

AI Infrastructure Market In 2029

The Business Research Company's AI Infrastructure Global Market Report 2025 – Market Size, Trends, And Forecast 2025-2034

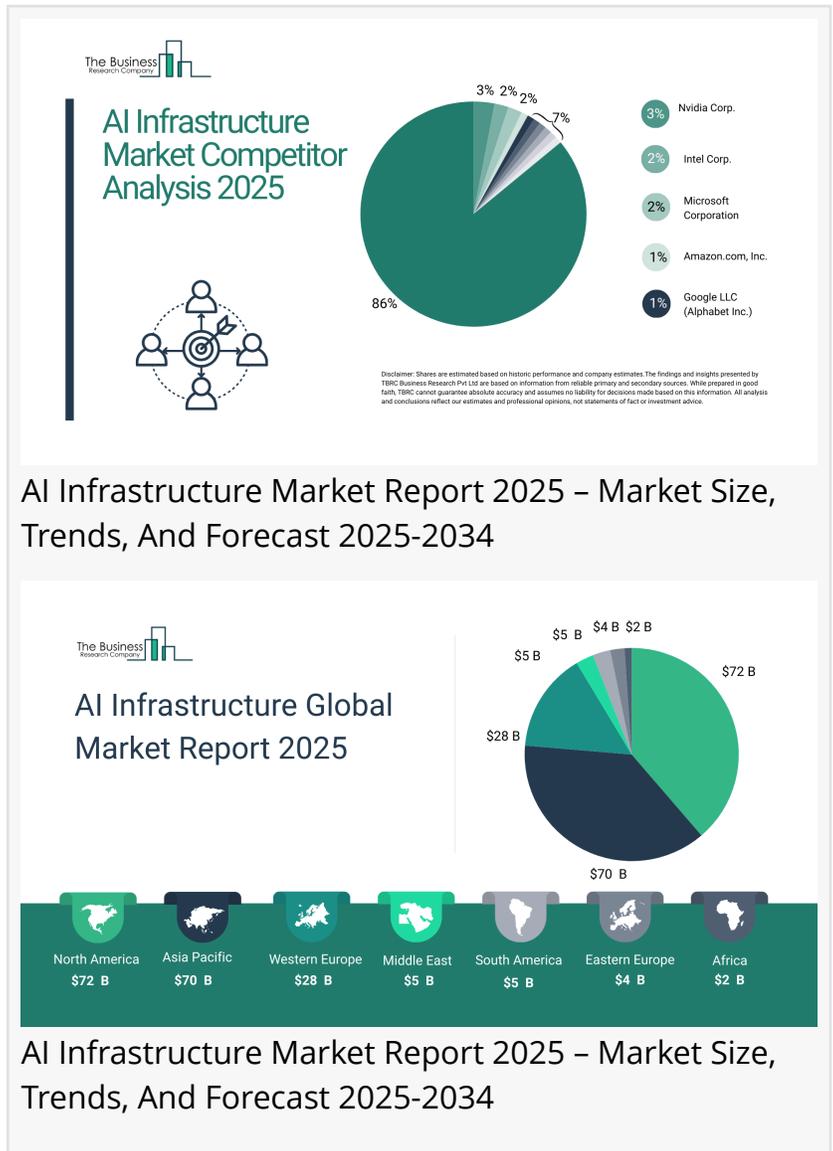
LONDON, GREATER LONDON, UNITED KINGDOM, December 10, 2025 /EINPresswire.com/ -- AI Infrastructure Market to Surpass \$186 billion in 2029. In comparison, the Artificial Intelligence market, which is considered as its parent market, is expected to be approximately \$250 billion by 2029, with AI Infrastructure to represent around 72% of the parent market. Within the broader Information Technology industry, which is expected to be \$13 trillion by 2029, The AI Infrastructure market is estimated to account for nearly 1% of the total market value.

Which Will Be the [Biggest Region in the AI Infrastructure Market in 2029](#)

North America will be the largest region in the AI infrastructure market in 2029, valued at \$71,513 million. The market is expected to grow from \$21,562 million in 2024 at a compound annual growth rate (CAGR) of 27%. The exponential growth can be attributed to the increasing demand for cloud services and favorable government initiatives and investments.

Which Will Be The Largest Country In The Global AI Infrastructure Market In 2029?

The USA will be the largest country in the AI infrastructure market in 2029, valued at \$64,503 million. The market is expected to grow from \$19,289 million in 2024 at a compound annual growth rate (CAGR) of 27%. The exponential growth can be attributed to the increasing digital transformation and increasing adoption of artificial intelligence (AI).



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What will be [Largest Segment in the AI Infrastructure Market in 2029?](#)

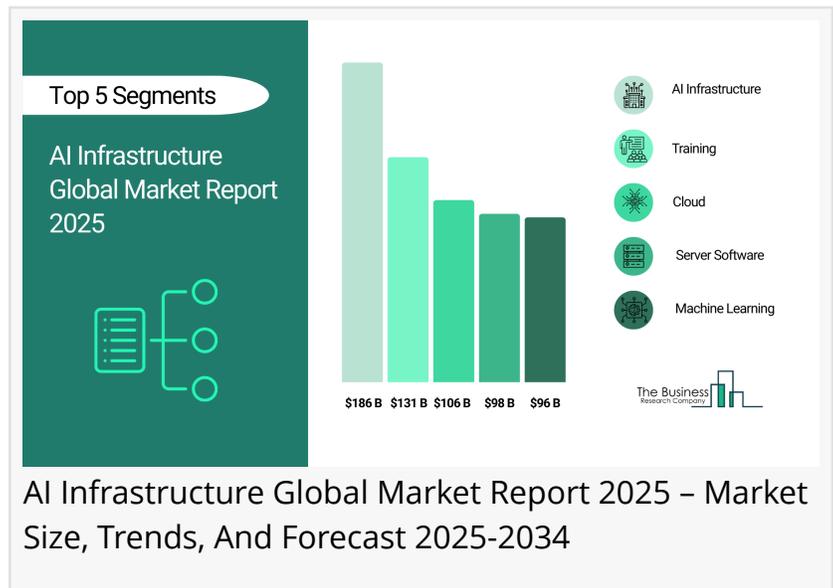
The AI infrastructure market is segmented by offerings into hardware and server software. The server software market will be the largest segment of the AI Infrastructure

market segmented by offerings, accounting for 53% or \$97,723 million of the total in 2029. The server software market will be supported by increasing adoption of AI-optimized operating systems and frameworks, rising need for scalable and flexible AI model deployment, continuous advancements in AI-specific middleware and orchestration tools, growing integration of AI workloads with enterprise IT infrastructure, demand for efficient workload management and optimization and enhanced security features for AI data processing.

The AI infrastructure market is segmented by function into training and inference. The training market will be the largest segment of the AI Infrastructure market segmented by function, accounting for 70% or \$130,902 million of the total in 2029. The training market will be supported by increasing complexity of AI models requiring high computational power, advancements in AI hardware for large-scale training, demand for high-speed data transfer and storage solutions, expansion of AI research and development initiatives, increasing collaboration between tech companies and academic institutions for AI innovation and growing investments in AI model development for various applications.

The AI infrastructure market is segmented by technology into machine learning, deep learning and other technologies. The machine learning market will be the largest segment of the AI Infrastructure market segmented by technology, accounting for 52% or \$96,302 million of the total in 2029. The machine learning market will be supported by widespread adoption of ML algorithms across industries, increasing availability of labeled datasets for supervised learning, advancements in ML model optimization techniques, rising integration of ML in enterprise software, expansion of automated machine learning (AutoML) platforms and growing government and corporate investments in AI research.

The AI Infrastructure market is segmented by deployment type into on-premises, cloud and hybrid. The Cloud market will be the largest segment of the AI Infrastructure market segmented by deployment type, accounting for 57% or \$105,878 million of the total in 2029. The cloud market will be supported by increasing adoption of AI-as-a-Service (AlaaS) models, scalability and



flexibility in AI workload management, cost-effective AI model training and inference, continuous enhancements in cloud-based AI accelerators, growing collaboration between cloud providers and AI developers and expansion of multi-cloud and hybrid AI deployment strategies. The AI Infrastructure market is segmented by end-user into enterprises, government organizations and cloud service providers. The cloud service providers market will be the largest segment of the AI Infrastructure market segmented by end-user, accounting for 44% or \$82,169 million of the total in 2029. The cloud service providers market will be supported by increasing demand for AI-driven cloud computing services, rapid expansion of AI-ready cloud infrastructure, growing adoption of AI-based data analytics platforms, integration of AI for enhanced cloud security and automation, continuous innovation in AI-optimized virtual machines and partnerships between cloud providers and AI software developers.

What is the expected CAGR for the AI Infrastructure Market leading up to 2029?

The expected CAGR for the AI infrastructure market leading up to 2029 is 27%.

What Will Be The Growth Driving Factors In The Global AI Infrastructure Market In The Forecast Period?

The rapid growth of the global ai infrastructure market leading up to 2029 will be driven by the following key factors that are expected to reshape digital transformation, enterprise computing, and data-driven innovation worldwide.

Increasing Demand For Cloud Services - The Increasing Demand for Cloud Services will become a key driver of growth in the ai infrastructure market by 2029. AI models require vast computing power, storage and networking capabilities. Cloud platforms provide on-demand AI infrastructure, eliminating the need for costly hardware. These providers offer high-performance AI chips for efficient AI workloads. Cloud storage solutions ensure scalability, redundancy and security, enabling seamless data management for AI-driven businesses. As a result, the Increasing Demand for Cloud Services is anticipated to contributing to a 1.8% annual growth in the market.

Rising Volume Of Data Generation - The Rising Volume of Data Generation will emerge as a major factor driving the expansion of the ai infrastructure market by 2029. AI systems, including machine learning (ML) and deep learning (DL) models, rely on large datasets for training and improving accuracy. Industries like healthcare, finance, e-commerce and social media generate vast amounts of data, increasing the need for AI-driven analytics and decision-making. To efficiently process these datasets, AI models require AI infrastructure such as high-performance computing (HPC), graphics processing units (GPUs), tensor processing units (TPUs) and optimized data centres. More data enhances AI insights, leading to improved predictive analytics, automation and business intelligence (BI) for fraud detection, personalized marketing and more. Consequently, the Rising Volume of Data Generation is projected to contributing to a 1.3% annual growth in the market.

Growth Of IoT (Internet Of Things) Devices - The Growth of IoT (Internet of Things) Devices will

serve as a key growth catalyst for the ai infrastructure market by 2029. IoT devices (smart sensors, wearables and industrial machines) generate real-time data that requires efficient processing. AI infrastructure (cloud computing, edge computing and AI chips) is needed to process and analyse this data efficiently. AI-powered edge computing reduces latency by processing data closer to the source, improving efficiency and cutting transmission costs. Therefore, this Growth of IoT (Internet of Things) Devices is projected to supporting to a 1.0% annual growth in the market.

Increasing Adoption Of AI - The Increasing Adoption of AI will become a significant driver contributing to the growth of the ai infrastructure market by 2029. AI applications like machine learning (ML), deep learning (DL), natural language processing (NLP) and computer vision (CV) require high-performance computing (HPC) and specialized infrastructure. As AI adoption grows, the demand for powerful hardware and software increases. AI workloads rely on graphics processing units (GPUs), tensor processing units (TPUs) and AI accelerators. Additionally, AI models require massive datasets, driving the need for high-speed storage, high-bandwidth memory (HBM) and AI-optimized data centres. Consequently, the Increasing Adoption of AI is projected to contributing to a 0.5% annual growth in the market.

Access the detailed AI Infrastructure Market report here:

<https://www.thebusinessresearchcompany.com/report/ai-infrastructure-global-market-report>

What Are The Key Growth Opportunities In The AI Infrastructure Market in 2029?

The most significant growth opportunities are anticipated in the server software AI infrastructure market, the AI infrastructure for training market, the machine learning AI infrastructure market, the cloud based AI infrastructure market, and the AI infrastructure for enterprises market. Collectively, these segments are projected to contribute over \$359 billion in market value by 2029, driven by rapid advancements in high-performance computing (HPC), AI model scalability, and cloud-native architecture integration. This surge is further fuelled by the rising enterprise demand for efficient data processing, accelerated model training, and real-time inference capabilities, enabling organizations to deploy intelligent applications at scale. As industries increasingly rely on AI-driven analytics and automation, these infrastructure advancements are expected to reshape global digital ecosystems and power the next generation of enterprise intelligence.

The AI infrastructure for training market by \$90,597 million, the cloud based AI infrastructure market by \$75,548 million, the server software AI infrastructure market is projected to grow by \$72,940 million, the machine learning AI infrastructure market by \$64,836 million and the AI infrastructure for enterprises market by \$55,529 million over the next five years from 2024 to 2029.

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