

# Modular Robotics Market Set for Rapid Growth Amid Industry 4.0 and Smart Manufacturing Trends

*Modular Robotics Market to grow from \$2B in 2024 to \$7B by 2034, driven by Industry 4.0, AI, healthcare adoption, and smart manufacturing trends.*

VANCOUVER, BC, CANADA, August 19, 2025 /EINPresswire.com/ -- The global [Modular Robotics Market](#) is projected to grow from USD 2.0 billion in 2024 to USD 7.0 billion by 2034, reflecting a

strong CAGR of 13.3%. The market's growth is fueled by the rising adoption of automation, advancements in AI and machine learning, and the increasing need for flexible and efficient manufacturing systems.



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## Market Overview

Industrial automation currently represents the largest segment within the modular robotics market, driven by demand for adaptable manufacturing solutions that can respond to changing production needs. The healthcare sector is the fastest-growing application area, with modular robotics enhancing surgical precision, patient care, and operational efficiency. Key applications include smart manufacturing, precision assembly, and healthcare robotics, highlighting the versatility of modular robotic systems.

North America leads the market in revenue, supported by advanced infrastructure and high technological adoption, while the Asia Pacific region is expected to experience the fastest growth due to rapid industrialization, infrastructure expansion, and increasing investment in automation technologies. Sustainability trends, including energy-efficient operations and the use of eco-friendly materials, are increasingly influencing purchasing decisions and regulatory compliance.

Leading players in the market include Universal Robots, ABB Ltd., and KUKA AG, who are heavily

investing in R&D to develop innovative modular robotic solutions and expand their global footprint.

## Market Drivers

The rapid rise of Industry 4.0 and smart manufacturing is the key growth driver for the Modular Robotics Market. Industry 4.0 emphasizes the use of IoT, AI, and robotics to improve efficiency, flexibility, and sustainability in manufacturing. The global stock of operational industrial robots is expected to reach 3.2 million units by 2025, underscoring the growing reliance on robotics across industries.

Public initiatives and funding programs are accelerating adoption. The European Union's Horizon 2020 program and U.S. Department of Commerce initiatives provide substantial support for research and innovation in robotics, promoting domestic production and competitiveness. Product innovations are further boosting market demand. For example, ABB Ltd. launched a new line of modular robots for high-precision tasks in electronics manufacturing, which are projected to reduce production costs by 15% and increase output by 20%. Similarly, healthcare robotics are seeing a 40% year-on-year increase in adoption, driven by FDA approvals and rising demand for minimally invasive procedures.

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The section on the competitive landscape offers valuable and actionable insights related to the business sphere of the Modular Robotics market, covering extensive profiling of the key market players. The report offers information about market share, product portfolio, pricing analysis, and strategic alliances such as mergers and acquisitions, joint ventures, collaborations, partnerships, product launches and brand promotions, among others. The report also discusses the initiatives taken by the key companies to combat the impact of the COVID-19 pandemic

## Modular Robotics Competitive Strategies & Notable Developments

### Top 10 Companies

Universal Robots

ABB Ltd.

KUKA AG

FANUC Corporation

Yaskawa Electric Corporation

Kawasaki Heavy Industries, Ltd.

Mitsubishi Electric Corporation

Denso Corporation

Epson Robots

## Market Restraints

Despite strong growth prospects, the Modular Robotics Market faces technical and regulatory challenges. Integrating modular robotics with legacy systems can be complex and costly, causing delays and increasing implementation costs. Compliance with safety standards, such as ISO 10218 for industrial robots, can also be time-consuming and expensive, with EU manufacturers facing an 18% increase in regulatory compliance costs.

Data privacy concerns are another critical restraint, as AI- and IoT-enabled robotics collect and process large volumes of sensitive data. About 62% of manufacturers cite data security and privacy as major adoption barriers.

A shortage of skilled personnel to operate and maintain advanced robotic systems is an additional challenge. The World Economic Forum estimates a global shortage of 2 million skilled workers in the robotics sector by 2025, potentially limiting the widespread deployment of modular robotics solutions.

The report bifurcates the Modular Robotics market on the basis of different product types, applications, end-user industries, and key regions of the world where the market has already established its presence. The report accurately offers insights into the supply-demand ratio and production and consumption volume of each segment.

## Modular Robotics Market Segmentation

### By Product Type

- Articulated Modular Robots
- SCARA Modular Robots
- Cartesian Modular Robots
- Collaborative Modular Robots
- Others

### By Application

- Industrial Automation
- Healthcare
- Aerospace & Defense
- Consumer Electronics
- Others

### By End User

Manufacturing  
Automotive  
Electronics  
Healthcare  
Others

#### By Technology

AI-Integrated Robotics  
IoT-Enabled Robotics  
Cloud-Based Robotics  
Others

#### By Distribution Channel

Direct Sales  
Distributors  
Online Platforms

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