

I am confident that the majority of us have smartphones, tablets or computers and use them on a daily basis. Scrolling through social media feed, searching information online, playing video games et cetera. It is palpable that we barely leave these electronic devices and they have tremendous and perpetual influence on our lives. They are undeniably crucial and essential, bringing us benefits and vet it could lead to detrimental repercussions. Having said that, do you know that graphics card plays an important role in making up these electronic devices?

The graphics card market is the major component within the Graphics Processing unit of PC, laptop or other computing devices. It gives the required clocking speed and refresh rate requirements within the computing technology to demonstrate and operate the required programs withinn it. Graphics cards stand to be one of the most important types of computing technology, both for personal and business computing.

In terms of the overview of the market, the graphics card market is currently an oligopoly market. This means that there are a few dominant companies in the market which can be difficult and challenging to enter the market. Firms who seek to expand or create start-ups in the graphics card market may find it uneasy to become as competitive as the major players and difficult to keep up with the market fluctuations

. Moreover, imperfect competition exists. Producers and consumers do not have all of the necessary and comprehensive information to make an informed decision. What's more is that the players or rivals are very much aware and keep tracks of what other players are producing and doing. The major players include Nvdia, AMD, Samsung, Intel and Qualcomm. The global GPU market size was valued at \$19.75 billion in 2019. and is projected to reach at \$200.85 billion by 2027. Furthermore, the smartphone seament dominated the GPU market share in 2019, and is expected to continue this trend during the forecast period.

The graphics card market has undergone significant changes over the past few years. With the rise of gaming and the increasing demand for high-quality visuals, graphics cards have become an essential component of any gaming setup. In this article, we will discuss the changes in the graphics card market, including new technologies, industry trends

Nvidia and AMD, the two main manufacturers of graphics cards, have been pushing the boundaries of what is possible with their products. In recent years, we have seen the introduction of ray tracing and DLSS (Deep Learning Super Sampling) technology. Ray tracing is a rendering technique that simulates the behavior of light to create more realistic and immersive visuals. DLSS uses AI to upscale lower resolution images to higher resolution, improving the quality of graphics while maintaining high frame rates.

Another trend in the graphics card market is the increasing demand for high-end products. Gamers are willing to spend more money to get the best possible performance out of their systems. This has led to the release of more expensive graphics cards, such as Nvidia's RTX 3090, which can cost over \$1,000. While these cards are out of reach for many gamers, they provide the best possible performance for those who can afford them.

## "The global GPU market size was valued at \$19.75 billion in 2019."

and the impact of cryptocurrency mining. One of the most significant changes in the graphics card market has been the introduction of new technologies.

The rise of esports has also had an impact on the graphics card market. Esports games, such as Fortnite and League of Legends, don't require as much processing power as more graphically intensive games

## The Graphics Card Market

This has led to the release of more budget-friendly graphics cards that are still capable of running esports games at high frame rates. Manufacturers have recognized this trend and have released cards such as Nvidia's GTX 1650, which provides excellent performance for a relatively low price.

The cryptocurrency mining boom of 2017-2018 also had a significant impact on the graphics card market. Cryptocurrency mining requires significant processing power, which led to a shortage of graphics cards as miners bought up all available stock. This led to a surge in prices. with graphics cards selling for well above their retail price. Manufacturers struggled to keep up with demand, leading to long waiting lists for popular models. While the cryptocurrency market has cooled off since its peak in 2018, it still has an impact on the graphics card market. As the value of certain cryptocurrencies increases, miners once again begin to buy up graphics cards in bulk. This can lead to shortages and price increases, which can make it difficult for gamers to purchase the cards they need.

In conclusion, the introduction of new technologies, such as ray tracing and DLSS, has pushed the boundaries of what is possible with graphics cards. The increasing demand for high-end products has led to the release of more expensive graphics cards, while the rise of esports has led to the release of more budget-friendly cards. The impact of cryptocurrency mining has been felt throughout the industry, causing shortages and price increases.

