

Global AI in Manufacturing Market: Focus on End-Use Industry, Application, Technology, Component, and Region - Analysis and Forecast, 2024-2034

<https://marketpublishers.com/r/GFFCD1677349EN.html>

Date: May 2024

Pages: 0

Price: US\$ 4,950.00 (Single User License)

ID: GFFCD1677349EN

Abstracts

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Introduction to the AI in Manufacturing Market

AI is reshaping the manufacturing landscape by boosting productivity, efficiency, and data-driven decision-making. Automation of tasks through AI-powered robots not only streamlines operations but also enhances workplace safety. By freeing up human workers to focus on more complex activities, AI enables manufacturers to stay competitive in a rapidly evolving global market, paving the way for a more agile and responsive industry. Considering the optimistic scenario, the market is valued at \$5.12 billion in 2024 and is expected to grow at a CAGR of 38.46% to reach \$132.54 billion by 2034. The growth trend is chiefly driven by the requirement to manage increasingly intricate datasets and the advancements in machine learning algorithms and data analytics within the manufacturing sector.

Despite these positive drivers, the market faces hurdles such as skilled workforce availability, particularly in developing nations. However, leveraging AI, machine learning, and natural language processing (NLP) for smart enterprise processes presents lucrative opportunities for the expansion of AI in manufacturing sector. With AI and big data analytics, companies can swiftly analyze extensive structured and unstructured data from diverse sources. This enables them to identify anomalies, reduce maintenance expenses, enhance customer service, implement predictive and

preventive maintenance measures, and leverage raw data for informed decision-making.

The AI in manufacturing market in the North America region is experiencing significant growth. Many countries in the North America region, including the U.S., Canada, and Mexico, have implemented policies and incentives to promote the adoption of AI. These policies typically include subsidies, tax incentives, and regulatory measures aimed at reducing emissions and promoting sustainable transportation solutions. The region's AI in manufacturing landscape is dynamic, featuring a mix of startups, research initiatives, and strategic collaborations among industry leaders. Currently, North America is leading the market. However, during the forecast period, the Asia-Pacific region is poised for substantial growth in the AI in manufacturing market. This growth is fueled by the rapid acceptance and integration of AI technologies across various manufacturing industries, leading to enhanced operational efficiency and innovative advancements.

Leading companies such as NVIDIA Corporation, IBM, and Intel Corporation are pioneering the way forward, providing a comprehensive array of AI products encompassing software, hardware, machine learning, computer vision, and natural language processing. The companies utilize AI to revolutionize manufacturing through solutions such as NVIDIA Metropolis, Isaac Sim, IBM's generative AI, and Intel's semiconductor optimization, enhancing efficiency and enabling data-driven decision-making. They also invest heavily in research and development to innovate new products.

Market Segmentation:

Segmentation 1: by End-Use Industry

Automotive

Medical Devices

Electronics

Energy and Power

Heavy Metals and Machine Manufacturing

Aerospace and Defense

Others

Segmentation 2: by Application

Assembly/Quality Testing

Product Development and Engineering

Procurement

Order Management

Maintenance

Logistics and Inventory Management

Others

Segmentation 3: by Component

Software

Hardware

Service

Segmentation 4: by Technology

Machine Learning

Computer Vision

Natural Language Processing (NLP)

Others

Segmentation 5: by Region

North America

Europe

Asia-Pacific

Rest-of-the-World

Key Market Players and Competition Synopsis

The companies that are profiled in the global AI in manufacturing market have been selected based on input gathered from primary experts and analyzing company coverage, product portfolio, and market penetration.

Some of the prominent companies in this market are:

IBM

Microsoft

Siemens

Nvidia Corporation

Google LLC

Key Questions Answered in this Report:

What are the main factors driving the demand for AI in manufacturing markets?

What are the major patents filed by the companies active in the AI in manufacturing markets?

Who are the key players in the AI in manufacturing markets, and what are their respective market shares?

What partnerships or collaborations are prominent among stakeholders in the AI in manufacturing markets?

What are the strategies adopted by the key companies to gain a competitive edge in AI in manufacturing markets?

What is the futuristic outlook for the AI in manufacturing markets in terms of growth potential?

What is the current estimation of the AI in manufacturing markets, and what growth trajectory is projected from 2024 to 2034?

Which application, and product segment is expected to lead the market over the forecast period (2024-2034)?

What could be the impact of growing end-use industries in the AI in manufacturing markets?

Which regions demonstrate the highest adoption rates for AI in manufacturing markets, and what factors contribute to their leadership?

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