Smart Factory Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

Market Report | 2023-01-23 | 280 pages | Mordor Intelligence

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Report description:

The global smart factory market (hereafter referred to as the market studied) global smart factory market was valued at USD 295.65 Billion in 2021. It is expected to reach USD 514.29 Billion by 2027, registering a CAGR of 9.74% during the forecast period, 2020-2027 (hereafter, referred to as the forecast period). Coupled with the Industrial Internet of Things (IIoT) and smart factories, where industrial devices are connected via the internet, the sheer volume of real-time data (Big Data) would create means for Industry 4.0 to bring about a massive change in the way modern-day control systems function.

Key Highlights
Several manufacturing companies are capable of achieving zero waste production and shorter time-to-market. Effortless monitoring, reduction of waste, and production speed are some of the significant advantages of automated manufacturing processes. This technology offers users an improved quality of standardization and dependable products within the time and at a much lower cost.
According to Cisco, by 2022, machine-to-machine (M2M) connections that support IoT applications are likely to account for more than half of the world's 28.5 billion connected devices. Manufacturers worldwide also understand that the next generation of robotics and automation technologies is a revolutionary opportunity to upgrade manufacturing in terms of productivity, quality, safety, and cost metrics. Also, increased year-on-year robotic automation expenditure mainly expands the scope of the studied market.
The adoption of smart systems can reduce human labor, particularly in challenging environments. Quality control processes have historically relied on human intervention. Still, the greater availability of these smart factory systems, with more user-friendly controls, is expected to gain popularity in complex manufacturing settings.
Industrial system architects, integrators, and machine builders have leveraged connected computing advances to aid manufacturing facilities function more efficiently. The rising need for real-time intelligence, better control of operations,

scheduling, and increasing market penetration of Big Data analytics in the manufacturing industry is expected to generate demand for advanced automation technologies shortly. Big?Data?analytics has been used to refine complicated processes and manage supply?chains.
The COVID-19 outbreak and lockdown restrictions across the globe have affected industrial activities across the world. Some of the effects of lockdown include supply chain disruptions, lack of availability of raw materials used in the manufacturing process, labor shortages, fluctuating prices that could cause the production of the final product to inflate and go beyond budget, shipping problems etc. Following the global economic recession led by COVID-19, the global smart factory market has witnessed a positive impact from the demand side and a mixed impact from the supply side.

Smart Factory Market Trends

Growing Adoption of Articulated Robot Across Various End Users

Over the last few years, the application of articulated robots has registered significant growth in several areas, ranging from painting a car to assembling any component. However, the significant usage of articulated robots in aerospace, oil and gas, and various other industries that commonly manufacture large parts using articulated robots aided the market's expansion.
For instance, KUKA Titan and 6-axis articulated robots, which are powerful and effective, can be used to shift massive steel girders. Consequently, articulated robots are used to yield in bulk with precision and at a much faster rate, thus increasing the production efficiency, minimalizing human error and effort, and increasing the quality of end products.
The players in the market are looking to strengthen their competitiveness through various efforts, such as the launch of new products. For instance, in September 2021, Honeywell unveiled its latest robotic technology invention, aimed to support warehouses and distribution centers to automate the manual process of unloading pallets and minimizing the risk of injuries and workforce shortages.
Honeywell's Smart Flexible Depalletizer, powered by powerful machine learning and breakthroughs in sensing and grasping technologies, reduces the requirement for physical labor to break down pallet loads - roles that are prone to injury. The depalletizer's articulated robotic arm is guided by progressive vision and perception technologies, which allow cases picked from a single- or mixed-SKU pallet on a fixed or mobile location.
However, there are various restrictions left, which could hamper the growth of articulated robots. Articulated robots are automatically reprogrammed, controlled, and have multi-purpose manipulators that have significantly enabled in gaining considerable industrial traction, which is not apt in SMEs.

Asia-Pacific Occupies the Largest Market Share

In Asia-Pacific, Industry 4.0, the newest industrial revolution, has fuelled the development of new technologies, like collaborative robots. AI-enabled robots have enabled industries to use robots to streamline many processes, increase efficiency, and eliminate errors. Increased workplace safety and improved production capabilities have further driven industries to invest in robotic systems.
For instance, China has led the industrial robot market, which has driven its way to smart factory automation in the region and is one of the leading manufacturing countries in Asia-Pacific and globally. The increase in shipment of industrial robots in the country and the adoption of various Industrial Control Systems facilitate factory automation at scale.
The growth of the market in India is complemented by the adoption of industrial control systems with various companies offering different solutions and is characterized by recent developments. For instance, Delta Electronics offers a wide range of automation products and solutions, including human-machine interfaces, sensors, and robot solutions. ABB India announced in March 2021

that it had reached the cumulative 5-gigawatt mark to provide PLC-based solar plant automation in India.
Similarly, Japan was a pioneer in the transition to an automated industrial economy in the Asia-Pacific region. The adoption of Industrial Version 4.0 is accelerating. The country has established itself as a manufacturing center for factory automation devices, supplying them to regional and worldwide markets in Asia-Pacific.

Smart Factory Market Competitor Analysis

The Smart Factory Market is highly competitive and consists of several major players. In terms of market share, few major players currently dominate the market, and the market is moving towards fragmentation. These major players in the market are focusing on expanding their customer base across foreign countries. These companies leverage strategic initiatives like mergers and acquisitions, partnerships, and product innovation to increase their market shares and profitability. The major players in the market are Siemens Ag, Schneider Electric SE, Honeywell International, and Robert Bosch GmbH, among others.

January 2022: KUKA and Ford Otosan of Turkey signed a new framework agreement to supply more than 700 robots to Ford's next-generation electrical and connected commercial vehicle project at its Ford plant in Cocaeri. This agreement represents the continuation of a corporate partnership that has been in place for over 20 years.
September 2021: Teledyne FLIR introduced the latest additions to the Blackfly S GigE camera line, the BFS-PGE-50S4M-C, and BFS-PGE-50S4C-C. These 5MP models are particularly well suited for integration into small handheld devices with a lightweight of 53 grams and high pixel density ideal for integration with compact, low-cost lenses. Utilizing Sony's IMX547 sensor, it achieves deficient optical performance with excellent quantum efficiency and very low absolute sensitivity, making it suitable for various challenging applications from biometrics to scientific research.
June 2021: Rockwell Automation and Plex Systems, a cloud-native smart manufacturing platform, announced that Rockwell signed an agreement to acquire Plex for USD 2.22 billion in cash. Plex provides the only single-instance, multi-tenant SaaS manufacturing platform that operates at scale, including advanced manufacturing execution systems, quality, and supply chain management capabilities. This acquisition would enable Rockwell to scale up its cloud offerings for various industries.

Additional Benefits:

The market estimate (ME) sheet in Excel format
3 months of analyst support

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