

# Pharmaceutical Robots Market Report by Type (Traditional Robots, Collaborative Pharmaceutical Robots), Application (Picking and Packaging, Inspection of Pharmaceutical Drugs, Laboratory Applications), End User (Pharmaceutical Companies, Research Laboratories), and Region 2024-2032

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# **Abstracts**

The global pharmaceutical robots market size reached US\$ 198.5 Million in 2023. Looking forward, IMARC Group expects the market to reach US\$ 445.0 Million by 2032, exhibiting a growth rate (CAGR) of 9.2% during 2024-2032. The rising demand for pharmaceutical products, the emerging technological advancement in robotics technology, and the implementation of stringent regulatory frameworks to ensure product safety and quality during production processes are some of the major factors propelling the market.

## Pharmaceutical Robots Market Analysis:

Major Market Drivers: The market for pharmaceutical robots is expanding primarily due to an increasing demand for medications, which can be attributed to the growing elderly population and a rise in chronic disease cases. Additionally, enhancements in the efficiency, precision, and productivity of manufacturing processes further stimulate market growth.

Key Market Trends: Robotic technology finds its application in the most accurate tasks including drugs formulation and packaging. Integrating the advanced technologies, such as AI and machine learning in robotics is improving operational efficiency and reducing the human error as well.

Geographical Trends: Asia Pacific is emerging as the biggest market player, due to the constant industrial expansion and huge investment in healthcare technology. Some



other countries such as China, Japan, and South Korea are leading the way in this area, as their governments are backing the incorporation of robotic solutions with the advanced technologies into drug making.

Competitive Landscape: The rivalry landscape is characterized by the involvement of major players in the industry who increase their market positions periodically via enhanced product innovations and collaboration with multiple partners. While these companies are clearly investing in technological innovations, they are also determined to raise the bar in customer support and services to fortify their hold on the market. Challenges and Opportunities: The market has challenges that include high upfront costs and the complexity that comes with integrating robots with existing systems, but at the same time provide numerous opportunities. There are ample growth opportunities based on creating more flexible and scalable robotic solutions which can serve the needs of growing industries and keep abreast with constantly changing regulations.

Pharmaceutical Robots Market Trends:
The rising demand for pharmaceutical products

The pharmaceutical industry witnesses a dramatic shift due to machinery integration driven by the use of robotics technology, directly leading to the pharmaceutical robots market growth. With the aging global population and rising chronic diseases, the demand for pharmaceuticals is rising. This drives the market demand. This is further augmented by tremendous growth in medicine that has incorporated innovative pharmacotherapies into the list of diseases that they can combat, including personalized medicines and complex biopharmaceuticals. With the help of robotics technology, the pharmaceutical manufacturing processes achieve an increase in efficiency and accuracy, and consequently improve the pharmaceutical robots market share.

According to the International Federation of Robotics (IFR), the global market for professional service robots reached a turnover of \$6.7 billion U.S. dollars, marking a 12% increase in 2020.

The emerging technological advancement in robotics technology

Robots equipped with advanced technologies, including sensing and control capabilities, enhance precision and standardization in processes such as drug manufacturing and dispensing. Such ability minimizes human error and considerably improve product quality and patient safety, which is one of the major pharmaceutical robots market trends. The developments in robotics technology are essential as they contribute to the solutions of the challenges facing the pharmaceutical industry. The employment of robots as well ensures the substitution of labor-intensive and repetitive



tasks with them, hence maximizing resource utilization which in turn speeds up production cycle. This transition of the key companies to enhance their efficiencies and their productivity helps them generate higher pharmaceutical robots market revenue.

The implementation of stringent regulatory frameworks

Regulatory authorities constitute an important determinant for the market through the establishment of strict legal frameworks. These regulations stipulate the safety, efficacy, and quality of pharmaceutical products, forcing pharmaceutical manufacturers to adopt robotics technology to meet the set requirements. Robotics in pharmaceutical industry consist of technologies with functions that are similar to what is found within the industrial automation sector, including real time monitoring and data logging which are very essential in ensuring the compliance and satisfying the reliability of the automated pharmaceutical manufacturing processes. The implementation of these technologies plays a crucial role in satisfying the strict requirements prescribed by the regulatory authorities, which highlights the pharmaceutical robots market analysis.

Pharmaceutical Robots Market Segmentation:

IMARC Group provides an analysis of the key trends in each segment of the global pharmaceutical robots market report, along with forecasts at the global, regional, and country levels for 2024-2032. Our report has categorized the market based on type, application, and end user.

Breakup by Type:

Traditional Robots
Articulated Robots
SCARA Robots
Delta/Parallel Robots
Cartesian Robots
Dual-arm Robots
Collaborative Pharmaceutical Robots

Traditional robots represent the most popular type used

The report has provided a detailed breakup and analysis of the market based on the type. This includes traditional robots (articulated robots, SCARA robots, delta/parallel robots, cartesian robots, dual-arm robots), and collaborative pharmaceutical robots. According to the report, traditional robots accounted for the largest market share.



Traditional robots are the most frequently used type of robots in the pharmaceutical industry where robots automate tasks for routine processes. Such robots are widely utilized in the pharmaceutical industry for their unmatched capacity due to their already proved reliability and efficiency in handling different types of automated tasks normally necessary in pharmaceutical manufacturing. The market report revealed that the multifaceted work of the robots which is consistent with accuracy has been the reason behind their prominence occupying a substantial portion of the market for themselves. The pharmaceutical robots market forecast shows that it remains the traditional robots to be the most preferred type, which can be attributed to constant upgrade and increase efficiency by major brands trying to penetrate in more complicated processes in pharmaceuticals.

Breakup by Application:

Picking and Packaging
Inspection of Pharmaceutical Drugs
Laboratory Applications

Picking and packaging presently account for the largest market share

A detailed breakup and analysis of the market based on the application has also been provided in the report. This includes picking and packaging, inspection of pharmaceutical drugs, and laboratory applications. According to the report, picking and packaging accounted for the largest market share.

The pharmaceutical robots market overview unveils that these operations involved in picking and packaging are the top dominant applications. This segment benefits greatly from implementing robotics, as these systems improves speed, accuracy, and consistency in the packaging of pharmaceutical products. In addition, future market opportunities may be signified by further designed innovations in robot to handle and reduce the downtime, which can be as this to improve the whole productivity of pharmaceutical manufacturing. The pharmaceutical industry market report underlines the advantage which this technique provides in this kind of manufacturing processes especially on increased production efficiency along with reduced cost of operation.

Breakup by End User:

Pharmaceutical Companies



#### Research Laboratories

Pharmaceutical companies hold the largest share of the market

A detailed breakup and analysis of the market based on the end user has also been provided in the report. This includes pharmaceutical companies and research laboratories. According to the report, pharmaceutical companies accounted for the largest market share.

The pharmaceutical companies hold the biggest share in the robot's market, according to the market estimation. They utilize robotic technology to come up with enhanced applications in the area of production, precision, and adherence of the safety and health standards and regulations. The market report indicates that as more pharmaceutical companies are motivated by innovation and cost-efficiency, robotic integration will become even more established. Pharmaceutical robots market recent opportunities include the development of robotic uses that might give rise to more tailored and intricate solutions aimed to meet the particular needs of pharmaceutical producers.

# Breakup by Region:

North America

**United States** 

Canada

Asia-Pacific

China

Japan

India

South Korea

Australia

Indonesia

Others

Europe

Germany

France

United Kingdom

Italy

Spain

Russia

Others



Latin America
Brazil
Mexico
Others
Middle East and Africa

Asia Pacific exhibits a clear dominance in the market

The market research report has also provided a comprehensive analysis of all the major regional markets, which include North America (the United States and Canada); Europe (Germany, France, the United Kingdom, Italy, Spain, Russia, and others); Asia Pacific (China, Japan, India, South Korea, Australia, Indonesia, and others); Latin America (Brazil, Mexico, and others); and the Middle East and Africa. According to the report, Asia Pacific represents the largest regional market for pharmaceutical robots.

Asia Pacific region holds the dominance in the market on account of the fast industrial growth and more intense push towards healthcare and pharmaceutical manufacturing. In line with the pharmaceutical robot market review, the three leading nations including China, Japan and South Korea are at the forefront in implementing robotics in pharmaceutical operations. The pharmaceutical robots report describes government actions and investments that greatly contribute to regional market expansion in this field. The pharmaceutical robots market outlook for Asia Pacific remains positive due to an increasing demand for pharmaceuticals along with technological breakthroughs witnessed in the field of robotics. According to a report from the Association for Advancing Automation (A3), North American companies ordered 44,196 robots, valued at \$2.38 billion in a recent year, marking increases of 11% in units and 18% in value compared to 2021.

## Competitive Landscape:

The market research report has provided a comprehensive analysis of the competitive landscape in the market. Detailed profiles of all major companies have also been provided. Some of the key players in the market include:

ABB Ltd.
DENSO Corporation
FANUC Corporation
Kawasaki Heavy Industries Ltd.
Kuka AG
Marchesini Group S.p.A



Mitsubishi Electric Corporation
Robert Bosch GmbH
Seiko Epson Corporation
Shibuya Corporation
Universal Robots A/S (Teradyne Inc.)
Yaskawa Electric Corporation

(Kindly note that this only represents a partial list of companies, and the complete list has been provided in the report.)

Key pharmaceutical robots companies are proactively strengthening their positions within the industry by leveraging the trend and push forward with innovation. These key players are investing heavily for the integration of the latest technologies such as artificial intelligence, machine learning, and advanced sensors into their robotics products. Moreover, the companies are focused on building customer relationships via all-inclusive support services such as training, maintenance, and troubleshooting which are so vital for high performance and customer satisfaction. Apart from customer service, these major players are seriously involved in thought leadership, which include publishing research papers, attending industry conferences, and hosting webinar. These activities allow them to improve their reputations and enhance their credibility and establish their trust in the marketplace is integral here. Such efforts are significant components of the pharmaceutical robots market recent developments.

# Recent Developments:

In February 2021, Kawasaki Heavy Industries Ltd. announced the installation of Japan's first automated polymerase chain reaction (PCR) testing system for the coronavirus disease (COVID-19), which operates using Kawasaki-made robots, at Fujita Health University in Aichi Prefecture.

In February 2021, ABB Ltd. launched two new additions to its robot line-up and the firm expected a 90% increase in robot sales in China relying on cobots or collaborative robots for pharmaceutical automation, for faster, scalable, and energy efficient manufacturing.

In August 2022, Yaskawa Electric Corporation announced the opening of a brand-new robotic solution facility in Haryana, India which enables closer collaboration and accelerated development of solutions for the full range of industrial robotic applications offered by the company.

Key Questions Answered in This Report



- 1. What was the size of the global pharmaceutical robots market in 2023?
- 2. What is the expected growth rate of the global pharmaceutical robots market during 2024-2032?
- 3. What are the key factors driving the global pharmaceutical robots market?
- 4. What has been the impact of COVID-19 on the global pharmaceutical robots market?
- 5. What is the breakup of the global pharmaceutical robots market based on the type?
- 6. What is the breakup of the global pharmaceutical robots market based on the application?
- 7. What is the breakup of the global pharmaceutical robots market based on the end user?
- 8. What are the key regions in the global pharmaceutical robots market?
- 9. Who are the key players/companies in the global pharmaceutical robots market?



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