

Industrial Robot Market to Soar to USD 25,828.99 Million by 2033, Driven by 17.20% CAGR & Rising Automation Demand | FMI

Industrial robot market is driven by rising automation in manufacturing, advancements in AI & robotics, and rising demand in automotive and electronics sectors.

NEWARK, DE, UNITED STATES, January 16, 2025 /EINPresswire.com/ -- The global <u>industrial robot market</u> is experiencing a remarkable surge, projected to grow from USD 5,282.40 Million in 2023 to an impressive USD 25,828.99 Million by 2033. With a Compound Annual Growth Rate (CAGR) of 17.20% during the forecast period, the industry is poised to revolutionize automation and redefine manufacturing processes worldwide.



Industrial Robots

An industrial robot is a cutting-edge mechanical system capable of performing tasks related to industrial production automatically. These robots can be programmed to meet specific production requirements and adjusted as needed for various applications. The core components of these robots include:

- Robotic Manipulators: Enable precision and dexterity in task execution.

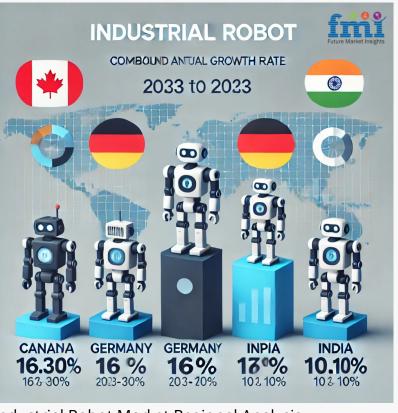
- End-Effectors: Facilitate interaction with the environment, handling tasks like gripping and welding.

- Drives and Controls: Power and direct robotic movements for efficient operation.

- Sensors and Cameras: Allow robots to interpret and respond to their environment, ensuring safety and accuracy.

The integration of these elements empowers manufacturers to streamline operations, improve efficiency, and maintain high standards in their products.

The rising adoption of automation across multiple sectors, including automotive, electronics, pharmaceuticals, and food & beverages, is fueling the demand for industrial robots. These sophisticated



Industrial Robot Market Regional Analysis

machines are designed to enhance productivity, minimize operational costs, and ensure consistent quality in manufacturing. Equipped with advanced technologies such as sensors, cameras, and robotic controllers, industrial robots can execute intricate tasks with precision and adaptability.

The growth trajectory of the industrial robot market varies across regions, reflecting differing levels of industrial development and technological adoption:

- North America: With Canada leading at a CAGR of 16.30%, the region is investing heavily in automation to stay competitive in global markets.

- Europe: Germany, the continent's manufacturing powerhouse, sees steady growth with a CAGR of 10%, driven by advancements in automotive and electronic sectors.

- Asia-Pacific: This region dominates the market, with India (17.30%), Japan (16%), and China (10.10%) spearheading innovation and adoption. Rapid industrialization and government support for robotics and automation have bolstered growth in these countries.

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1. Automation in the Automotive Industry

The automotive sector continues to be the largest adopter of industrial robots. Automated processes such as welding, painting, and assembly have transformed manufacturing, enabling greater precision and productivity.

2. Expansion in Electronics and Semiconductor Manufacturing

With the rise of smart devices and IoT, the electronics sector demands robots capable of handling delicate components. Industrial robots ensure precision in assembling microchips, sensors, and other intricate parts.

3. Advancements in AI and Machine Learning

The integration of artificial intelligence (AI) and machine learning is redefining the capabilities of industrial robots. These technologies enable robots to learn from data, adapt to new tasks, and enhance decision-making processes.

4. Growing Adoption in Emerging Economies

Emerging economies such as India and China are witnessing a surge in the adoption of industrial robots. Investments in infrastructure and favorable government policies are driving this growth.

Despite its rapid growth, the industrial robot market faces several challenges:

- High Initial Investment: The upfront cost of purchasing and installing industrial robots remains a barrier for small and medium enterprises (SMEs).

- Workforce Transition: The increasing adoption of robotics raises concerns about job displacement, necessitating workforce reskilling initiatives.

- Technological Complexity: Operating and maintaining industrial robots requires specialized knowledge, which could hinder adoption in underdeveloped regions.

The future of the industrial robot market looks promising, driven by innovation and the growing need for automation in various sectors. Key developments anticipated in the coming years

include:

- Collaborative Robots (Cobots): Designed to work alongside humans, cobots are gaining popularity for tasks that require both precision and human intuition.

- Sustainable Robotics: Eco-friendly robots with energy-efficient designs are expected to gain traction as sustainability becomes a global priority.

- Expanded Applications: Beyond manufacturing, industrial robots are being adopted in logistics, healthcare, and agriculture, expanding their market potential.

"The industrial robot market is experiencing significant growth, driven by the increasing adoption of automation, advancements in AI, and the need for greater operational efficiency. As industries, especially automotive and electronics, embrace robotics for precision and productivity, the market is set to expand rapidly, with emerging economies playing a key role in this transformation." - opines Nikhil Kaitwade, Associate Vice President at Future Market Insights (FMI).

The industrial robot market features a competitive landscape with key players investing in research and development to stay ahead. Companies are focusing on partnerships, mergers, and acquisitions to strengthen their market presence. The emphasis on developing innovative and cost-effective robotic solutions is expected to drive market competitiveness further.

Denso Corporation Kawasaki Heavy Industries Brenton LLC Krones AG Mitsubishi Electric Corporation YASKAWA Electric Corporation KUKA AG Fanuc Corporation ABB Limited

DD DDDDDDD DDDD: Articulated Robot SCARA Robot Parallel Robot Cartesian Robot Cylindrical Robot Others

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Automotive Electrical & Electronics Metals & Machinery Chemicals, Plastic & Rubber Food & Rubber Healthcare Construction Others

Material Handling Welding & Soldering Assembly & Disassembly Painting & Dispensing Others

DD DDDDDDDDD Automatic Semi-automatic Manual

DDDDDDD: North America Latin America Europe East Asia South Asia & Pacific The Middle East & Africa (MEA)

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Nikhil Kaitwade (Associate Vice President at Future Market Insights, Inc.) has over a decade of experience in market research and business consulting. He has successfully delivered 1500+ client assignments, predominantly in Automotive, Chemicals, Industrial Equipment, Oil & Gas, and Service industries.

His core competency circles around developing research methodology, creating a unique analysis framework, statistical data models for pricing analysis, competition mapping, and market feasibility analysis. His expertise also extends wide and beyond analysis, advising clients on identifying growth potential in established and niche market segments, investment/divestment decisions, and market entry decision-making.

Nikhil holds an MBA degree in Marketing and IT and a Graduate in Mechanical Engineering. Nikhil has authored several publications and quoted in journals like EMS Now, EPR Magazine, and EE Times.

The global <u>collaborative robots demand</u> is anticipated to surge at an outstanding CAGR of 25.1% from 2023 to 2033.

The global industrial robotics market value forecasted to exceed USD 220 Billion by 2033 end.

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