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Big Data Analytics In Manufacturing - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2024 - 2029)

https://marketpublishers.com/r/B2A0BCC907A2EN.html
Date: July 2024
Pages: 139
Price: US$ 4,750.00 (Single User License)
ID: B2A0BCC907A2EN

Abstracts

The Big Data Analytics In Manufacturing Market size is estimated at USD 9.07 billion in 2024, and is expected to reach USD 19.25 billion by 2029, growing at a CAGR of 16.24% during the forecast period (2024-2029).

The primary factors driving the market's growth include evolving technology, assets, engineering-oriented value chains, and rapid industrial automation led by Industry 4.0. The market sizing estimates reflect the revenue generated by the market vendors by offering big data analytics in manufacturing solutions to various end-users, such as semiconductors, aerospace, and automotive.

Key Highlights

Complex production processes, cross-company relationships in the supply chain, and constant pressure to avoid errors must be addressed by industrial manufacturers. Therefore, manufacturers need to expand their data sources so that costs can be reduced, the quality of products can be improved, and efficiency is increased. Companies using big data analytics improve key processes, eliminate bottlenecks, predict demand, and anticipate potential failures and delays.

With the widespread use of connected devices and sensors, along with the enabling of M2M communication, there has been a significant increase in the data generated in the manufacturing industry. These data points can be of different types, from a metric detailing the time a material takes to pass through one process cycle to a more complex one, such as calculating the material stress capability in the automotive industry.

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Big data in manufacturing is increasing as manufacturers across the globe are seeing the benefits of integrating big data analytics in manufacturing across industries like oil and gas, automotive, food and beverages, refineries, plastics, and chemicals. Manufacturing companies are increasingly adopting big data analytics solutions to manufacture products and devices with high precision and accuracy. For instance, GE, known as the manufacturer of jet engines, locomotives, turbines, and medical imaging equipment, also develops smart, connected versions of the equipment in the massive data they generate.

One of the factors hindering the growth of the market studied is the lack of digital skills and awareness to handle the unstructured data effectively for analysis. Big data security concerns are another major factor restraining the market adoption of industrial manufacturers.

The COVID-19 pandemic disrupted several businesses but accelerated the shift to digitization in several sectors. In several regions that have been lagging in adopting digital technologies, manufacturers' behavior in various sectors may have been permanently changed.

Big Data Analytics In Manufacturing Market Trends

Automotive Industry to be the Fastest Growing End User

The global automobile industry is undergoing a transformation that includes an ever-increasing array of models and fuel types, fluctuations in used car values, and supply chain challenges that hinder OEMs in projecting future value and understanding the total cost of ownership. By leveraging big data, analytics, and insights, industry vendors can create a solution that helps OEMs adapt to the changing industry demands.

Big data analytics allows the automobile industry to collect data from ERP systems and combine information from multiple functional units of the business and the supply chain members. With the emergence of industry IoT, a networked system, and M2M communication, the automotive industry is positioning itself towards Industry 4.0, Where M2M/IoT connections are networked communications that allow different devices to share data and carry out automatic tasks without the need for human interaction.

RFIDs, sensors, barcode readers, and robots are now standard in the industry's manufacturing floor. These devices have increased the data generation points exponentially.

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The automotive industry is now evolving into a more data-driven industry to reduce the costs associated with faulty assembly and over-inventory stockings. It can now plan the maintenance of the assembly lines more accurately. It has all been possible due to the adoption of predictive analytics in the industry.

North America to Witness Highest Growth

Fueled by Industry 4.0, the United States continues to innovate and consolidate its position in the global market in the big data analytics industry. The embracing of smart technologies in the market has also directly impacted the national economy.

The United States is a substantial market for vendors offering solutions for big data analytics. It is expected to grow significantly over the forecast period, owing to the early adoption of factory automation. Moreover, all the major vendors studied in the market are US-based. The United States is on the verge of the fourth industrial revolution, where data is used in large-scale production while integrating data with various manufacturing systems throughout the supply chain. This is fueling the country's adoption of the advanced system.

Moreover, the major driver for the growth of big data in the country’s automotive sector is the significant presence of technology providers. These players focus on entering into partnerships, merger acquisitions, and innovative solutions offerings to stay in the regional and globally competitive landscape.

The automotive industry is one of the largest consumers of industrial automation systems. Canada has eight large manufacturing plants operated by Toyota, Chevrolet, Honda, and Ford. Moreover, the country has 700 manufacturers that create parts that meet the automotive industry's requirements. The automotive industry is the most significant in this region as it contributes the most to the manufacturing sector, and it is expected to impact the market studied positively.

Big Data Analytics In Manufacturing Industry Overview

Big data analytics in the manufacturing market is semi-consolidated. The huge

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expansion of capabilities in big data analytics technology, with the availability of open-source tools, may tempt companies to compete with other players and give away too much of their improved product performance in an environment that escalates costs and erodes industry profitability. Some of the major players include Alteryx Inc., IBM Corporation, Knime AG, Microsoft Corporation, and Qliktech International AB.

In December 2023, Knime AG announced that KNIME Analytics Platform 5.2. is now available. The new version features user interface improvements, a smarter and more transparent Artificial Intelligence assistant, and a modernized scripting experience with AI.

In June 2023, Moody's Corporation and Microsoft announced a partnership to deliver next-generation data, analytics, research, collaboration, and risk solutions for financial services. The partnership would create innovative products to enhance insights into corporate intelligence and risk assessment with the help of Microsoft’s AI and Moody's proprietary data, analytics, and research.

Additional Benefits:

The market estimate (ME) sheet in Excel format

3 months of analyst support

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