

Gaming Gpu Market - Growth, Trends, Covid-19 Impact, and Forecasts (2023 - 2028)

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Report description:

The gaming GPU market is expected to register a CAGR of approximately 15.23% over the next five years. The rising gamification trend among millennials has led to the increasing adoption of a virtual world for video gamers. Gaming machines have also evolved from powerful location-based devices found in restaurants, arcades, and bars to in-home machines in the form of gaming consoles and then PCs. As Moore's Law drove down chip prices and increased performance, people bought more gaming machines for the home, which has a positive price elasticity effect at the expense of location-based gaming machines. As gaming machine sales have increased in the last few years, the demand for gaming GPUs has grown significantly.

Key Highlights

The demand for high-end computing systems for graphics-intensive gaming applications has increased with the rising adoption of smartphones, tablets, PCs, and consoles for gaming purposes. The growing demand for specialized processors that can handle complex mathematical calculations related to the 2D and 3D graphics required for gaming drives the GPU market demand.

Technological advancement in high-performing computing may also develop an opportunity for GPU vendors. For instance, in April this year, Nvidia stated that researchers discovered trends in Hubble data on April 25 using a supercomputer with NVIDIA GPUs.

Also, high-performance computing is used with NVIDIA GPUs to increase the understanding of all planets and analyze their torrid atmospheres.

Other drivers for the market include industry verticals such as automotive, manufacturing, real estate, and healthcare, with the rising usage of processors to support graphics applications and 3D content. For instance, in manufacturing and design applications in the automotive sector, CAD and simulation software uses GPUs to create realistic images and animations for critical applications.

Gaming GPUs use advanced technologies and materials. One of the primary factors contributing to the high price of current GPUs is higher manufacturing expenses. Only the materials that producers can afford can be produced. Producers are thinking of maximizing their profits without sacrificing a product's quality or quantity due to rising manufacturing costs, which cause a rise in the selling price of the GPU. Due to this huge initial investment, consumers prefer to use something other than the latest gaming GPU in their devices, which is a challenge for market growth.

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Modern-day video game consoles and servers utilize many components, including gaming GPU circuits. COVID-19 threatened the average production of many of these components due to supply chain problems. However, semiconductor foundries started resuming production, which motivated manufacturers in the market. Demand in cloud computing, gaming, data center servers, automation, and AI technologies could help GPU manufacturers revive growth in the later part of the pandemic.

Gaming GPU Market Trends

Rising Demand for Gaming Consoles, Augmented Reality (AR), and Virtual Reality (VR) in the industry are Driving the Market

With the increasing adoption of esports and other types of online gaming, video games on consoles are rising and will show more growth opportunities in the coming years. As a result of this trend, connectivity and entertainment providers could target console gamers by offering console-related video services offerings, like fast broadband and live sports, and optimally monetizing the audience through OTT services. Video game developers could provide premium pricing for gaming subscription services, including access to esports events and original content.

With the rising trend of cloud gaming, the GPU market has seen an upward trend in recent years. Blade, the French startup behind Shadow, is a cloud computing service for gamers that allows a player to access a gaming PC in a data centre for a monthly subscription fee. The company provides full Windows 11 features compared to other cloud gaming services. The company currently offers a single configuration for USD 35 per month with eight threads on an Intel Xeon 2620 processor, an Nvidia Quadro P5000 GPU, and an Nvidia GeForce GTX 1080, 12GB of RAM, and 256GB of storage.

Further, major game developers are also focusing on developing console-based games with high graphic quality, contributing to the gaming segment's growth. Sony and Microsoft prioritize refresh rates up to 120 fps instead of trying to market the consoles as 8K capable, making the gaming experience seamless. Nvidia is trying to move beyond 4K with its monster RTX 3090 graphics card, which delivers 8K gaming for PCs.

Console developers are also focusing on new product development to raise the bar for the competition in the market. Sony is aiming for 10.28 teraflops of performance, which is almost 15% less than the Xbox Series X. There are also some fundamental differences in cooling and architecture that allow Sony to offer variable GPU and CPU speeds, while Microsoft sticks to the more traditional fixed speeds and is very close to Sony in terms of 4K performance.

The increasing incorporation of AR and VR in various applications is expected to drive the adoption of GPUs. Due to improvements in graphics technology, it is now possible to achieve true AR or VR and create a compelling user experience. Many companies are developing VR solutions primarily to redefine the way people experience computing and gaming, and the companies are also developing GPU systems for AR and VR applications.

North America is Expected to Hold a Significant Share

The rise in gaming among millennials in the North American region has been dramatic and swift in the past few years. In the United States, over 30% of video gamers pay for gaming subscription services, and more than 35% play online video games at least once a week, according to Limelight Networks.

Major technology developers are investing in online gaming in the North American gaming market, further bolstering the region's market growth. In January of this year, Microsoft, an American MNC, announced plans to acquire Activision Blizzard Inc., a prominent player in game development and interactive entertainment content publishing. This acquisition may accelerate the growth of Microsoft's gaming business across mobile, PC, console, and cloud and is expected to drive demand for the company's

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Xbox offerings.

Additionally, in March of this year, Intel launched the Arc series of Graphics Processing Units (GPU) for laptops and desktop PCs. Laptops with the Arc 3 GPU, designed for enhanced gaming and content production, are available for pre-order, while laptops with the Arc 5 and Arc 7 GPUs, designed for advanced and high-performance gaming, will come later in the current year. Cloud gaming companies benefit from collaborating with telecoms to develop better end-to-end networks and encourage 5G adoption in the region. The need for telecoms to increase their upstream capacity to meet the demands of esports players is a further driving force, and various vendors are collaborating to meet their gaming needs.

Gaming GPU players in the region also focus on developing GPU products, further driving the region's growth. For instance, in July last year, AMD introduced the AMD Radeon RX 6600XT series graphics products, harnessing the power of the AMD RDNA architecture while providing better performance with its 9.6 teraflops of RDNA 2 technology and 8 GB of GDDR6 RAM.

Gaming GPU Market Competitor Analysis

The gaming GPU market is significantly consolidated and consists of fewer global and regional players. These players account for a significant market share and focus on expanding their customer base globally. These vendors focus on research and development investment in introducing new solutions, strategic alliances, and other organic & inorganic growth strategies to earn a competitive edge over the forecast period.

In November 2022, ASUS updated its TUF Gaming GeForce RTX 3060 Ti and Dual GeForce RTX 3060 Ti graphics cards to include GDDR6X memory for better performance. The 3060 Ti's capabilities have been improved by the addition of GDDR6X RAM, which expands the options available to discerning PC DIY builders. ASUS has produced a new GeForce RTX 3060 with 8 GB of GDDR6 VRAM to increase the GPU's capacity for customization and assembly.

Additional Benefits:

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

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