

AI Infrastructure - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts 2019 - 2029

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Report description:

The AI Infrastructure Market size is estimated at USD 68.46 billion in 2024, and is expected to reach USD 171.21 billion by 2029, growing at a CAGR of 20.12% during the forecast period (2024-2029).

Key Highlights

- Due to the growing adoption of artificial intelligence (AI) technologies across numerous industries over the past few years, the global AI infrastructure market has grown impressive. Data processing, training, and inference are just a few of the AI workloads supported by the hardware, software, and networking components involving AI infrastructure.
- Businesses are investing more and more in advanced AI infrastructure in an effort to fully realize the potential of AI-driven solutions due to the explosion of data from multiple sources and improvements in AI algorithms. Cloud computing has played a crucial part in democratizing AI by providing AI-as-a-service solutions that allow businesses of all sizes to launch AI applications without making major upfront infrastructure investments.
- Enterprises increasingly recognize the value of incorporating artificial intelligence (AI) into their business processes, as they improve operational efficiency and reduce cost by automating process flows. Thus, companies have been using autonomous processes to improve operations and change the face of customer service (for example, through AI-powered chatbots) while spurring innovation to new heights. AI is a set of algorithms that can solve a specific set of problems and works best with a significant volume of high-quality Big Data. Chatbots can cut down the operational costs for businesses by up to 30%.
- Furthermore, as the focus of IT strategy moves from data management to intelligent action, enterprises have been increasingly recognizing the role of AI in supporting humans in problem-solving, decision-making, and creative endeavors. Enterprises recognize that implementing and using AI is critical for their continued growth in the competitive environment, with many potential opportunities, such as new opportunities using AI to drive innovation, make connections, and identify and foster new developments.

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- The increasing implementation of artificial intelligence across numerous industries is driving the huge rise of the global market for AI in infrastructure. However, the lack of qualified personnel with experience in AI technology is one of the biggest issues this industry has to deal with. The need for competent AI specialists has increased as businesses and organizations try to take advantage of AI's potential to spur innovation and achieve a competitive edge.
- The global AI infrastructure market is anticipated to experience substantial development and innovation post the COVID-19 pandemic. Businesses will continue to adopt AI technology, which will keep demand for AI infrastructure high across all sectors. The industry is expected to be dominated by cloud-based AI solutions, edge AI infrastructure, and AI as a Service (AlaaS) services.

AI Infrastructure Market Trends

Enterprises to be the Fastest Growing End User

- The AI infrastructure market's enterprise segment includes a wide range of businesses from various sectors that are using AI to gain an advantage over rivals, spur innovation and improve operational efficiency. AI is revolutionizing corporate operations and strategic decision-making across all industries, from huge multinational organizations to small and medium-sized enterprises (SMEs).
- Artificial intelligence technology has brought new levels of automation to everything ranging from vehicles and kiosks to utility grids and financial networks. However, it has become crucial for the enterprise aiming to automate the world to automate itself first. As data loads become larger and more complex and the infrastructure itself extends beyond data centers into the cloud and edge, the speed at which these new environments are provisioned, optimized, and decommissioned will rapidly exceed the capabilities of human operators. This means AI will be highly required on the ground level to handle the demands of AI initiatives.
- Further, if enterprises around the globe want to successfully carry out their transformation from traditional modes of operation to fully digitized ones, AI will play a crucial role. AI is invaluable when it comes to automating infrastructure support, security, resource provisioning, and a host of other critical activities. The major advantage of this technology is its capability to analyze massive data sets at higher speeds and greater accuracy than manual processes, offering decision-makers granular insight into the otherwise hidden forces affecting their operations.
- According to Flexera Software, 75% of enterprise respondents indicated adopting Microsoft Azure for public cloud usage in 2023. AWS, Microsoft Azure, and Google Cloud, or hyper scalers, are among the highest cloud computing platform providers worldwide. The market for AI infrastructure for businesses is one of the key factors influencing the rapid use of AI. Businesses in a variety of sectors are using AI to boost productivity, increase customer service, and accomplish strategic goals. Enterprises will be essential in determining how AI-driven innovations will develop in the future, helping to solidify AI's status as a revolutionary technology that enables companies to succeed in a data-driven environment.

North America to Hold Major Market Share

- The North American region is contributing a significant portion to the market share due to the adoption of AI infrastructure in various industries in the USA, which is supported by the development of AI processors, and fueling the market's growth.
- Recently, AI Infrastructure has significantly increased in popularity, changing numerous fields and applications. The AI Infrastructure market in the United States is characterized by a broad set of respondents, including tech giants or Big Techs, startups, and cloud service providers competing to provide creative and advanced solutions that address the specific demands of enterprises looking to deploy artificial intelligence (AI) technologies.
- Cloud service providers such as Amazon Web Services (AWS), Microsoft Azure, Google Cloud Platform, IBM, and others contribute to the AI Infrastructure market. Such Big Tech firms provide a wide range of AI-focused hardware acceleration. Their extensive

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worldwide infrastructure allows businesses of all sizes to access AI resources on a pay-as-you-go-basis, making AI adoption more accessible.

- Furthermore, government investment and initiatives, tech startups, and infrastructure development in multiple sectors such as healthcare, enterprises, and others further fuel the growth of the AI Infrastructure market. AI development and applications are shaping the future of the United States' technological landscape and will boost the market in the forecast period.
- The AI Infrastructure market in Canada has grown significantly in recent years due to technological advancements. The use of AI is changing the way business function in the country across multiple industries. As businesses grasp AI's enormous potential to improve efficiency, productivity, and customer experience, the demand for robust AI Infrastructure has increased. Enterprises, by End Users, are driving the growth of the AI Infrastructure market in Canada.
- In the financial sector, Canadian banks were the initial adopters of AI technologies to optimize procedures and improve client experiences. AI-powered applications, virtual assistance, and other solutions manage customer inquiries. As these financial institutions ramp up their AI activities, the demand for AI Infrastructure, such as high-performance computing and data storage capabilities, grows.

AI Infrastructure Industry Overview

The AI infrastructure market comprises global players focusing on gaining a point of difference in the contested market space. In addition, startups in the AI infrastructure market, including Cerebras Systems and Graphcore, provide specialized AI accelerators to take on well-established giants like NVIDIA and Google Inc. This market is characterized by moderately high product differentiation, growing product penetration levels, and high levels of competition, with a high level of innovation, which is intended to aim at gaining an edge in the market. Some of the major market players are Intel Corporation, Nvidia Corporation, Samsung Electronics Co. Ltd, Micron Technology Inc., and Sensetime Group Inc.

In June 2023, Intel introduced its 4th Gen Intel Xeon Scalable processors and the Intel Xeon CPU Max Series and Intel Data Center GPU Max Series. These advanced offerings are designed to tackle and overcome complex computing challenges on a large scale. Intel's approach involves aligning CPU cores with specialized accelerators tailored for specific workloads, resulting in enhanced performance and improved efficiency, ultimately leading to an optimal total cost of ownership.

In July 2023, NVIDIA announced that NVIDIA DGX Cloud is now widely accessible, offering powerful tools that can transform almost any business into an AI-driven organization. This service is readily available, featuring thousands of NVIDIA GPUs accessible through Oracle Cloud Infrastructure. Additionally, NVIDIA's infrastructure is present in both the United States and the United Kingdom, providing further accessibility and support for AI initiatives.

Additional Benefits:

- The market estimate (ME) sheet in Excel format
- 3 months of analyst support

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