

Robotics - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The Robotics Market size is estimated at USD 45.85 billion in 2024, and is expected to reach USD 95.93 billion by 2029, growing at a CAGR of 15.91% during the forecast period (2024-2029).

Key Highlights

- Due to the increased demand, numerous investments in the robotics sector have been made. The International Federation of Robotics reported that the demand for robots was fueled by investments in new car production facilities and the modernization of industrial facilities.
- For instance, in August 2022, Hyundai Motor Group invested USD 400 million in establishing the Boston Dynamics AI Institute to advance AI and robotics. The company's goal is to make "fundamental advances in AI, robotics, and intelligent machines," with resources focused on cognitive AI, athletic AI, and organic hardware design, with each discipline contributing to advancements in advanced machine capabilities.
- Robots have been incorporated into manufacturing processes to increase productivity and improve the quality of the corresponding vehicles. For instance, at its Sanand facility plant in India, Ford Motor Company employs about 450 robots to paint cars and perform body construction tasks. Additionally, one of Maruti Suzuki India's plants employs about 5,000 robots.
- Digitization and the Industry 4.0 revolution have encouraged the growth of automation among industries by requiring them to use more advanced and automated solutions, like robotics and control systems, to enhance their production processes. Robotics utilizes several key elements of Industry 4.0, including connectivity and data. Siemens and Google Cloud recently formed a partnership to integrate Google Cloud's data cloud and artificial intelligence/machine learning technologies with Siemens' factory automation solutions.
- Further, in March 2022, Mitsubishi developed a robotics system that can work as fast as humans and be controlled via voice commands. The new system uses Mitsubishi Electric's Maisart AI technologies, such as high-precision speech recognition, to

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initiate work tasks, after which operators can fine-tune robot movements as needed.

-Many businesses worldwide are automating their warehouses with robotics to save money on labor costs. For instance, in recent years, the number of operational industrial robots reached about 3800 (in thousand units). Alibaba also upgraded to robotic labor in one of its warehouses, dramatically reducing the labor workforce by 70% and opening up opportunities for a highly-skilled workforce.

-Curbing COVID-19 involved utilizing various robot technologies, such as cleaning and disinfection service robots. Increased uninfected demands opened this new place for service robots. As a result, most manufacturers registered new disinfection robots. Further, multiple manufacturing companies reported being benefitted from adopting industrial robots. For example, Procter & Gamble found that adding robots to its production lines allowed it to keep more workers on the job and produce more goods.

Robotics Market Trends

Service Robotics is Expected to Witness Significant Growth

- As medical Robot systems-assisted surgeries increase, product innovation rates in the market will further increase. In August 2022, Max Super Speciality Hospital, Mohali, launched one of the most advanced technologies in India, the Da Vinci Xi Surgical Robot, at its hospital. The launch of the revolutionary Da Vinci Xi Surgical Robot is yet another patient-centric step taken by healthcare providers to empower patients with access to quality healthcare services.

- Further, according to NIOSH, healthcare workers have the most hazardous industrial jobs in the United States, with the highest number of nonfatal occupational injuries and illnesses. It is estimated that about 6,000 surgical robots perform a million operations globally. The market was worth USD 6 billion. A basic system costs USD 2 million. Reputed organizations like MIT and the University of Michigan are working on the technology to deliver small and compact robots to the medical sector.

- Moreover, the Bureau of Labor Statistics indicates 2,384,600 building janitors and cleaners. Companies are spending about USD 60 billion on average annually. This is exclusive of the insurance amount that has become expensive as the janitorial industry records one of the highest numbers of occupational injuries. Factors like these boost the demand for cleaning robots for apparent reasons.

- The aging population is one of the primary drivers of the significant increase in the deployment of robots in domestic healthcare and assistance applications. For instance, according to data from the United Nations, the global population of people over 65 years is expected to grow by 181% and may account for 16% of the population by 2050.

- Hyundai Motor Group recently unveiled the Factory Safety Service Robot, a robot for industrial site safety, and announced its pilot operation at Kia's South Korean plant. The Robot is based on Dynamics' Spot quadruped robot of Boston Dynamics, with artificial intelligence (AI), autonomous navigation, teleoperation technologies, and a computing payload developed by the Group's Robotics Lab for various industrial tasks.

- According to IFR 2022, Robots for domestic tasks constituted the largest group of consumer robots. Almost 19 million units (+12%) were sold recently. Vacuuming and other indoor domestic floor cleaning robots are currently the most used applications. Such developments may further drive the market's growth in the future.

- In addition, ANSCER Robotics, a Bengaluru-based startup that developed the world's first autonomous mobile robot (AMR) "brain" to democratize robotics technology for everyone, debuted its line of AMRs for the first time at the India Warehousing Show (IWS), which was held at Pragati Maidan in New Delhi.

Asia-Pacific is Expected to Hold a Major Market Share

- The Asia-Pacific region is projected to hold a significant market share due to the considerable adoption of robots. Further, South

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Korea and China are dominant in adopting robotics due to the massive electronic and automotive manufacturing industry deployment.

- The Japanese government announced funding for developing eldercare robots to fill the estimated gap of around 380,000 skilled workers by 2025. In addition, By 2050, the Japanese government aims to ensure that all new cars sold in Japan will be either electric or hybrid. The country intends to offer subsidies to accelerate the private-sector development of batteries and motors for electricity-powered vehicles. This is expected to also drive the adoption of elderly care robots at their residences in the immediate future.

- Further, in October 2022, Robotex India, in collaboration with BMC Software India Pvt. Ltd., declared to launch multiple initiatives toward intensifying the STEM education ecosystem in India. With the industry 'Build Your First Robot,' BMC Software aims to empower 250 female learners from government schools in Pune with the technical skills required to expand their employability and bridge the gender divide. Such initiatives may further drive the growth of the market studied in the future.

- The automotive industry has been expanding significantly in China, a significant player in the global automotive market. The Chinese government sees the nation's auto industry, including the auto parts industry, as one of the main pillar industries of the nation. By 2025, the Chinese central government projects that 35 million automobiles will be produced nationwide.

- As the region faces an aging population, government organizations plan to rely more on robots in the workforce. For instance, the Housing Development Board (Singapore) intends to adopt autonomous drones or robots to identify which parts of public housing blocks need cleaning. The primary aim is to reduce the water required to clean by focusing only on the dirty areas.

- Further, Artificial intelligence technology company Ubtech Robotics launched the Adibot UV-C Disinfecting Robot at CES 2021. The Adibot robotic disinfection system was designed to offer a hospital-grade solution against COVID-19, integrating the robotics and AI from Ubtech with UV-C technology that disinfected targeted surfaces and air by deactivating the DNA and RNA of harmful pathogens.

Robotics Industry Overview

The Global Robotics Market is relatively fragmented, with some major market players such as ABB Ltd., Yaskawa Electric Corporation, Denso Corporation, Fanuc Corporation, and Kuka AG. The market vendors are focusing on expanding their customer base across foreign countries. The companies are leveraging strategic collaborative initiatives to increase market share and profitability.

In October 2022, ABB launched its smallest-ever industrial robot, offering unique possibilities for faster, more flexible, and high-quality production of wearable intelligent gadgets. With its compact size, class-leading payload, and unrivaled accuracy, the new IRB 1010 allowed electronics manufacturers to expand their production of devices via automation, including advanced watches, earphones, sensors, and health trackers.

In February 2022, Yaskawa Motoman, one of the world's largest manufacturers of industrial robots, launched two new collaborative robots such as HC10DTP and HC20DTP, each with six axes. The company described them as 'highly reliable robots (that) enriched easy capability for Yaskawa's HC-series line.

Additional Benefits:

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

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