

## **Industrial Sensors - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)**

Market Report | 2025-06-01 | 174 pages | Mordor Intelligence

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### **Report description:**

Industrial Sensors Market Analysis

The industrial sensors market reached USD 27.5 billion in 2025 and is forecast to advance to USD 42.9 billion by 2030, delivering a 9.3% CAGR. Strong demand stems from rising factory digitalization, deeper penetration of edge-ready devices, and wider availability of open communications protocols that simplify system integration. Manufacturers view dense sensor networks as the "eyes and ears" of automated operations, enabling faster decisions on the shop floor without routing all data to the cloud. Energy-intensive sectors now deploy granular sensing to comply with tightening decarbonization mandates, while brown-field plants accelerate IO-Link retrofits to unlock asset-health data. On the technology front, in-sensor AI and multi-protocol connectivity are redefining the industrial sensors market, enhancing responsiveness and resilience in mission-critical environments.

Global Industrial Sensors Market Trends and Insights

Industry 4.0 / IIoT Adoption Surge

Manufacturers under competitive pressure to digitize operations keep fueling an upswing in the industrial sensors market. Dense sensor grids underpin IIoT architectures that collect real-time data on temperature, pressure, and flow, transforming previously disconnected machines into intelligent assets. Edge computing spend is projected to rise steeply as plants shift analytics closer to the process, trimming latency and easing cloud bandwidth demands. The trend is pronounced in Asia-Pacific where China's

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smart-factory mandates and Japan's automation leadership accelerate sensor uptake.

#### Predictive Maintenance & Remote Monitoring Demand

Data-driven maintenance strategies are gaining traction because early fault detection curbs costly downtime. Facilities deploying vibration, thermal, and acoustic sensors coupled with edge AI models achieve prediction accuracies above 90% while lowering network traffic. Process industries value these capabilities due to stringent safety requirements, yet ROI calculations must account for integration work and organizational change.

#### High Capex and Integration Complexity

Small and mid-size enterprises often face total project costs three to four times higher than the bill of materials once network upgrades, middleware, and integration services are included. Retrofitting legacy MES and ERP platforms to accommodate heterogeneous sensor outputs prolongs implementation and demands specialist talent.

Other drivers and restraints analyzed in the detailed report include:

Robot-centric Smart-factory Expansion / Cyber-security Vulnerabilities of Networked Sensors /

For complete list of drivers and restraints, kindly check the Table Of Contents.

#### Segment Analysis

Level sensors accounted for 18.4% of 2024 revenue, anchoring the industrial sensors market with indispensable inventory-control functionality in chemicals, oil, and water-treatment operations. Image/vision devices, meanwhile, are forecast for an 11.2% CAGR as inline machine-vision systems proliferate for automated defect detection. Wired analog versions remain widespread because factories value proven reliability, but digital variants with self-diagnostics are advancing fast. Suppliers are miniaturizing MEMS pressure and flow sensors for energy-monitoring tasks aligned with ESG mandates.

Second-order trends point to hybrid sensing platforms that combine optical and ultrasonic techniques to boost accuracy for challenging solid-material measurements. Edge AI incorporated within compact cameras now enables on-device anomaly detection without bandwidth strain. These dynamics position the industrial sensors market size for level measurement to retain a commanding share even as emerging imaging technologies capture incremental spend.

Discrete manufacturing held 31% of the industrial sensors market share in 2024 due to persistent investments in automotive and electronics lines. Robust demand for continuous equipment monitoring keeps factories upgrading to multifunctional sensors that capture vibration, temperature, and positional data concurrently. Life sciences and pharmaceuticals are projected to achieve a 9.8% CAGR through 2030, benefitting from stricter validation protocols for sterile production environments and wider adoption of continuous-manufacturing lines.

Manufacturers in chemicals and petrochemicals deploy rugged solutions for emissions monitoring within digital-twin frameworks aimed at optimizing yield. Mining operators experiment with swarm-robotics systems that rely on dense environmental sensing to navigate hazardous zones. Utilities modernizing grids integrate fiber-optic and piezoelectric sensors to improve renewable-generation forecasting and equipment asset management, extending the industrial sensors industry into new energy verticals.

The Industrial Sensors Market is Segmented by Sensor Type (Flow, Pressure, and More), End-User Industry (Chemical &

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Petrochemicals, Mining & Metals, Power & Energy, Food & Beverage and More), Technology (Wired / Analog, Edge-AI / Virtual Sensors and More), Communication Protocol (Fieldbus and More), Geography. The Market Sizes and Forecasts are Provided in Terms of Value (USD) for all the Segments.

## Geography Analysis

Asia-Pacific captured 44% of 2024 spending, reflecting ongoing policy incentives and a strong robotics ecosystem. China dominates installations, propelled by the Made in China 2025 program and a 52% share of global industrial-robot shipments, translating into vigorous sensor orders across automotive and consumer-electronics hubs. Japan contributes cutting-edge automation technologies, while South Korea's government co-investment accelerates smart-factory penetration.

North America remains pivotal for high-mix, low-volume production and energy-infrastructure renewal. Plants integrate edge-AI sensors to advance predictive maintenance and enhance workforce safety. Europe's market growth aligns with decarbonization rules that require continuous emissions monitoring, stimulating demand for high-precision flow and gas-analysis sensors. Emerging economies in the Middle East, Africa, and South America increase uptake for mining, metals, and power-generation projects as infrastructure build-outs gather momentum.

## List of Companies Covered in this Report:

Siemens AG / Honeywell International Inc. / Texas Instruments Inc. / Rockwell Automation Inc. / Bosch Sensortec GmbH / TE Connectivity Ltd. / ABB Ltd. / STMicroelectronics N.V. / Infineon Technologies AG / NXP Semiconductors N.V. / Omron Corporation / Sick AG / Emerson Electric Co. / Schneider Electric SE / Balluff GmbH / Pepperl+Fuchs SE / Keyence Corporation / IFM Electronic GmbH / Yokogawa Electric Corp. / Endress+Hauser AG / Analog Devices Inc. /

## Additional Benefits:

The market estimate (ME) sheet in Excel format /  
3 months of analyst support /

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