

Artificial Intelligence (AI) Server Market Forecasts to 2030 – Global Analysis By Server Type (Rack Servers, Blade Servers, Tower Servers, Hyper-Converged Servers and Other Server Types), Component, Deployment Mode, Application, End User and By Geography

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Abstracts

According to Statistics MRC, the Global Artificial Intelligence (AI) Server Market is accounted for \$34.58 billion in 2024 and is expected to reach \$435.26 billion by 2030 growing at a CAGR of 36.2% during the forecast period. An Artificial Intelligence (AI) server is a specialized computing system designed to support and accelerates AI workloads, such as machine learning, deep learning, and data analysis. It typically features high-performance processors, large memory, and powerful graphics processing units (GPUs) to handle complex algorithms and large datasets. These servers enable rapid model training, inference processing, and support for real-time AI-driven decision-making, making them crucial in various industries.

According to the research paper of Science Direct, AI servers comprised approximately 23% of the total server market in 2023.

Market Dynamics:

Driver:

Rising shift towards cloud-based AI services

The rising shift towards cloud-based AI services is driven by the increasing demand for

scalable, flexible, and cost-efficient AI solutions. Cloud platforms enable businesses to access powerful AI models and computing resources without the need for on-premises infrastructure, reducing capital expenditures. This shift accelerates AI adoption across various sectors by offering faster deployment, high availability, and enhanced collaboration. The cloud environment fosters rapid advancements in AI technology, creating a thriving ecosystem for AI server market expansion.

Restraint:

Data privacy and security concerns

Data privacy and security concerns in AI servers arise from the vast amounts of sensitive data processed by AI systems, such as personal, financial, and health information. The potential for data breaches, unauthorized access, or misuse of AI-driven insights poses risks to individuals and organizations. These concerns hinder the growth of the AI server market as businesses and governments may face regulatory restrictions, compliance costs, and consumer mistrust.

Opportunity:

Rollout of 5G networks

5G enables real-time processing of large datasets generated by AI-powered systems, such as autonomous vehicles, smart cities, and IoT devices. This accelerated connectivity empowers AI servers to deliver faster decision-making, deeper insights, and more efficient operations. With 5G, the demand for edge computing and high-performance AI servers grows, as businesses require powerful infrastructure to support low-latency AI tasks, boosting market growth and enabling new applications in industries like healthcare, automotive, and manufacturing.

Threat:

High initial investment & maintenance costs

The high initial investment and maintenance costs of AI servers are driven by the need for advanced hardware components like powerful processors, GPUs, and large storage systems, which are expensive to develop and implement. Additionally, maintaining these servers requires skilled personnel, frequent software updates, and infrastructure upgrades, contributing to ongoing costs. These factors can hamper the growth of the AI

server market, as the high costs limit accessibility and adoption.

Covid-19 Impact

The covid-19 pandemic accelerated the demand for artificial intelligence (AI) servers as businesses sought to enhance digital transformation, automate processes, and optimize operations. The increased reliance on remote work, e-commerce, and healthcare applications led to a surge in data processing needs, driving the adoption of AI servers. However, supply chain disruptions and chip shortages during the pandemic temporarily hindered production and delivery, slowing market growth. Despite these challenges, the overall trend towards AI-driven solutions remained positive.

The predictive analytics segment is expected to be the largest during the forecast period

The predictive analytics segment is predicted to secure the largest market share throughout the forecast period. AI servers play a crucial role in predictive analytics by processing vast amounts of historical and real-time data to forecast future trends and behaviours. By providing faster data analysis and improving decision-making accuracy, AI servers enhance predictive models, enabling businesses to optimize operations, reduce risks, and drive growth in a competitive market.

The telecommunications segment is expected to have the highest CAGR during the forecast period

The telecommunications segment is anticipated to witness the highest CAGR during the forecast period. In telecommunications, AI servers are used to optimize network management, improve customer service, and enhance predictive maintenance. These servers process large volumes of data from network operations, enabling real-time monitoring, anomaly detection, and automated decision-making. AI servers support chatbots and virtual assistants, improving customer engagement and reducing operational costs for telecom companies by automating routine tasks and troubleshooting.

Region with largest share:

Asia Pacific is expected to register the largest market share during the forecast period driven by advancements in AI technologies and increasing adoption across sectors like healthcare, automotive, and finance. Countries such as China, Japan, South Korea, and India are major contributors to the market, with high demand for AI servers in industries

like manufacturing, research, and government initiatives. The region's expanding digital infrastructure, coupled with strong investments in AI research, is propelling the market.

Region with highest CAGR:

North America is expected to witness the highest CAGR over the forecast period fuelled by strong technological advancements and significant investments in AI research. The United States, particularly, is a major market driver, with its tech giants and cloud service providers leading AI innovations and deployment. The region's robust digital infrastructure, emphasis on AI-powered solutions, and government support for AI initiatives contribute to market growth.

Key players in the market

Some of the key players profiled in the Artificial Intelligence (AI) Server Market include NVIDIA Corporation, Intel Corporation, IBM Corporation, Google LLC, Microsoft Corporation, Amazon Web Services (AWS), Netweb Technologies India Limited, Dell Technologies Inc., Cisco Systems Inc., Oracle Corporation, Lenovo Group Limited, Huawei Technologies Corporation, Alibaba Group, Baidu Inc., Qualcomm Incorporated, Supermicro Computer, Inc., Micron Technology Inc., Fujitsu Limited, HP Enterprise (HPE) and Inspur Group.

Key Developments:

In October 2024, Netweb Technologies has expanded its range of AI servers by launching the Tyrone series, which integrates NVIDIA's MGX platform. This series is the first in India to incorporate NVIDIA MGX-based Grace and GH200 Grace Hopper Superchips, marking a significant advancement in the country's AI infrastructure.

In September 2024, Lenovo has announced plans to manufacture AI servers in India and has opened a new AI-centric lab in the country. This strategic move is aimed at expanding its presence in the growing AI market in India, as well as catering to the increasing demand for AI-based solutions in various sectors such as healthcare, finance, education, and government.

Server Types Covered:

Rack Servers

Blade Servers

Tower Servers

Hyper-Converged Servers

Other Server Types

Components Covered:

Hardware

Software

Deployment Modes Covered:

On-Premise

Cloud-Based

Applications Covered:

Natural Language Processing (NLP)

Machine Learning

Image Recognition

Speech Recognition

Predictive Analytics

Robotics

Other Applications

End Users Covered:

Healthcare

Automotive

Manufacturing

Telecommunications

Finance

Other End Users

Regions Covered:

North America

US

Canada

Mexico

Europe

Germany

UK

Italy

France

Spain

Rest of Europe

Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

South America

Argentina

Brazil

Chile

Rest of South America

Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

What our report offers:

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2022, 2023, 2024, 2026, and 2030
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

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