

Smart Manufacturing Market to Exhibit Moderate Growth at a CAGR of 13.7% - 2031

The market for smart manufacturing is anticipated to be shaped by the Internet of Things (IoT)

WILMINGTON, NEW CASTLE, DE, UNITED STATES, January 10, 2025 /EINPresswire.com/ -- The global [10000] [100000] size was valued at \$249.5 billion in 2021, and is projected to reach \$860 billion by 2031, growing at a CAGR of 13.7% from 2022 to 2031. Smart manufacturing is driving a shift towards digital



transformation, as companies seek to leverage advanced technologies to optimize their operations and improve product quality. This includes the use of IoT devices, data analytics, and artificial intelligence (AI) to create more efficient and effective manufacturing processes. The main elements fostering an optimistic view for smart manufacturing market growth are the rapid digitalization across industries and the rising demand for industrial automation. However, the high expenses associated with smart manufacturing technology in areas that are developing is projected to impede the growth of the global smart manufacturing market in the coming future. On the contrary, the extensive use of manufacturing execution systems (MES) and sophisticated data models for process-specific operation are expected to offer remunerative opportunities for expansion of the smart manufacturing market during the forecast period.

Advancements in technology, particularly in areas such as the Internet of Things (IoT), cloud computing, and big data analytics, are driving the growth of the smart manufacturing industry. These technologies enable manufacturers to collect and analyze large amounts of data in real-time, providing valuable insights and improving decision-making. The Internet of Things (IoT) involves the use of sensors and connected devices to gather data from machines, equipment, and products. This data can then be used to optimize production processes, predict maintenance needs, and improve quality control. Cloud computing allows this data to be stored

and processed in a scalable and cost-effective way, enabling real-time monitoring and analysis. Big data analytics allows manufacturers to analyze large amounts of data to identify patterns and insights that can assist decision-making. This can help manufacturers to optimize production, reduce waste, and improve quality control. Machine learning and artificial intelligence can also be used to automate decision-making and improve production efficiency. Advancements in technology are also driving the development of new products and services, such as predictive maintenance and remote monitoring solutions. These solutions can help manufacturers to improve uptime, reduce downtime, and optimize maintenance schedules.

Based on component, the hardware sub-segment held the highest market share in 2021. The surging growth of the sub-segment is mainly because robots and other automated systems are an important part of the hardware segment, which provides the manufacturers the ability to perform repetitive and dangerous tasks with precision and consistency. Besides, 3D printers are another emerging technology in the hardware segment, enabling manufacturers to create complex and customized parts and products using a range of materials, which is driving the sub-segment growth.

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Smart manufacturing is revolutionizing the industrial sector by integrating cutting-edge technologies like the Internet of Things (IoT), artificial intelligence (AI), and machine learning. By identifying and fixing errors in real-time, guaranteeing uniform quality across production lines, and cutting waste, these technologies assist producers in raising the caliber of their goods. Smart Manufacturing may give manufacturers real-time insights into the manufacturing process through the use of AI and IoT, helping them to swiftly identify and fix quality concerns. In addition to boosting customer happiness by ensuring that products meet or exceed their expectations, this can result in significant cost savings by lowering the need for manual inspection and rework.

Based on end-user, the automotive sub-segment accounted for the largest share in 2021, owing to the growing usage of IoT and big data in the automotive industry to monitor and optimize manufacturing processes, track inventory and assets, and improve supply chain management. These technologies enable manufacturers to collect and analyze data in real-time, enabling them to make faster and more informed decisions. The automotive segment of the smart manufacturing market is highly competitive and rapidly evolving. Manufacturers that adopt smart manufacturing technologies and embrace innovation are likely to remain competitive and achieve success in this dynamic industry.

The global <u>smart manufacturing market share</u> is segmented based on component, application, and end-user, and region. By component, it is classified into hardware, software, and services. By application, it is classified into machine execution system, programmable logic controller, enterprise resource planning, Scada, discrete control systems, human machine interface, machine vision, 3D printing, product lifecycle management, plant asset management and others. By end-user, it is classified into automotive, aerospace & defense, chemicals & materials, healthcare, industrial equipment, electronics, food and agriculture, oil & gas, and others. By region, the market is analyzed across North America, Europe, Asia-Pacific, and LAMEA.

The report offers a comprehensive analysis of the global smart manufacturing market trends by thoroughly studying different aspects of the market including major segments, market statistics, market dynamics, regional market outlook, investment opportunities, and top players working towards the growth of the market. The report also sheds light on the present scenario and upcoming trends & developments that are contributing to the growth of the market. Moreover, restraints and challenges that hold power to obstruct the market growth are also profiled in the report along with the Porter's five forces analysis of the market to elucidate factors such as competitive landscape, bargaining power of buyers and suppliers, threats of new players, and emergence of substitutes in the market.

However, high costs associated with implementing smart manufacturing solutions, lack of standardization among suppliers of equipment and protocols, constant need for software updates, and limited use of technologies due to technical issues are among the major factors that will limit market growth The adoption of this technology may be significantly hampered by the substantial initial expenditure needed to deploy smart manufacturing, particularly for small and medium-sized businesses (SMEs). Smart manufacturing technology like cutting-edge sensors, robots, artificial intelligence, and machine learning algorithms can be expensive to purchase and integrate.

Based on region, North America held the highest share in the global smart manufacturing market in terms of revenue in 2021, mainly owing to the availability of skilled workforce, with many workers trained in the latest manufacturing technologies and techniques. This has enabled manufacturers to implement smart manufacturing solutions more easily, and to achieve high levels of productivity and efficiency. Besides, the North America region has a robust infrastructure, including advanced transportation systems, communication networks, and logistics facilities. This infrastructure supports the efficient movement of goods and materials, making it easier for manufacturers to adopt smart manufacturing technologies and improve

their supply chain management.

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