



  
**Industrial  
Robotics:**  
Market Share,  
Growth and  
Forecasts

**HOKUYO USA**

2019 Van Buren Ave., Suite A,  
Indian Trail, NC 28079

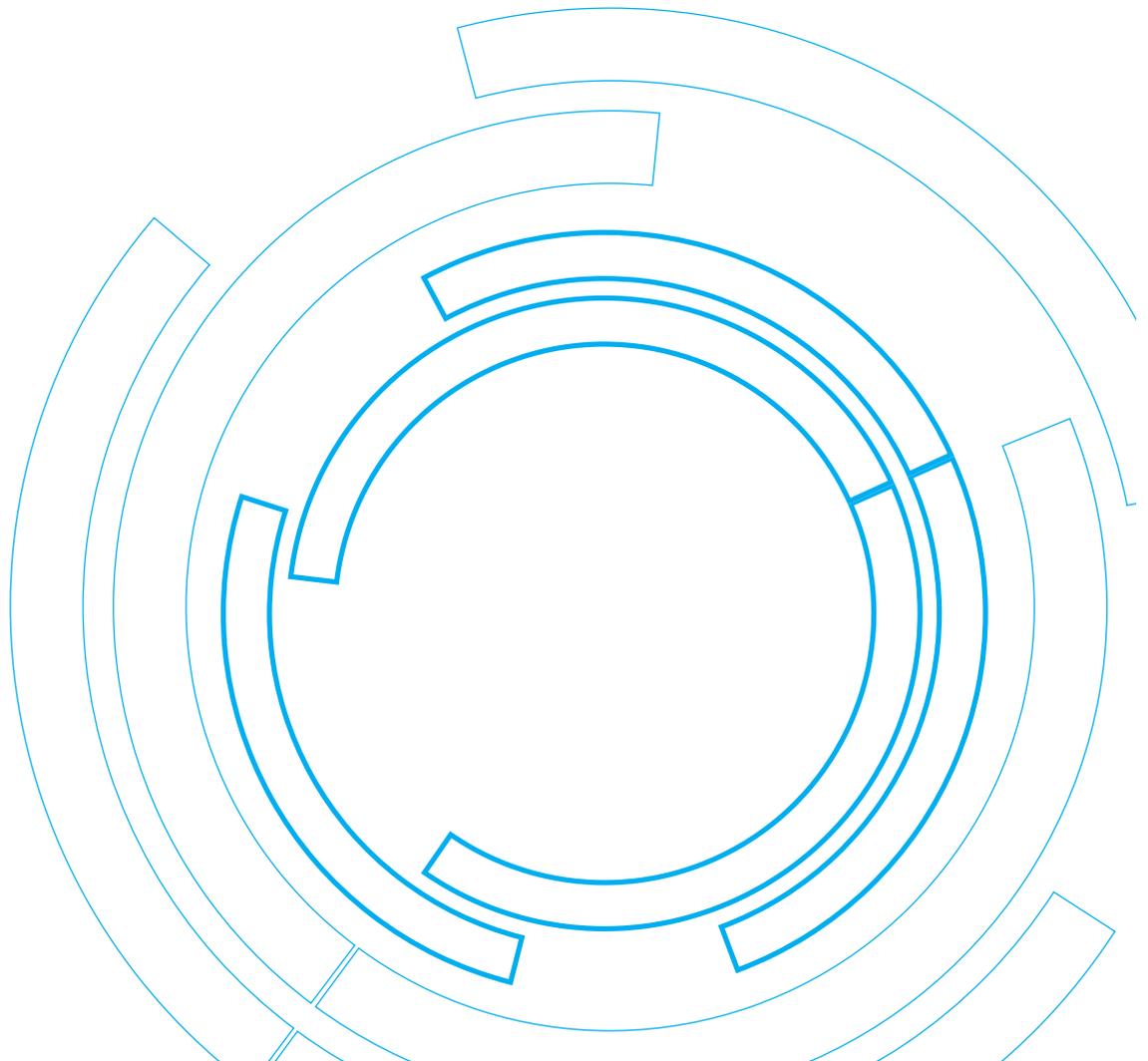
**CONTACT**

704-882-3844  
info@hokuyo-usa.com

**Sensing  
the Future.**

# Table of Contents

<b>Overview of the Global Industrial Robotics Market</b>	<b>2</b>
<b>Trends Driving Industrial Robotics Growth</b>	<b>3</b>
<b>Why are Industrial Robots Dominating the Market?</b>	<b>5</b>
<b>Applications of Industrial Robots</b>	<b>7</b>
<b>The Future of Industrial Robotics</b>	<b>8</b>
<b>Hokuyo Sensor Products for Industrial Robots</b>	<b>9</b>
<b>SOURCES</b>	<b>10</b>





## Robotic technology has seen enormous growth in the past few years.



This advanced technology has found a plethora of applications in different sectors, be it research and development, manufacturing and production, automobile designing and assembling, or healthcare. Especially robotics and automation have significantly changed the industrial landscape, maximizing productivity with consistent efficiency and reduced cycle times.

In recent years, the world has largely adopted smart technologies, especially Artificial intelligence. These technologies have fostered unmatched industrial development, positively influencing the market dynamics.



As per recent reports, the value of the industrial robotics market was around **USD 43 billion**. It is expected to grow at a rate of 11.8% CAGR by 2029, hitting the USD103 billion mark.

This white paper covers the key aspects of the massive growth of industrial robotics, the current market dynamics, and future opportunities.

# Overview of the Global Industrial Robotics Market

Since the 1960s, the global industrial robotics market has witnessed steady growth. Particularly after 2010, it experienced a major growth wave owing to dramatic technological developments. **According to the International Federation of Robotics (IFR), since 2012, the industrial robotics market has grown at the rate of 19% per annum.**

Currently, industrial robots are being extensively deployed as the world continuously transitions from conventional practices to automated ones. Besides, robots improve workflow efficiency, ensuring smooth functioning and precise control. They can also reduce the risks related to occupational accidents, be it heavy load lifting or exposure to toxic chemicals.

A major surge in the industrial robots demand was during the COVID-19 pandemic. Synchronized manufacturing, control, and production became absolutely critical to ensure that the industrial processes continued seamlessly. Besides, efficient operation without human interaction boosted the need for automation. Thus, the scope for smart factories broadened, and industrial firms concentrated their efforts on incorporating advanced industrial robotics.

Another major reason for investing in sophisticated automation technologies is to reduce the cost of operations and process errors. The prices of raw materials for the industrial sector are high. Any operational failure can lead to huge losses. **Thus, manufacturers aim to increase production efficiency and flexibility.**





# Trends Driving Industrial Robotics Growth

**Robots have undoubtedly impacted the industrial market dynamics,** leading to tremendous growth and increasing acceptance of AI solutions. Largely, these key trends have driven the growth of industrial robotics:



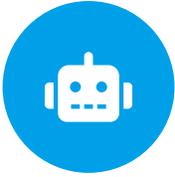
## Reduced cost of robot applications

The cost of producing robots has reduced considerably, making it easier for manufacturers to invest in such high-end technologies. The last decade witnessed a significant improvement in robot pricing. As per Statista, in 2010, industrial robots were priced at 46,000 USD on average. In 2017, the cost was reduced to 27,000 USD. Furthermore, it is estimated that by 2025, the cost of industrial robots may reduce to 10,856 USD.



## Skilled resources

Earlier, there were fewer robotics engineers and, thus, fewer skilled professionals working in this sector. But recently, robotics has advanced tremendously, making it a popular domain today. There are more people involved in designing and operating robotics systems. The BLS Research predicts that in the period 2022-2026, there will be 9% job market growth in the robotics domain.



## Adaptability

Today, robots can be easily designed as per industrial requirements using advanced computing technologies and algorithms. Developed with AI technologies, they can even demonstrate human-level performances. They are highly versatile and can quickly adapt to challenging conditions. As per the World Robotics Report by IFR, 2.7 million industrial robots were operating worldwide in 2020.



## Improved technical capabilities

Advanced types of technology are shaping the future of the industrial robotics market, creating a world of endless possibilities. They can explore unreachable areas, interact proficiently, execute complex tasks and quickly adapt to industrial settings. Edge computing, AI and ML technologies, Supervisory Control And Data Acquisition (SCADA), and Open Process Automation are some cutting-edge technologies that have drastically transformed and expanded industrial robot capabilities.





# Why are Industrial Robots Dominating the Market?

Considering the rising dominance of industrial robots, analyzing what makes these a preferred choice among manufacturers is essential. **Here are some of the top values these robots bring to the manufacturing system.**



## Increased rate of production

One of the major reasons why the industrial sector now heavily relies upon robots is the expanded rate of production possible due to their higher processing speed. Besides, they do not get tired even after hours of continuous operation. As a result, they reduce production time extensively and boost productivity efficiently. With a 1% increase in industrial robot density, productivity can increase by about 5%.



## Improved load capacity

Humans have limited capacity to carry heavy loads. But when it comes to robots, they can lift the heaviest of weights not only efficiently but also precisely control their movement, allowing fast movements, rotations, and other flexible operations. Besides, they can perform these tasks as many times as required, thus, surpassing the limitations of manual labor. As industrial processes are heavily dependent on these activities, robots have become the top choice for manufacturers.



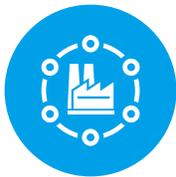
### **Reduction in operating costs**

There are major economic benefits to using industrial robots, even if the initial investment cost is high. They help save operational costs and labor costs, too, as fewer human resources are employed. The same work volume gets completed in less time, saving the associated material costs too.



### **Precise and efficient operation**

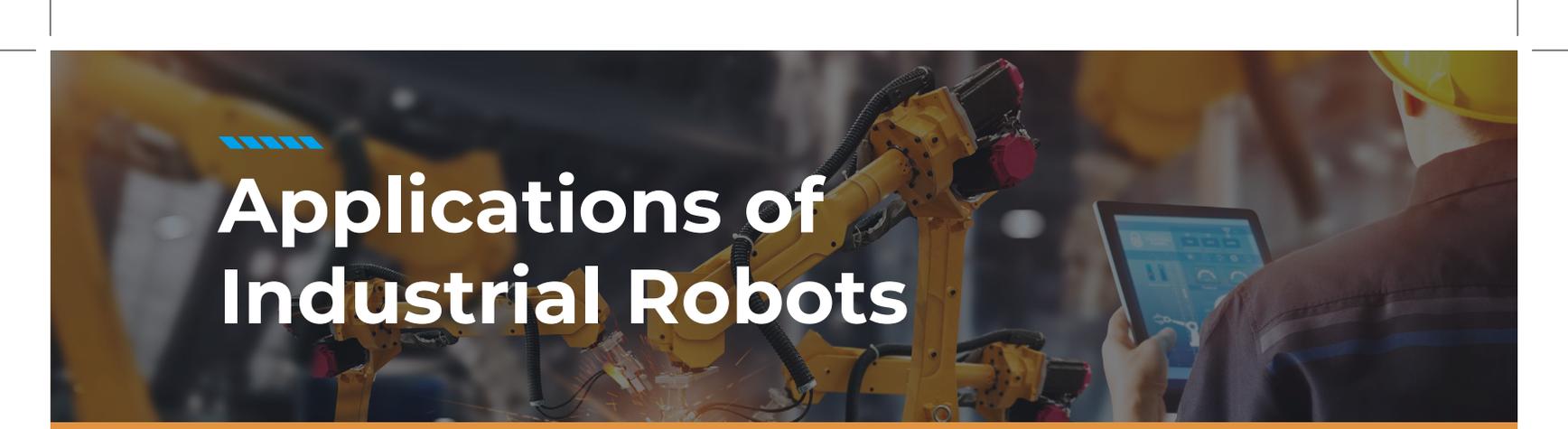
Even after thousands of operation cycles, industrial robots can continually perform the same sequence of operations. They neither require manual intervention nor any change in the algorithms. Besides, external factors like pressure, temperature, chemicals, and humidity do not affect their operating capabilities. Therefore, the product quality remains unaltered.



### **Future-proofing**

The industrial landscape is changing quickly, and the competition is also increasing. Thriving in such a competitive market requires integrating advanced technologies such as robotics within their existing architecture. This approach will help industrial firms stay relevant in dynamic market conditions, thus securing their future.





# Applications of Industrial Robots

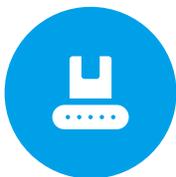
**Industrial robots have a wide application area.** The concerned market can be segmented on the type of robots, their function, or the end-use industry.



## Type

There are different types of industrial robots available today. Some popular ones are cylindrical robots, Cartesian robots, articulated, SCARA, etc. These robots can perform multiple functions and are used as per the task requirements. For instance, articulated robots are largely used for material handling, picking, and assembly operations.

There are warehouse robots that are widely used for industrial applications. Some commonly used warehouse robots are AGVs (Automated Guided Vehicles), AMRs (Autonomous Mobile Robots), and Unmanned Aerial Vehicles (UAVs). These are equipped with advanced sensors that help carry out warehouse functions like order picking, navigating, delivery, packing, and shipping.



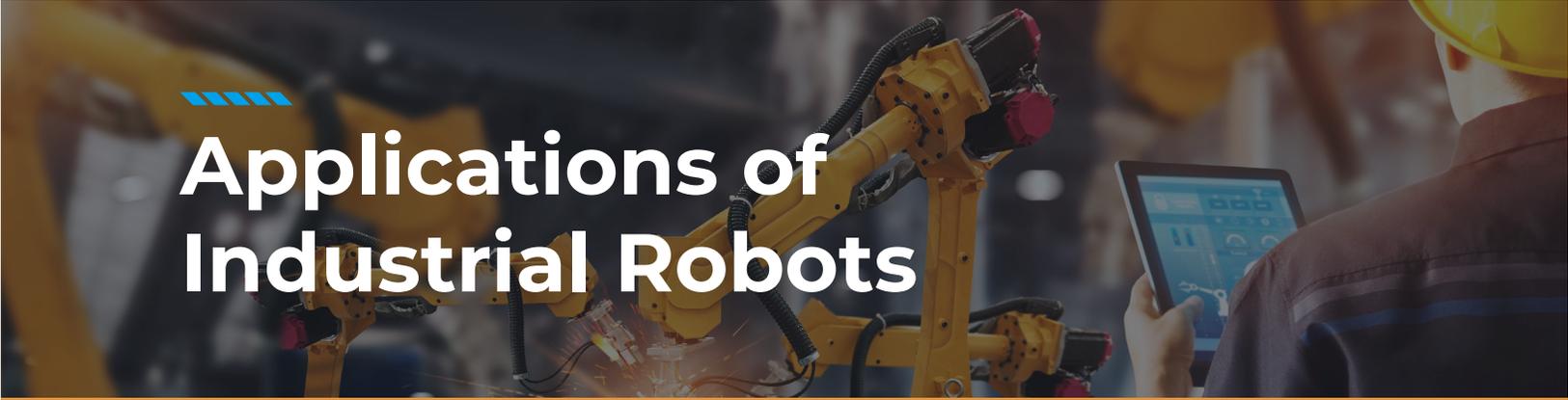
## Function

There are different operations required in the industrial segment. Thus, the market can also be segmented based on these functions. Some major functions are assembling and disassembling, welding, soldering, material handling, and painting. Warehouse robots are widely used in industries as they can carry out different functions efficiently.



## End-use industry

Different industries, like food and beverages, paints and chemicals, automotive, electrical, and electronics, rely increasingly on robots. The automotive industry is the greatest user of industrial robots, with a 43.9% share in the global industrial robotics market.



# Applications of Industrial Robots

Considering the immense growth in the industrial robotics market, it is expected that the upcoming years will unleash the full growth potential of the industry. **There has already been a surge in demand for industrial robots globally. Countries like the USA, Australia, Japan, and China have shown potential for immense growth in this sector.**

Considering the immense growth in the industrial robotics market, it is expected that the upcoming years will unleash the full growth potential of the industry. There has already been a surge in demand for industrial robots globally. Countries like the USA, Australia, Japan, and China have shown potential for immense growth in this sector.

Established players have already entered the market with record investments. For example, Hyundai Motor Group has recently invested 400 million USD in contributing to robotics advancements. The funding will be used to establish Boston Dynamics AI Institute. Thus, it is evident that there is a positive investment outlook and growth expectation across the robotics industry.

In the future, small and medium-sized companies will also invest in these advanced solutions, thus expanding the consumer market segment of industrial robotics. There are scopes of fundamental advancements in this segment as digitization is at its peak. Also, these businesses may develop innovative products to cater to the rapidly changing consumer taste.

There is increasing scope for collaborative robots in the future. These robots can work together with humans, and thus there are fewer possible damages and interruptions. Even unskilled users can operate them with proper training.

Therefore, there are no signs of slowing down in the industrial robotics market. Rather, the sector is poised for dynamic growth, fuelled by fast-paced technological developments.



## Hokuyo Sensor Products for Industrial Robots

Sensors make robots intelligent, and they are the core of industrial robots. For improved productivity and robotic performance, sensors play an integral role. Therefore, choosing high-quality sensors that can support industrial applications is crucial.

Hokuyo offers high-quality sensors designed specifically as per industry standards. We are well-equipped with reliable technology and skilled experts to offer unparalleled service and support. Our smart sensing solutions include safety laser scanners, laser distance sensors, obstacle detection, optical data transmission, and crane collision avoidance.

**For more information about our robotics solutions, contact us today.**

# SOURCES



<https://www.maximizemarketresearch.com/market-report/global-industrial-robotics-market/24917/>

<https://www.mckinsey.com/~media/mckinsey/industries/advanced%20electronics/our%20insights/growth%20dynamics%20in%20industrial%20robotics/industrial-robotics-insights-into-the-sectors-future-growth-dynamics.ashx>

<https://www.statista.com/statistics/1120530/average-cost-of-industrial-robots/>

<https://www.robotictomorrow.com/article/2019/06/the-robotics-engineering-job-market-expected-growth-and-changes/13812>

<https://ifr.org/ifr-press-releases/news/record-2.7-million-robots-work-in-factories-around-the-globe>

<https://blog.trade.gov/2020/12/22/robots-and-the-economy-the-role-of-automation-in-productivity-growth/>

<https://www.mordorintelligence.com/industry-reports/robotics-market>

<https://www.analyticsinsight.net/the-future-of-industrial-robotics-market/>

<https://hokuyo-usa.com/>

<https://hokuyo-usa.com/contact>

<https://hokuyo-usa.com/products>