

Global Artificial Intelligence (AI) in Manufacturing Market Size study, by Component (Hardware, Software, Services), by Technology (Machine Learning, Computer Vision, Context Awareness, Natural Language Processing), by Application (Material Movement, Predictive Maintenance & Machinery Inspection, Production Planning, Field Services, Quality Control & Reclamation, Others), by End-Use (Semiconductor & Electronics, Energy & Power, Medical Devices, Automobile, Heavy Metal & Machine Manufacturing, Others) and Regional Forecasts 2022-2032

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Abstracts

The global Artificial Intelligence (AI) in Manufacturing market is valued approximately at USD 4.10 billion in 2023 and is anticipated to grow with a healthy growth rate of more than 44.20% over the forecast period 2024-2032. Artificial Intelligence in manufacturing refers to the utilization of machine learning and deep learning solutions to optimize manufacturing processes. Leveraging the vast data produced by industrial IoT and smart factories, AI applications in manufacturing encompass predictive maintenance, production planning, process control, quality control, and logistics management. These technologies enable significant cost reductions in maintenance, enhance production efficiency, and support decision-making processes by analysing complex data sets.

The burgeoning demand for enhanced manufacturing efficiency and the proliferation of

Industry 4.0 are key drivers of market growth. The integration of AI-driven solutions like analytics, augmented reality, and smart packaging within manufacturing facilities is facilitating the digital transformation of the sector. As manufacturing firms increasingly seek sustainable solutions, AI adoption in this industry is set to expand significantly. Advancements in automation and the growing need for big data integration are also fuelling market expansion. The widespread use of machine vision cameras in various manufacturing applications—ranging from machinery inspection to quality control—illustrates AI's pivotal role in this sector. Key market players are continuously innovating and expanding their product portfolios to maintain competitiveness. For instance, Databricks' launch of the Databricks Lakehouse for manufacturers in April 2023, featuring pre-developed AI solutions, underscores the ongoing technological advancements within the industry.

North America led the market with a 33.9% share in 2023, driven by the presence of top-tier companies producing high-performance AI hardware components. The U.S. government's National Strategy for Advanced Manufacturing emphasizes research and development in machine learning, data privacy, and risk assessment, facilitating AI integration in manufacturing. Additionally, Asia Pacific is poised for significant growth, with countries like China, Japan, and India making strides in smart manufacturing and Industry 4.0 principles, thereby enhancing production procedures through AI-driven technologies.

Major market player included in this report are:

AIBrain Inc.

Amazon Web Services

Aquant Inc.

Cisco Systems Inc.

General Electric Company

General Vision Inc.

Google LLC (Alphabet Inc.)

IBM Corporation

Intel Corporation

Micron Technology Inc.

Microsoft Corporation

Mitsubishi Electric Corporation

NVIDIA Corporation

Oracle Corporation

Rethink Robotics

The detailed segments and sub-segment of the market are explained below:

By Component:

Hardware

Software

Services

By Technology:

Machine Learning (ML)

Computer Vision

Context Awareness

Natural Language Processing

By Application:

Material Movement

Predictive Maintenance & Machinery Inspection

Production Planning

Field Services

Quality Control & Reclamation

Others

By End-Use:

Semiconductor & Electronics

Energy & Power

Medical Devices

Automobile

Heavy Metal & Machine Manufacturing

Others

By Region:

North America

U.S.

Canada

Europe

UK

Germany

France

Spain

Italy

ROE

Asia Pacific

China

India

Japan

Australia

South Korea

RoAPAC

Latin America

Brazil

Mexico

RoLA

Middle East & Africa

Saudi Arabia

South Africa

RoMEA

Years considered for the study are as follows:

Historical year – 2022

Base year – 2023

Forecast period – 2024 to 2032

Key Takeaways:

Market Estimates & Forecast for 10 years from 2022 to 2032.

Annualized revenues and regional level analysis for each market segment.

Detailed analysis of geographical landscape with Country level analysis of major regions.

Competitive landscape with information on major players in the market.

Analysis of key business strategies and recommendations on future market approach.

Analysis of competitive structure of the market.

Demand side and supply side analysis of the market.

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