

Graphics Processing Unit (GPU) Market Size and Forecasts (2020 - 2030), Global and Regional Share, Trends, and Growth Opportunity Analysis Report Coverage: By Type (Dedicated, Integrated, and Hybrid), Application (Computer, Tablet, Smartphone, Gaming Console, Television, and Others), and Geography

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Abstracts

The Graphics Processing Unit (GPU) market size is expected to grow from US\$ 41.23 billion in 2022 to US\$ 395.52 billion by 2030; it is estimated to grow at a CAGR of 32.7% from 2022 to 2030.

GPUs are increasingly used in the cloud infrastructure to speed up an expansive range of applications, including ML and AI, analytics and data science, scientific computing, and graphics and media production. The increasing adoption of cloud computing makes it easy and affordable for businesses and individuals to access GPU resources.

Furthermore, companies such as Nvidia explore their footprints in cloud computing, advanced medical imaging for cancer treatment, customer assistance that is automated, gaming of cinematic quality. AI, high-performance computing (HPC), and graphics skills are pushing the boundaries of what is feasible, and now that NVIDIA's GPU-accelerated solutions are accessible on all major cloud platforms, innovators anywhere may easily access huge amounts of power on demand.

Moreover, a number of companies, such as Nvidia, have a hybrid cloud computing strategy, combining on-premises and cloud-based resources. This allows them to scale their GPU resources up or down as needed. This factor would propel the graphics

processing unit (GPU) market growth as many individuals use GPUs to expedite their work. This is making GPU computing more accessible than ever before. Thus, the increasing adoption of cloud computing is expected to become a major trend in the GPU market during the forecast period.

The graphics processing unit (GPU) market in North America is witnessing significant growth as the graphics processing unit (GPU) market is mature and well-established. One of the biggest GPU manufacturers, such as Nvidia, is headquartered in North America. The North America graphics processing unit (GPU) market is driven by high demand from the gaming and data center sectors, and AI solutions. For instance, in April 2023, Nvidia's top partners in the Americas are driving sales and services for AI solutions based on the vendor's hardware and software portfolio across a variety of verticals, including retail, education, government, healthcare, and manufacturing. The winners of its 2023 Nvidia Partner Network Americas Partner of the Year awards were announced. Among the winners are some of North America's major solution providers, including CDW, Worldwide Technology, and Insight Enterprises, which are all on CRN's 2022 Solution Provider 500 list. Arrow Electronics, consulting powerhouse Deloitte, and up-and-coming solution providers such as Lambda and Quantiphi were also among the winners. The accelerated computing practices of these winning partners reflect Nvidia's focus on a 'full-stack platform' that comprises purpose-built GPU systems, high-performance networking components, and a growing portfolio of free and commercial software for enhanced computing.

Impact of COVID-19 Pandemic on Graphics Processing Unit (GPU) Market

The epidemic disrupted global supply chains, affecting GPU manufacturing and availability. The GPU market was impacted by semiconductor shortages and manufacturing delays, resulting in higher costs and limited availability of some models.

However, during the COVID-19 pandemic, demand for GPUs increased due to a variety of factors. Increased work at home, online gaming, bitcoin mining, and artificial intelligence (AI) applications were among them. These market tendencies were predicted to continue in the post-pandemic period.

During the pandemic the gaming industry grew significantly, as more individuals turned to gaming for leisure. As gamers sought to improve their PCs for better gaming experiences, demand for high-performance GPUs increased.

GPUs are also crucial components in data centers and for AI and machine learning workloads. As these technologies continued to advance, the demand for GPUs in these sectors was expected to remain strong.

Cryptocurrency mining, especially for cryptocurrencies like Bitcoin and Ethereum, had a substantial impact on the GPU market during and after the pandemic. Miners were buying GPUs in bulk, contributing to shortages and price increases.

The GPU market in Europe is sub segmented into Germany, France, Italy, the UK, Russia, and the Rest of Europe. The growing gaming industry and rising use of GPU in defense and intelligence applications boost the GPU market growth across the region. Additionally, the rise in demand for video games has broadened the scope of the GPU market. In Europe, the use of GPUs is anticipated to grow due to the rising adoption of portable computer devices such as smartphones and laptops. Furthermore, technical improvements in graphics processing units propel their adoption in Europe.

Aside from that, manufacturers implement powerful graphic computer systems for applications such as an AR and VR. As a result, the graphics processing unit market reports growth in Europe. Additionally, major players such as AMD, Nvidia, and Intel operate in the GPU market in Europe.

The GPU market in the MEA grows significantly owing to the increasing adoption of AI and ML. GPUs are useful for accelerating AI and ML workloads, which are becoming gradually important in a wide range of industries, including healthcare, finance, and manufacturing. Also, there is a growing demand for high-performance computing. GPUs are also used for high-performance computing (HPC) applications, such as scientific research, engineering simulations, and video editing. The demand for HPC upsurges rapidly in the MEA as governments and businesses invest in new technologies. Additionally, the gaming industry in the region expands rapidly, and GPUs are a key component of gaming hardware.

Intel Corp, NVIDIA Corp, Apple Inc, Qualcomm Inc, Samsung Electronics Co Ltd, SAPPHIRE Technology Ltd, Advanced Micro Devices Inc, ASUSTek Computer Inc, Imagination Technologies Ltd, EVGA Corp are among the key GPU market players profiled in this market study. Several other essential GPU market players were analyzed for a holistic view of the market and its ecosystem.

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