

Artificial Intelligence in Manufacturing Market by Offering (Hardware, Software, Services), Technology (Machine Learning, Natural Language Processing), Application (Predictive Maintenance & Machinery Inspection, Cybersecurity) - Global Forecast to 2028

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Abstracts

The artificial intelligence in manufacturing market is expected to reach USD 20.8 billion by 2028 from USD 3.2 billion in 2023, at a CAGR of 45.6% from 2023–2028. The growth of this market is attributed to the Rising need to handle increasingly large and complex dataset and emerging industrial IoT and automation technologies.

“Machine learning technology segment to dominate the artificial intelligence in manufacturing market in 2023”

Machine Learning includes various technologies, such as deep learning, supervised learning, unsupervised learning, and reinforcement learning. Machine learning enables systems to improve their performance automatically with experience. Machine Learning helps develop a computer program/algorithm that can access data and use it to train itself without human intervention. The ability of Machine Learning to collect and handle big data and its increasing applications in predictive analytics and machinery inspection, quality control, and cybersecurity are expected to drive the growth of the artificial intelligence in manufacturing market for Machine Learning technology.

“Quality control segment is projected to grow at a highest CAGR during the forecast period.”

AI-driven quality control systems empower plant operators to identify deviations in product properties during the manufacturing process. These quality control applications

depend on gathering both three-dimensional (3D) and two-dimensional (2D) data through laser-based aggregate scanning systems, which subsequently transform this data into digital images. The core technologies applied in these quality control applications within manufacturing plants encompass machine learning, computer vision, and context-aware computing. This robust quality control framework aids plant operators in validating the product quality, and it finds extensive application in industries such as pharmaceuticals, food and beverages, as well as semiconductors. “Software segment hold the largest market share during the forecast period”

A computer system needs highly effective and efficient hardware and software to exhibit intelligent capabilities like the human brain. The growing adoption of AI solutions and platforms in various industries and the widening application scope of AI in the manufacturing sector are the prime factors driving the growth of the artificial intelligence in manufacturing market for the software segment.

“China is to dominate the artificial intelligence in manufacturing market of Asia Pacific in 2023”

Asia Pacific consists of some of the fastest-growing economies—such as China, Japan, and South Korea. China is a key manufacturing hub in the Asia Pacific region. The country is a major force of artificial intelligence development in Asia Pacific, with strengths in data accessibility and policy support. The manufacturing sector in China is growing rapidly, resulting in the introduction of new robotics and big data technologies. All these factors, coupled with the presence of a large number of manufacturing plants in China, are expected to increase the manufacturing data volume. Moreover, the government of China is undertaking initiatives to encourage the adoption of AI technologies in manufacturing

The break-up of the profiles of primary participants:

By Company Type – Tier 1 – 55%, Tier 2 – 25%, and Tier 3 – 20%

By Designation – C-level Executives – 60%, Directors – 20%, and Others – 20%

By Region – North America - 40%, Europe – 30%, Asia Pacific – 20%, and Rest of the World – 10%

Major players in the artificial intelligence in manufacturing market include Siemens, IBM,

Intel Corporation, NVIDIA Corporation, and General Electric and others.

Research Coverage

The report segments the artificial intelligence in manufacturing market by Offering, Technology, Application, Industry, and Region. The report also comprehensively reviews drivers, restraints, opportunities, and challenges influencing market growth. The report also covers qualitative aspects in addition to the quantitative aspects of the market.

Reasons to buy the report:

The report will help the market leaders/new entrants with information on the closest approximate revenues for the overall artificial intelligence in manufacturing market and related segments. This report will help stakeholders understand the competitive landscape and gain more insights to strengthen their position in the market and plan suitable go-to-market strategies. The report also helps stakeholders understand the market pulse and provides information on key market drivers, restraints, opportunities, and challenges.

The report provides insights on the following pointers:

Analysis of critical drivers (Rising need to handle increasingly large and complex dataset, emerging industrial IoT and automation technology, surging adoption of AI fuelling growth of semiconductor chipset manufacturing, growing investment propelling growth of start-ups in manufacturing AI space), restraints (Reluctance among manufacturers to adopt AI-based technologies), opportunities (enhance manufacturing efficiency through AI-powered predictive analytics and production planning, application of AI-driven machine learning and NLP for intelligent enterprise processes), and challenges (lack of skilled workforce, especially in developing countries and concerns regarding data privacy and cybersecurity regulations) influencing the growth of the artificial intelligence in manufacturing market.

Product Development/Innovation: Detailed insights on upcoming technologies, research and development activities, and new product launches in the artificial intelligence in manufacturing market.

Market Development: Comprehensive information about lucrative markets – the

report analyses the artificial intelligence in manufacturing market across various regions.

Market Diversification: Exhaustive information about new products, untapped geographies, recent developments, and investments in the artificial intelligence in manufacturing market.

Competitive Assessment: In-depth assessment of market shares, growth strategies, and product offerings of leading players like Siemens (Germany), IBM (US), Intel Corporation (US), NVIDIA Corporation (US), and General Electric Company (US).

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