SCOTTS INTERNATIONAL

Robotic Sensors Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 126 pages | Mordor Intelligence

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Report description:

The global robotic sensor market was estimated to be valued at USD 526.47 million in 2021, and it is expected to reach USD 854.91 million by 2027, registering a CAGR of 8.48% during the forecast period.

Key Highlights
Owing to the onset of Industry 4.0 and digitization, the deployment of robots has significantly increased in the studied period. With advances in the field of robotics creating flexible production concepts, adoption is expected to increase significantly during the forecast period. With the increased deployment of autonomous and collaborative robots across end-user industries, the demand for robotic sensors is expected to surge to provide them with higher precision and accuracy while operating.
The COVID-19 pandemic and the probable occurrence of future pandemics foster the adoption of robotic technologies. Technologies such as robotics, automation, and information and communication technologies enable organizations to continue to operate by facilitating social distancing in the workplace and allowing remote work from home offices, driving the ancillary demand for robotic sensors. However, supply chain disruptions have led to a negligible increase in the adoption of industrial robots.
The market is driven by many factors, including rapid technological advancements in automation, AI, energy storage, engineering, and machine learning. A skill shortage is also a major factor impacting the increasing adoption of robots. Coupled with the shortage of labor, the rising salaries of the workforce are also influencing the demand dynamics of robots across geographies. Moreover, the workforce needs to be trained frequently to adapt to new technologies, driving organizations to adopt robotic systems and encouraging the vendors in the market to innovate on the components of the systems.
Agriculture and manufacturing in developing and underdeveloped nations are currently undergoing a constant robotic transition. However, workers are expected to continue to flood into the service business, lowering salaries and resulting in job growth and pay stagnation in the service sector, rather than widespread unemployment, at least in the near and medium-term. The prospect

of digital technologies to automate routine tasks and replace human labor can sometimes appear like an existential threat to manufacturing in developing countries. Such predictions tend to be based on technical feasibility. However, the automation of jobs also depends on economic and institutional feasibility, and these factors can outweigh the technical aspects in underdeveloped countries.
The increasing demand for robotic systems in the pharmaceutical industry is driving the need for robotic sensors, positively influencing the studied market. With the outbreak of the COVID-19 pandemic, various pharmaceutical manufacturers have increasingly felt the substantial need to react promptly to the demand for hospitals and pharmacies. COVID-19 induced restrictions that forced the companies to operate with limited labor onboard, subsequently affecting the operational capabilities of the companies across the globe. Several companies started to invest in automation technologies to overcome this labor shortage and reduce their dependence on human labor.

Robotic Sensors Market Trends

Increased Adoption of Robots in Logistics and Transportation Application to Drive the Market

Automation is transforming every step of the supply chain, from manufacturing to fulfillment to shipping and logistics. The rapid advancements in AI, machine learning (ML), and automation are bound to improve the current state of robotics used in logistics and transportation. In addition, the advent of 5G and innovations in big data and cloud computing will disrupt the robotics industry, making it more effective, customer-oriented, and accurate than ever.
The dire need to reduce costs, streamline operations, and enhance efficiency drives robotic innovations. Furthermore, the economy is getting stronger, and the demand for automation, owing to prevailing competition in e-commerce, has boosted the growth of the warehouse robotics market.
Manufacturers, especially in automotive and electronics, are turning to automation after the COVID-19 pandemic and are investing in fleets of AMRs to automate internal logistics. Mobile Industrial Robots (MiR), the global market player in autonomous mobile robots (AMRs), announced a 55% increase in sales in Q1 2021 over 2020, from which a large number of sales are of the MiR250, MiR's latest and most compact AMR.
Several partnerships can be noted that are driving the deployment of robots in the logistics and transportation industry. The e-commerce boom has further highlighted the need for innovation in robots. As technology advances in robotic systems, the need for sophisticated sensors is heightened, driving the demand in the market studied.
For instance, in March 2021, XPO Logistics announced the collaboration with Balyo for a pilot program to test the robotic reach truck offered by the latter to help optimize the intelligent reach trucks for the logistics sector that could increase customer efficiency and support employees at XPO's warehouse. The robot is designed specifically for distribution centers and is made completely autonomous.

Asia Pacific to Have a Significant Market Growth

The Asia Pacific is anticipated to record the highest growth rate during the forecast period, pertaining to the noteworthy installation of industrial robots in several countries, including China, Japan, India, South Korea, and Taiwan. China is dominating the regional adoption rate of sensors for robotic applications due to the massive deployment in the country's dominating automotive and semiconductor manufacturing industries.
China is a manufacturing leader and has a strong consumer base for electronics and related components, which is a major factor contributing to the robotic sensors market. The country has a significant manufacturing base in automotive, electronics, aerospace and defense, food and beverage, and other industries, which is analyzed to further boost the market growth rate.

The growing government aid in the improvement of the advanced manufacturing sector is set to positively impact the market growth rate. The government of China launched "Made in China 2025", a state-led industrial policy that seeks to make China dominant in global high-tech manufacturing.
Furthermore, China's Ministry of Industry and Information Technology, the National Development and Reform Commission, the Ministry of Science and Technology, and other 12 agencies released "The 14th Five-Year Development Plan for the Robotics Industry" in December 2021. This is China's second five-year growth plan for the robotics industry, and it serves a critical role in facilitating and encouraging the industry's high-quality development.
By 2025, the country aims to exceed its average annual growth rate of operating income by 20% in the robotics industry. The five-year plan set out objectives to expand the breadth and depth of robotic applications to continue to increase the number of robots in the country. It also aims to promote a more stable and robust supply chain and to better standardize the industry. As robotics involve various types of sensors in touch, proximity detection, and so on, the sector's growth as a whole is set to boost the market growth rate.
As automotive, electronics, and manufacturing sectors are also developing at a significant growth rate in other economies such as South Korea, Japan, and India, there is massive potential for growth in this regional market. The regional government is also one of the major factors in the development of the sensors in the robotics market.

Robotic Sensors Market Competitor Analysis

The robotic sensors market is highly competitive and consists of several global as well as regional players, including ATI Industrial Automation, Inc., Baumer Group, FANUC Corporation, FUTEK Advanced Sensor Technology, Inc., Honeywell International Inc., Infineon Technologies AG, OMRON Corporation, Sensata Technologies, Inc., TE Connectivity, and Tekscan, Inc. These players with a competitive share in the market are focusing on expanding their customer base across global regions. These companies are leveraging strategic collaborative initiatives to increase their market share and regional presence.

February 2022 - Celera Motion and ATI Industrial Automation, two of Novanta's business units, partnered with MassRobotics for innovation in robotics. The partnership aims to increase robotic productivity to help scale and create a future generation of successful robotics startups.
December 2021 - Sensata Technologies acquired Sendyne Corp, a leading developer of sensing and simulation technologies for next-generation e-mobility. The acquisition of Sendyne advances Sensata's electrification component portfolio and strategy and expands on Sensata's recent acquisitions of Gigavac, Lithium Balance, and Spear Power Systems.
August 2021 - ATI Industrial Automation Inc. was acquired by Novanta Inc., which is known for deploying its capital in acquisitions that strengthen its market position in various key industries and markets. The company also acquired IMS. Both the acquisitions were added to the company's Precision Motion segment. The acquired assets aim to add to Novanta's portfolio of technical innovation and reach in fields like robotics and industrial automation.

Additional Benefits:

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

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