

# **Global Industrial Robotics Market Assessment, By Component [Software, Hardware], By Type [Traditional Robots, Collaborative Robots, Adaptive Robots (Hybrid)], By Payload [Upto 60 kg, 60-100 kg, 100-225 kg, Above 225 kg], By Application [Handling, Welding, Assembling, Cleanroom, Dispensing, Processing, Packaging, Others], By End-user [Automotive, Electrical/Electronics, Metal and Machinery, Plastic and Chemical Products, Healthcare & Pharmaceutical, Food & Beverage, Others], By Region, Opportunities, and Forecast, 2016-2030F**

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## **Abstracts**

The Global Industrial Robotics Market is projected to reach USD 56.62 billion by 2030 from USD 21.78 billion in 2022, growing at a CAGR of 12.68% for the forecast period between 2023 and 2030. Due to the growing popularity of industrial robotics in manufacturing units coupled with a shortage of labor and skills, the market is likely to sustain its present growth pace in the coming years. In addition, growing digitalization, rising trends of automation, and rising focus on user-friendliness are current trends in the industrial robotics sector. Furthermore, while the cost of automation is falling dramatically, labor costs elsewhere are growing swiftly. These are two of the elements that are propelling industry reshoring projects in many developed nations, which has propelled the need for industrial robotics across the globe. Apart from traditional and collaborative robots, a new industrial robot has marked an entry which are adaptive robots. Adaptive robots are a progression of other two robots and has the ability to react to the environment and adjust its movements to the exact task which is being

performed.

Moreover, the increased accessibility of industrial robot systems makes it easier for companies of all sizes and technical skill levels to use automation. In addition, these technologies are rapidly being employed for a variety of tasks, such as product inspection, packaging, labelling, palletizing, welding, painting, and assembly. Furthermore, the industrial robotics market is expanding because of macroeconomic variables such as growing population, rapid industrialization, and rising urbanization.

The automotive segment is the largest consumer of industrial robotics. According to the International Federation of Robotics , North America's automotive industry installed 20,391 industrial robots in 2022, which are 30% more than the installations in 2021.

### Growing Adoption of Collaborative Robots

The global industrial robotics market has witnessed a rising adoption of collaborative robots, also known as cobots, across various industries. Collaborative robots are designed to work alongside humans, enabling safer and more efficient collaboration on the factory floor. Industries such as automotive, electronics, healthcare, and logistics have increasingly embraced cobots to enhance productivity, improve flexibility, and optimize operations. Cobots offer features like advanced sensors, vision systems, and intuitive programming interfaces, allowing easy integration into existing workflows. They can handle repetitive or dangerous tasks while freeing up human workers to focus on more complex or value-added activities. The collaborative nature of these robots also reduces the need for extensive safety measures, making them more accessible and cost-effective for smaller businesses. As a result, the rising adoption of collaborative robots is expected to continue driving growth in the global industrial robotics market, opening new opportunities for manufacturers, and contributing to increased automation across industries.

For Example, in May 2022 FANUC Corporation launched CR-35iB, the strongest collaborative robot in the world, with a weight capacity of up to 35 kilograms, which is particularly suited for a variety of procedures including heavy lifting and placement that were previously handled by people due to its high weight capacity, long reach, and safety certification.

### Implementation of Advanced Technologies

The integration of the Industrial Internet of Things (IIoT) has emerged as a significant

trend in the global industrial robotics market. IIoT integration involves connecting industrial robots with internet-enabled devices, sensors, and systems to enable data exchange, analysis, and remote monitoring. This integration allows real-time monitoring of robot performance, predictive maintenance, and optimization of manufacturing processes. By collecting and analyzing data from various sources, IIoT integration enables proactive decision-making, reducing downtime, and enhancing productivity. It also facilitates the implementation of advanced technologies such as artificial intelligence and machine learning, enabling robots to learn and adapt to changing conditions. The adoption of IIoT in the industrial robotics market enhances operational efficiency, drives automation, and supports the transition toward smart factories.

### Traditional Robots Growing Rapidly

The traditional industrial robots' segment has been witnessing significant growth due to increasing demand from industries such as automotive, electronics, and metalworking. Traditional industrial robots refer to robots that are typically large and designed for heavy-duty tasks in manufacturing and industrial settings. Various types of traditional robots including cartesian, SCARA, articulated, cylindrical, delta and polar offer high precision, speed, and payload capacity, making them suitable for a wide range of applications such as material handling, packaging, welding, assembling, and so on. Factors such as improved technology, cost-effectiveness, and advancements in robot programming and control systems have contributed to the rapid growth of traditional industrial robots, driving their adoption, and expanding their market share.

### Automotive Sector Continues to Lead

The automotive sector is expected to lead the segment in the global industrial robotics market. The automotive industry extensively relies on industrial robots for various applications, including assembly, welding, painting, and material handling. The sector's demand for industrial robots is driven by the need for precision, speed, and efficiency in manufacturing processes. With increasing automation and advancements in robotic technologies, automotive manufacturers are adopting industrial robots to enhance production capabilities, improve quality, and streamline operations. The automotive industry's emphasis on cost reduction, product customization, and meeting stringent safety standards further drives the demand for industrial robots, making it the leading segment in the global market.

For example, the new GoFaTM and SWIFTITM series of robots by ABB launched in 2021, provide increased payloads and speeds, in the company's line-up of

collaborative robots (cobots) in addition to YuMi® and Single Arm YuMi®. These cobots will help the firm expand more quickly in high-growth markets, including automotive, electronic goods, healthcare, consumer goods, logistics, and food and beverage, among others, to address the rising need for automation in a variety of sectors.

### Impact of COVID-19

COVID-19 had a significant impact on the global industrial robotics market. The initial outbreak led to disruptions in global supply chains, reduced manufacturing activities, and temporary shutdowns of industries, resulting in a decline in the demand for industrial robots. The travel restrictions and social distancing measures also affected the installation and maintenance of robotics systems. However, the pandemic also highlighted the need for automation and robotics in industries to ensure business continuity and mitigate future risks. As a result, there has been a growing focus on implementing robotic systems to enable contactless operations, enhance productivity, and ensure employee safety. The adoption of robotics in sectors such as healthcare, e-commerce, and logistics has witnessed accelerated growth due to the increased demand for automation and the need to adapt to the new normal. Overall, while COVID-19 initially impacted the global industrial robotics market, it also served as a catalyst for increased automation and robotics adoption in various industries.

### Impact of Russia-Ukraine War

The on-going Russia-Ukraine war had a potential impact on the global industrial robotics market. The conflict has resulted in trade disruptions, which can affect the supply chains and manufacturing operations of industries worldwide. The uncertainty surrounding the situation has led to cautious investment decisions and a slowdown in economic activities. This could impact the demand for industrial robotics as companies may delay or scale back their automation plans. Additionally, trade restrictions and political instability can hinder the flow of components and technologies, leading to delays and increased costs for robotics manufacturers. In conclusion, the Russia-Ukraine war introduces uncertainties and risks that could impact the global industrial robotics market in terms of demand, supply chains, and investment decisions.

### Key Players Landscape and Outlook

The companies involved in the industrial robotics market offer a wide range of industrial robotic solutions that cater to various industries, including automotive, electronics, and manufacturing. Companies operating in this industry are looking to improve their

production processes by incorporating robots to increase efficiency, productivity, and reduce costs. Furthermore, industrial robotic companies strive to stay at the forefront of these advancements to provide state-of-the-art solutions to their customers. New robots often incorporate improved sensors, better artificial intelligence algorithms, enhanced mobility, and collaborative features, allowing them to perform complex tasks with precision.

For instance, in 2022, ABB has unveiled the tiniest industrial robot ever made, opening new avenues for the rapid, adaptable, and high-quality manufacture of smart devices. The new IRB 1010 gives electronics manufacturers the chance to boost their production of products like smartwatches, earbuds, sensors, and health monitors through automation. It does this with its small size, class-leading payload, and unmatched precision.

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