

# Data Center GPU Market by Deployment Type (Cloud, On-premise), Function (Training, Inference), End User (Cloud Service Providers, Enterprises, Government) and Region (North America, Europe, Asia Pacific, ROW) - Global Forecast to 2028

https://marketpublishers.com/r/DA847BCB8628EN.html

Date: November 2023

Pages: 261

Price: US\$ 4,950.00 (Single User License)

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# **Abstracts**

The data center GPU market is projected to grow from USD 14.3 billion in 2023 and is projected to reach USD 63.0 billion by 2028; it is expected to grow at a CAGR of 34.6% from 2023 to 2028.

The rising focus on parallel computing in artificial intelligence (AI) data centers, growing use of deep learning technology in big data analytics, increasing data traffic and need for high computing power, has paved way for their growth in recent years. However, high costs associated with data center GPUs is limiting the growth of the data center GPU market.

"Enterprises end user segment of the data center GPU market to hold largest market share during the forecast period."

Enterprises across various industries, such as finance, healthcare, retail, and manufacturing, have diverse workloads that require data center GPUs. These workloads encompass AI and machine learning, data analytics, virtualization, and graphics-intensive applications. Enterprises are increasingly integrating AI and machine learning into their operations, from improving customer experiences to optimizing supply chains. Data center GPUs are essential for training and running AI models, which is driving demand. Enterprises engaged in scientific research, engineering simulations, or other computationally intensive tasks benefit from data center GPUs. These GPUs enhance the performance of high-performance computing (HPC) clusters. Data center



GPUs are highly scalable, making them suitable for enterprises that need to expand their computational resources as their businesses grow.

"Cloud deployment to account witness higher growth compared to the on-premise segment during the forecast period."

The cloud deployment is projected to grow at a higher rate during the forecast period. The cloud deployment mode provides benefits such as reduced operational costs, hassle-free deployment, high scalability, easy data accessibility, faster access to critical data, and low capital requirement. The demand for the cloud deployment mode for NLP and ML tools in AI is expected to increase with the growing awareness of the benefits of cloud-based solutions. AI solution providers are focusing on the development of robust cloud-based solutions for their clients as many organizations have migrated from onpremises to either private or public cloud. The growth in the adoption of AI is leading to changes in cloud server configuration. The cloud computing market has witnessed significant growth in recent years owing to the surge in the volume of data being transferred to the cloud from consumers. This has fueled the demand for GPU accelerators. The GPUs optimize data processing at the servers by reducing the latency.

"Inference function to exhibit significant growth for the data center GPU market during forecast period"

The inference function is expected to exhibit significant growth during the forecast period. Inference is sensitive to latency, and the trained model needs to analyze and provide analysis in near real-time. The requirement of the infrastructure for model deployment to process data at the fastest rate is expected to drive the market for inference.

"North America to witness significant growth for the data center GPU market during the forecast period" North America is projected to exhibit significant growth for the data center GPU market during the forecast period. It is the largest market for data center GPUs. North America has been the most promising region across verticals, such as BFSI, retail and eCommerce, telecom, enterprises etc. The government and public sector have also joined the race to become technologically advanced to cater to a large customer base. North America is contributing significantly to the data center GPU market and is expected to grow further.

In the process of determining and verifying the market size for several segments and



subsegments gathered through secondary research, extensive primary interviews have been conducted with key industry experts in the data center GPU market space. The break-up of primary participants for the report has been shown below:

By Company Type: Tier 1 – 40%, Tier 2 – 40%, and Tier 3 – 20% By Designation: C-level Executives – 40%, Directors –40%, and Others – 20% By Region: North America –30%, Europe – 20%, Asia Pacific– 40%, and RoW – 10%

The report profiles key players in data center GPU market with their respective market ranking analysis. Prominent players profiled in this report include NVIDIA Corporation (NVIDIA) (US), Intel Corporation (Intel) (US), Advanced Micro Devices, Inc (AMD) (US), Samsung Electronics Co., Ltd. (Samsung) (South Korea), Micron Technology, Inc. (Micron) (US), Qualcomm Technologies, Inc. (US), International Business Machines Corporation (IBM) (US), Google Inc. (Google) (US), Microsoft Corporation (Microsoft) (US), Imagination Technologies (UK), Advantech Co., Ltd. (Taiwan), Huawei Technologies Co., Ltd. (Huawei) (China), ZOTAC Technology Ltd. (Hong Kong), Apple Inc. (US), GIGABYTE Technology Co., Ltd. (Taiwan), Arm Ltd. (UK), and Graphcore (UK).

Research Coverage: This research report categorizes the data center GPU market on the basis of deployment type, function, end user and region. The report describes the major drivers, restraints, challenges, and opportunities pertaining to the data center GPU market and forecasts the same till 2028. Apart from these, the report also consists of leadership mapping and analysis of all the companies included in the data center GPU market ecosystem.

## Key Benefits of Buying the Report

The report will help the market leaders/new entrants in this market with information on the closest approximations of the revenue numbers for the overall data center GPU market and the subsegments. This report will help stakeholders understand the competitive landscape and gain more insights to position their businesses better and to plan suitable go-to-market strategies. The report also helps stakeholders understand the pulse of the market and provides them with information on key market drivers, restraints, challenges, and opportunities. The report provides insights on the following pointers:

Analysis of key drivers (Rising focus on parallel computing in artificial intelligence (AI) data centers, Growing use of deep learning technology in big



data analytics, Increasing data traffic and need for high computing power, Rising adoption of data center GPUs in enterprises), restraints (High costs associated with data center GPUs), opportunities (Integration of Artificial Intelligence (AI)-based solutions into defense systems, Growing potential of GPUs in the healthcare sector, Emerging trend of autonomous vehicles) and challenges (Security concerns associated with data center GPUs, Issues related to interconnectivity) influencing the growth of the data center GPU market.

Product Development/Innovation: Detailed insights on upcoming technologies, research & development activities, and new product & service launches in the data center GPU market. Market Development: Comprehensive information about lucrative markets – the report analyses the data center GPU market across varied regions

Market Diversification: Exhaustive information about new products & services, untapped geographies, recent developments, and investments in the data center GPU market.

Competitive Assessment: In-depth assessment of market shares, growth strategies and service offerings of leading players like NVIDIA Corporation (NVIDIA) (US), Intel Corporation (Intel) (US), Advanced Micro Devices, Inc (AMD) (US), among others in the data center GPU market.



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