

# **Graphics Processing Unit (GPU) Market-Global Industry Size, Share, Trends, Opportunity, and Forecast, 2018-2028 Segmented By Type (Dedicated, Integrated, and Hybrid), By Device (Computer, Tablet, Smartphone, Gaming Console, Television, and Others), By Industry Vertical (Electronics, IT & Telecommunication, Defense & Intelligence, Media & Entertainment, and Others), By Region and Competition By Type (Bladder, Piston, Diaphragm, and Spring), By Application (Blow Out Preventers (BOP), Mud Pumps, Offshore Rigs, and Others), By Deployment (Onshore, Offshore), By Region and Competition**

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## **Abstracts**

Global graphics processing unit (GPU) market is anticipated to thrive in the forecast period 2023-2028. Due to the rising need for dependable, effective, and quick visual processing for devices like smartphones, wearables, tablets, and game consoles, the GPU market is expanding rapidly.

The GPU market is driven by the demand for improved graphic computing systems for platforms for artificial intelligence (AI), virtual reality (VR), and augmented reality (AR). The industry is growing as a result of the continually improving visual games, growing popularity of augmented reality (AR), and artificial intelligence (AI), which is in vogue, and virtual reality (VR). GPU for AI platforms will undoubtedly become commonplace in

the near future, and it can lessen the current problems with breakdown and information loss.

Additionally, as businesses go through a digital transformation and adopt cutting-edge technologies like big data, the cloud, artificial intelligence (AI), and others, they are concentrating on designing data centres around workloads that are anticipated to support DNNs and AI. Companies prefer data centres that can accommodate GPU servers because they offer a number of advantages, including better performance, higher efficiency, low power consumption for advanced workloads, a need for less floor space, and others that are expected to further fuel the market's expansion. As a result, the constantly expanding global network of data centres offers enormous opportunities for GPU suppliers. For instance, Cisco Systems, Inc. predicts that traffic in cloud data centres worldwide would increase to 20.6 Zettabytes (ZB) annually by 2021 from 6.0 Zettabytes annually in 2016. Additionally, it is anticipated that there will be 628 hyperscale datacenters worldwide in 2021 as opposed to 338 in 2016.

## Defination

A computer chip called a graphics processing unit, often referred to as a visual processing unit, is used to create images by quickly performing mathematical computations. In contrast to CPUs, it has hundreds of cores that can manage thousands of threads at once. The CPU has a small number of cores and limited cache capacity, which restricts its ability to manage several threads at once. On plug-in cards, on a motherboard chipset, or in the same chip as the CPU are where you'll find graphic processing units. While the GPUs found in standalone cards have their own RAM, they share main memory with the CPU in chipsets. Transistors are used in graphics processing units to conduct the mathematical operations necessary for 3D graphics. Mobile phones, tablets, laptops, medical wearable technology, and many other portable electronic devices all employ GPUs. Dedicated GPUs are being replaced by integrated and hybrid GPUs in applications including supercomputers, virtual reality and augmented reality systems, and artificial intelligence platforms.

## Constant Improvements in Games with Graphics

In the last 50 years, millions of games have been developed, and due to developments in GPU technology, they now enable intricate physical simulations, sophisticated AI, and procedural creation. From a fixed function graphics pipeline to a programmable parallel processor with processing capability greater than multicore CPUs, the contemporary GPU has seen significant evolution. GPUs provide outstanding visual performance and

quality in even the most demanding video games. Interactive 3D graphics were almost science fiction in the early 1990s, but by the end of the decade, almost every computer had a GPU designed to deliver a high-performance, aesthetically stunning, interactive 3D experience. The strong demand for video games among consumers led to this abrupt change. As a result, the market for graphics processing units is heavily influenced by the visual games that are continually evolving. Additionally, a growing number of graphically demanding video games is a big factor in the GPU market's expansion. These graphically intensive games demand high memory graphics cards, necessitating the use of graphics processing units. The market is anticipated to expand favourably as a result of factors including the increased use of portable computing devices like laptops, the rising popularity of animation-based video games, and the increasing need for speed. These factors are driving the global graphics processing unit (GPU) market.

Virtual Reality (VR) and Augmented Reality (AR) are gaining traction

Advancements in graphics technology and associated innovations in smart phones and consumer electronics, achieving full virtual or augmented reality and producing an engaging user experience are now conceivable. Numerous businesses are creating VR solutions with the goal of radically redefining how people interact with computers. Technologically sophisticated GPU systems are being developed by businesses for AR and VR, offering a completely immersive experience that is very enticing to the computer and film industries, developers, and customers alike. Graphic processing units are projected to become more widely used as AR and VR are integrated into more applications. These factors are driving the market.

Moreover, deep learning, computer vision, robotics, collaborative systems, machine learning, and the natural learning process are all included in the field of artificial intelligence. Due to its dedication to making computers intelligent and giving them the ability to act correctly with foresight in their environment, AI has made great strides in recent years. Deep Neural Networks (DNNs) must be accelerated by GPUs in order for AI to begin deep learning. Companies are working on a new computing paradigm that accelerates computation with GPUs by using parallel graphics processors. For instance, NVIDIA announced the DRIVE PX 2, a palm-sized, energy-efficient AI computer that runs on the latest system-on-chip GPU from the business, which is based on the NVIDIA Pascal architecture. Thus, it is anticipated that the GPU industry would rise rapidly due to growing AI.

Inability of Integrated GPU to Support Graphic Design Software

The use of integrated GPUs is widespread in wearables and portable electronics, including smartphones, tablets, laptops, handheld gaming consoles, and many more. They are compact, use less electricity, and lengthen the life of the apparatus. For applications like HD image processing and 3D or 2D gaming, these are perfect. However, if intensive graphic computation is required, integrated GPUs are not appropriate for platforms for artificial intelligence, supercomputers, play stations, and VR & AR systems. The inability of integrated GPUs to support intensive graphic designing software is expected to be overcome during the forecast period, despite the fact that key players in the market are conducting research to facilitate the advancement of integrated GPUs and make them compatible for high graphic processing.

## Market Segmentation

The graphics processing unit (GPU) market is segmented into type, device, industry vertical, and region . Based on type, the market is segmented into dedicated, integrated, hybrid. Based on device, the market is segmented into computer, tablet, smartphone, gaming console, television, others. Based on industry vertical, the market is segmented into electronics, IT & telecommunication, defense & intelligence, media & entertainment, others. Based on region, the market is further bifurcated into North America, Asia-Pacific, Europe, South America, and Middle East & Africa.

## Market Player

Major market players in the global graphics processing unit (GPU) market are IBM Corporation, Intel Corporation, NVIDIA Corporation, Samsung Electronics Co., Ltd., Qualcomm Incorporated, Advanced Micro Devices, Inc., Dassault Systems, Inc., Google, Inc., Siemens AG, Sony Corporation, and others.

## Report Scope:

In this report, the global graphics processing unit (GPU) market has been segmented into the following categories, in addition to the industry trends which have also been detailed below:

### Graphics Processing Unit (GPU) Market, By Type

#### Dedicated

Integrated

Hybrid

Graphics Processing Unit (GPU) Market, By Device:

Computer

Tablet

Smartphone

Gaming Console

Television

Others

Graphics Processing Unit (GPU) Market, By Industry Vertical:

Electronics

IT & Telecommunication

Defense & Intelligence

Media & Entertainment

Others

Graphics Processing Unit (GPU) Market, By Region:

North America

United States

Canada

Mexico

## Asia-Pacific

India

China

Japan

South Korea

Australia

Singapore

Malaysia

## Europe

Germany

United Kingdom

France

Russia

Spain

Belgium

Italy

## South America

Brazil

Argentina

Colombia

Peru

Chile

Middle East

Saudi Arabia

South Africa

UAE

Israel

Turkey

## Competitive Landscape

Company Profiles: Detailed analysis of the major companies present in the global graphics processing unit (GPU) market.

## Available Customizations:

Global graphics processing unit (GPU) market report with the given market data, Tech Sci Research offers customizations according to a company's specific needs. The following customization options are available for the report:

## Company Information

Detailed analysis and profiling of additional market players (up to five).

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