

# Artificial Intelligence (AI) Data Center Graphics Processing Units Market to Reach USD \$43.15 Bn by 2030 at 25.1% CAGR

*TBRC's Artificial Intelligence (AI) Data Center Graphics Processing Units (GPUs) Market Report 2026 – Market Size, Trends, And Global Forecast 2026-2035*

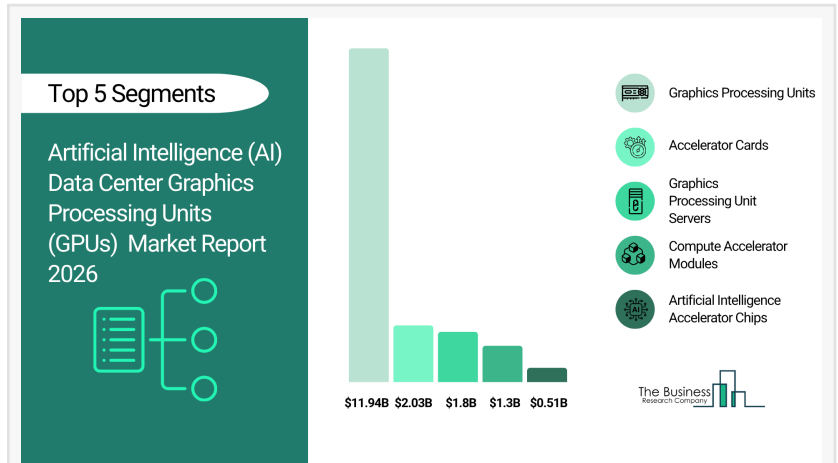
LONDON, GREATER LONDON, UNITED KINGDOM, May 1, 2026

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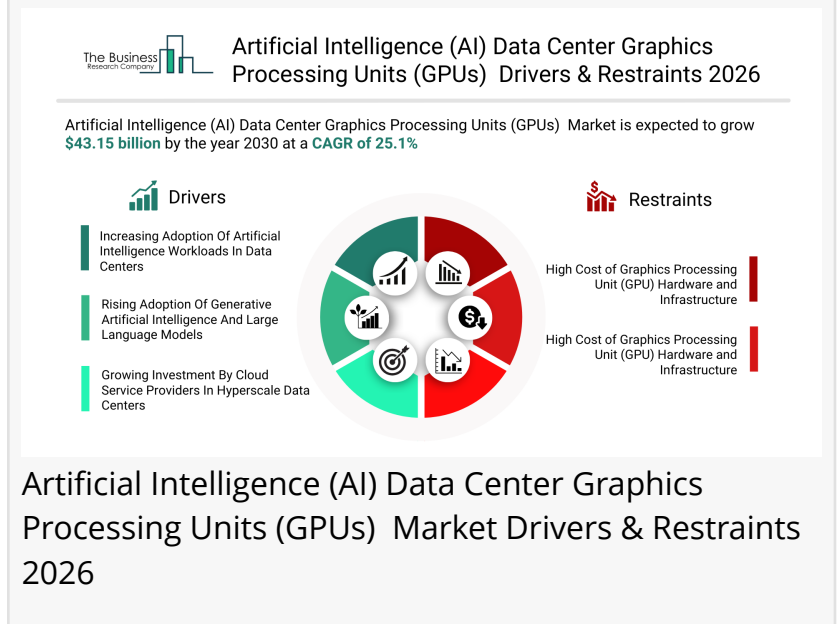
surpass \$43 billion in 2030. In comparison, the Semiconductor And Other Electronic Component market, which is considered as its parent market, is expected to be approximately \$1,684 billion by 2030, with Artificial Intelligence (AI) Data Center Graphics Processing Units (GPUs) to represent around 3% of the parent market. Within the broader Electrical And Electronics industry, which is expected to be \$5,611 billion by 2030, the Artificial Intelligence (AI) Data Center Graphics Processing Units (GPUs) market is estimated to account for nearly 0.8% of the total market value.

Which Will Be The Biggest Region In

The Artificial Intelligence (AI) Data Center Graphics Processing Units (GPUs) Market In 2030? North America will be the largest region in the artificial intelligence (AI) data center graphics processing units (GPUs) market in 2030, valued at \$16 billion. The market is expected to grow from \$5 billion in 2025 at a compound annual growth rate (CAGR) of 24%. The exponential

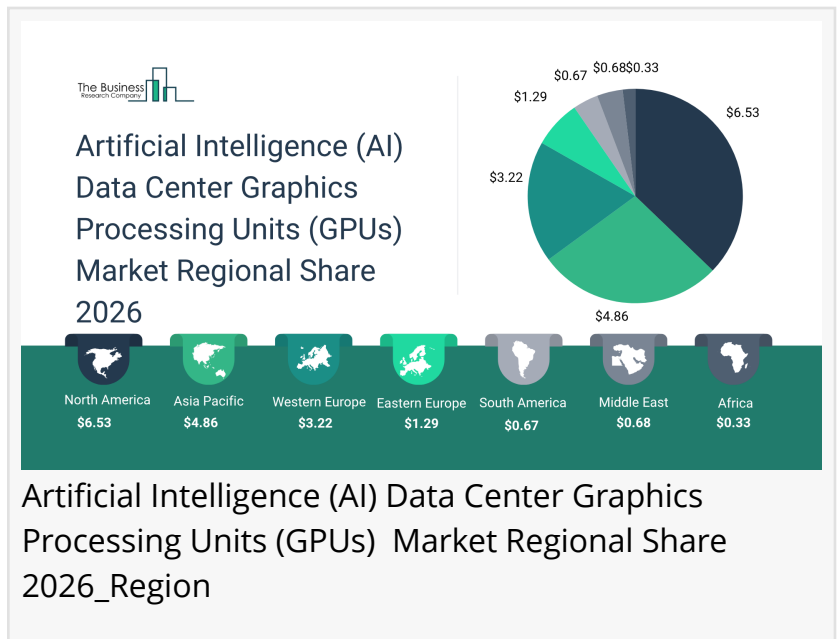


## Artificial Intelligence (AI) Data Center Graphics Processing Units (GPUs) Market Report 2026\_Segment



## Artificial Intelligence (AI) Data Center Graphics Processing Units (GPUs) Market Drivers & Restraints 2026

growth can be attributed to the presence of leading cloud service providers and hyperscale data center operators across the USA and Canada, rapid expansion of AI-driven workloads, increasing deployment of high-performance computing infrastructure, rising adoption of generative AI applications, and significant investments in advanced semiconductor technologies and data center modernization initiatives across the region.



Which Will Be The Largest Country In

The Global Artificial Intelligence (AI) Data Center Graphics Processing Units (GPUs) Market In 2030?

The USA will be the largest country in the artificial intelligence (AI) data center graphics processing units (GPUs) market in 2030, valued at \$12 billion. The market is expected to grow from \$4 billion in 2025 at a compound annual growth rate (CAGR) of 24%. The exponential growth can be attributed to increasing adoption of AI accelerators for edge and hybrid computing environments, rising demand for energy-efficient GPU architectures to reduce data center power consumption, growing use of GPUs in specialized workloads such as simulation and digital twins, expanding investments in domestic semiconductor manufacturing initiatives, and continuous advancements in interconnect technologies and chip packaging to enhance processing speed and scalability.

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What Will Be The Largest Segment In The Artificial Intelligence (AI) Data Center Graphics Processing Units (GPUs) Market In 2030?

The artificial intelligence (AI) data center graphics processing units (GPUs) market is segmented by product type into graphics processing units, accelerator cards, graphics processing unit servers, compute accelerator modules, and artificial intelligence accelerator chips. The graphics processing units market will be the largest segment of the artificial intelligence (AI) data center graphics processing units (GPUs) market segmented by product type, accounting for 69% or \$30 billion of the total in 2030. The graphics processing units market will be supported by the increasing need for parallel processing capabilities in AI workloads, rising demand for high-throughput computing in deep learning applications, widespread adoption of GPUs in both training and inference environments, continuous advancements in GPU architectures to improve

efficiency and performance, and strong integration of GPUs within cloud and enterprise data center infrastructures.

The artificial intelligence (AI) data center graphics processing units (GPUs) market is segmented by function into training and inference.

The artificial intelligence (AI) data center graphics processing units (GPUs) market is segmented by deployment model into on premises and cloud based.

The artificial intelligence (AI) data center graphics processing units (GPUs) market is segmented by end use industry into information technology and telecom, healthcare and life sciences, financial services, retail and e-commerce, automotive and transportation, and research and academia.

What Is The Expected CAGR For The Artificial Intelligence (AI) Data Center Graphics Processing Units (GPUs) Market Leading Up To 2030?

The expected CAGR for the artificial intelligence (AI) data center graphics processing units (GPUs) market leading up to 2030 is 25%.

What Will Be The Growth Driving Factors In The Global Artificial Intelligence (AI) Data Center Graphics Processing Units (GPUs) Market In The Forecast Period?

The rapid growth of the global artificial intelligence (AI) data center graphics processing units (GPUs) market leading up to 2030 will be driven by the following key factors that are expected to reshape high-performance computing infrastructure, AI model development capabilities, semiconductor innovation strategies, and data center scalability frameworks across the global technology ecosystem.

Increasing Adoption Of Artificial Intelligence Workloads In Data Centers - The increasing adoption of artificial intelligence workloads in data centers is expected to become a key growth driver for the Artificial Intelligence (AI) Data Center Graphics Processing Units (GPUs) market by 2030. Enterprises are rapidly integrating AI capabilities into their operations, driving demand for high-performance GPUs to process large volumes of structured and unstructured data. AI workloads such as computer vision, natural language processing, and predictive analytics require massive parallel processing capabilities, which GPUs are well-suited to deliver. Data centers are therefore upgrading their infrastructure to support these compute-intensive applications. As a result, the increasing adoption of artificial intelligence workloads in data centers is anticipated to contribute approximately 2.5% annual growth to the market.

Rising Adoption Of Generative Artificial Intelligence And Large Language Models - The rising adoption of generative artificial intelligence and large language models is expected to emerge as a major factor driving the expansion of the Artificial Intelligence (AI) Data Center Graphics Processing Units (GPUs) market by 2030. The rapid deployment of generative AI applications such as chatbots, content generation tools, and code assistants is significantly increasing

demand for advanced GPUs capable of handling complex model training and inference tasks. Large language models require extensive computational resources and memory bandwidth, further accelerating GPU adoption in data centers. Technology companies are continuously investing in AI infrastructure to support these applications. Consequently, the rising adoption of generative artificial intelligence and large language models is projected to contribute around 2.0% annual growth to the market.

Growing Investment By Cloud Service Providers In Hyperscale Data Centers - The growing investment by cloud service providers in hyperscale data centers is expected to act as a key growth catalyst for the Artificial Intelligence (AI) Data Center Graphics Processing Units (GPUs) market by 2030. Leading cloud providers are expanding their global data center footprints to support increasing demand for AI, machine learning, and high-performance computing services. These hyperscale facilities require large-scale GPU deployments to deliver scalable and efficient compute resources. Additionally, cloud-based AI platforms are enabling enterprises to access advanced GPU capabilities without significant upfront infrastructure investments. As hyperscale data center expansion continues, demand for GPUs is expected to rise substantially. Therefore, the growing investment by cloud service providers in hyperscale data centers is projected to contribute approximately 1.0% annual growth to the market.

Access The Detailed Artificial Intelligence (AI) Data Center Graphics Processing Units (GPUs) Market Report Here

[https://www.thebusinessresearchcompany.com/report/artificial-intelligence-ai-data-center-graphics-processing-units-gpus-market-report?utm\\_source=EINPresswire&utm\\_medium=Paid&utm\\_campaign=Apr\\_PR](https://www.thebusinessresearchcompany.com/report/artificial-intelligence-ai-data-center-graphics-processing-units-gpus-market-report?utm_source=EINPresswire&utm_medium=Paid&utm_campaign=Apr_PR)

What Are The Key Growth Opportunities In The Artificial Intelligence (AI) Data Center Graphics Processing Units (GPUs) Market In 2030?

The most significant growth opportunities are anticipated in the graphics processing units, accelerator cards, graphics processing unit servers, compute accelerator modules, and artificial intelligence accelerator chips market. Collectively, these segments are projected to contribute over \$29 billion in market value by 2030, driven by increasing demand for high-performance computing in AI workloads, rapid expansion of hyperscale and edge data centers, growing adoption of cloud-based AI services, continuous advancements in semiconductor and chip design technologies, and rising need for scalable and energy-efficient computing infrastructure to support next-generation AI applications.

The graphics processing units market is projected to grow by \$20 billion, the accelerator cards market by \$3 billion, the graphics processing unit servers market by \$3 billion, the compute accelerator modules market by \$2 billion, and the artificial intelligence accelerator chips market by \$1 billion over the next five years from 2025 to 2030.

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