchmarking and Performance Comparison

5 GLOBAL INDUSTRIAL IOT SENSORS MARKET, BY SENSOR TYPE

- 5.1 Temperature Sensors
- 5.2 Pressure Sensors
- 5.3 Proximity and Position Sensors
- 5.4 Vibration and Motion Sensors
- 5.5 Humidity and Gas Sensors
- 5.6 Flow Sensors
- 5.7 Optical and Imaging Sensors

6 GLOBAL INDUSTRIAL IOT SENSORS MARKET, BY CONNECTIVITY

- 6.1 Wired Sensors
- 6.2 Wireless Sensors
- 6.3 Bluetooth and BLE-Enabled Sensors
- 6.4 Wi-Fi Enabled Sensors
- 6.5 LPWAN-Based Sensors
- 6.6 5G-Enabled Industrial Sensors

7 GLOBAL INDUSTRIAL IOT SENSORS MARKET, BY DEPLOYMENT

- 7.1 On-Premise Monitoring Systems
- 7.2 Cloud-Integrated IoT Platforms
- 7.3 Edge-Based Sensor Networks
- 7.4 Smart Factory Installations
- 7.5 Retrofit Sensor Solutions
- 7.6 New Industrial Infrastructure Projects

8 GLOBAL INDUSTRIAL IOT SENSORS MARKET, BY APPLICATION

- 8.1 Predictive Maintenance
- 8.2 Process Automation
- 8.3 Asset Tracking and Monitoring
- 8.4 Energy Management
- 8.5 Quality Control and Inspection

8.6 Safety and Environmental Monitoring

9 GLOBAL INDUSTRIAL IOT SENSORS MARKET, BY END USER

9.1 Manufacturing

9.2 Oil and Gas

9.3 Energy and Utilities

9.4 Automotive

9.5 Chemical and Petrochemical

9.6 Food and Beverage

10 GLOBAL INDUSTRIAL IOT SENSORS MARKET, BY GEOGRAPHY

10.1 North America

10.1.1 United States

10.1.2 Canada

10.1.3 Mexico

10.2 Europe

10.2.1 United Kingdom

10.2.2 Germany

10.2.3 France

10.2.4 Italy

10.2.5 Spain

10.2.6 Netherlands

10.2.7 Belgium

10.2.8 Sweden

10.2.9 Switzerland

10.2.10 Poland

10.2.11 Rest of Europe

10.3 Asia Pacific

10.3.1 China

10.3.2 Japan

10.3.3 India

10.3.4 South Korea

10.3.5 Australia

10.3.6 Indonesia

10.3.7 Thailand

10.3.8 Malaysia

10.3.9 Singapore

- 10.3.10 Vietnam
- 10.3.11 Rest of Asia Pacific
- 10.4 South America
 - 10.4.1 Brazil
 - 10.4.2 Argentina
 - 10.4.3 Colombia
 - 10.4.4 Chile
 - 10.4.5 Peru
 - 10.4.6 Rest of South America
- 10.5 Rest of the World (RoW)
 - 10.5.1 Middle East
 - 10.5.1.1 Saudi Arabia
 - 10.5.1.2 United Arab Emirates
 - 10.5.1.3 Qatar
 - 10.5.1.4 Israel
 - 10.5.1.5 Rest of Middle East
 - 10.5.2 Africa
 - 10.5.2.1 South Africa
 - 10.5.2.2 Egypt
 - 10.5.2.3 Morocco
 - 10.5.2.4 Rest of Africa

11 STRATEGIC MARKET INTELLIGENCE

- 11.1 Industry Value Network and Supply Chain Assessment
- 11.2 White-Space and Opportunity Mapping
- 11.3 Product Evolution and Market Life Cycle Analysis
- 11.4 Channel, Distributor, and Go-to-Market Assessment

12 INDUSTRY DEVELOPMENTS AND STRATEGIC INITIATIVES

- 12.1 Mergers and Acquisitions
- 12.2 Partnerships, Alliances, and Joint Ventures
- 12.3 New Product Launches and Certifications
- 12.4 Capacity Expansion and Investments
- 12.5 Other Strategic Initiatives

13 COMPANY PROFILES

- 13.1 Siemens AG
- 13.2 ABB Ltd.
- 13.3 Honeywell International Inc.
- 13.4 Schneider Electric SE
- 13.5 Emerson Electric Co.
- 13.6 Rockwell Automation, Inc.
- 13.7 Bosch Sensortec GmbH
- 13.8 STMicroelectronics N.V.
- 13.9 Texas Instruments Incorporated
- 13.10 NXP Semiconductors N.V.
- 13.11 TE Connectivity Ltd.
- 13.12 Endress+Hauser Group
- 13.13 Omron Corporation
- 13.14 Pepperl+Fuchs SE
- 13.15 SICK AG
- 13.16 Banner Engineering Corp.
- 13.17 Infineon Technologies AG
- 13.18 Murata Manufacturing Co., Ltd.

List Of Tables

LIST OF TABLES

Table 1 Global Industrial IoT Sensors Market Outlook, By Region (2023-2034) (\$MN)

Table 2 Global Industrial IoT Sensors Market Outlook, By Sensor Type (2023-2034) (\$MN)

Table 3 Global Industrial IoT Sensors Market Outlook, By Temperature Sensors (2023-2034) (\$MN)

Table 4 Global Industrial IoT Sensors Market Outlook, By Pressure Sensors (2023-2034) (\$MN)

Table 5 Global Industrial IoT Sensors Market Outlook, By Proximity and Position Sensors (2023-2034) (\$MN)

Table 6 Global Industrial IoT Sensors Market Outlook, By Vibration and Motion Sensors (2023-2034) (\$MN)

Table 7 Global Industrial IoT Sensors Market Outlook, By Humidity and Gas Sensors (2023-2034) (\$MN)

Table 8 Global Industrial IoT Sensors Market Outlook, By Flow Sensors (2023-2034) (\$MN)

Table 9 Global Industrial IoT Sensors Market Outlook, By Optical and Imaging Sensors (2023-2034) (\$MN)

Table 10 Global Industrial IoT Sensors Market Outlook, By Connectivity (2023-2034) (\$MN)

Table 11 Global Industrial IoT Sensors Market Outlook, By Wired Sensors (2023-2034) (\$MN)

Table 12 Global Industrial IoT Sensors Market Outlook, By Wireless Sensors (2023-2034) (\$MN)

Table 13 Global Industrial IoT Sensors Market Outlook, By Bluetooth and BLE-Enabled Sensors (2023-2034) (\$MN)

Table 14 Global Industrial IoT Sensors Market Outlook, By Wi-Fi Enabled Sensors (2023-2034) (\$MN)

Table 15 Global Industrial IoT Sensors Market Outlook, By LPWAN-Based Sensors (2023-2034) (\$MN)

Table 16 Global Industrial IoT Sensors Market Outlook, By 5G-Enabled Industrial Sensors (2023-2034) (\$MN)

Table 17 Global Industrial IoT Sensors Market Outlook, By Deployment (2023-2034) (\$MN)

Table 18 Global Industrial IoT Sensors Market Outlook, By On-Premise Monitoring Systems (2023-2034) (\$MN)

Table 19 Global Industrial IoT Sensors Market Outlook, By Cloud-Integrated IoT Platforms (2023-2034) (\$MN)

Table 20 Global Industrial IoT Sensors Market Outlook, By Edge-Based Sensor Networks (2023-2034) (\$MN)

Table 21 Global Industrial IoT Sensors Market Outlook, By Smart Factory Installations (2023-2034) (\$MN)

Table 22 Global Industrial IoT Sensors Market Outlook, By Retrofit Sensor Solutions (2023-2034) (\$MN)

Table 23 Global Industrial IoT Sensors Market Outlook, By New Industrial Infrastructure Projects (2023-2034) (\$MN)

Table 24 Global Industrial IoT Sensors Market Outlook, By Application (2023-2034) (\$MN)

Table 25 Global Industrial IoT Sensors Market Outlook, By Predictive Maintenance (2023-2034) (\$MN)

Table 26 Global Industrial IoT Sensors Market Outlook, By Process Automation (2023-2034) (\$MN)

Table 27 Global Industrial IoT Sensors Market Outlook, By Asset Tracking and Monitoring (2023-2034) (\$MN)

Table 28 Global Industrial IoT Sensors Market Outlook, By Energy Management (2023-2034) (\$MN)

Table 29 Global Industrial IoT Sensors Market Outlook, By Quality Control and Inspection (2023-2034) (\$MN)

Table 30 Global Industrial IoT Sensors Market Outlook, By Safety and Environmental Monitoring (2023-2034) (\$MN)

Table 31 Global Industrial IoT Sensors Market Outlook, By End User (2023-2034) (\$MN)

Table 32 Global Industrial IoT Sensors Market Outlook, By Manufacturing (2023-2034) (\$MN)

Table 33 Global Industrial IoT Sensors Market Outlook, By Oil and Gas (2023-2034) (\$MN)

Table 34 Global Industrial IoT Sensors Market Outlook, By Energy and Utilities (2023-2034) (\$MN)

Table 35 Global Industrial IoT Sensors Market Outlook, By Automotive (2023-2034) (\$MN)

Table 36 Global Industrial IoT Sensors Market Outlook, By Chemical and Petrochemical (2023-2034) (\$MN)

Table 37 Global Industrial IoT Sensors Market Outlook, By Food and Beverage (2023-2034) (\$MN)

Note: Tables for North America, Europe, APAC, South America, and Rest of the World

(RoW) Regions are also represented in the same manner as above.

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