

# Graphic Processor Market Forecasts to 2034 – Global Analysis By Type (Hardware, Software and Other Types), End User (Electronics, IT & Telecommunication and Other End Users) and By Geography

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## Abstracts

According to Statistics MRC, the Global Graphic Processor Market is accounted for \$134.9 billion in 2026 and is expected to reach \$1,213.6 billion by 2034 growing at a CAGR of 31.6% during the forecast period. Graphic processors, or GPUs, are specialized processors designed to handle the complex calculations required for rendering images and graphics. Unlike general-purpose CPUs, GPUs excel at parallel processing tasks, making them ideal for graphics-intensive applications like gaming, video editing, and 3D rendering. They consist of numerous cores that work simultaneously to perform computations, enhancing performance for tasks that involve large datasets or complex mathematical operations.

According to the PwC reports, Turkey expected to witness the fastest growth in the gaming market with the annual average growth rate of 24.1% between 2021 and 2026. The list is followed by Pakistan and India with the expansion of 21.9% and 18.3% respectively.

## Market Dynamics:

### Driver:

Gaming industry growth

As game developers strive to deliver immersive experiences, there is a constant need

for powerful graphic processing units (GPUs) to handle complex rendering tasks and advanced visual effects. The rise of e-sports and virtual reality gaming has further fueled the demand for cutting-edge GPUs, pushing manufacturers to develop more powerful and efficient graphics solutions. Additionally, the trend towards higher screen resolutions and refresh rates has spurred innovation in GPU technology, making them a crucial component for gaming enthusiasts seeking superior performance and visual fidelity.

### **Restraint:**

#### Manufacturing challenges

The graphic processor market faces manufacturing challenges primarily due to the intricate design and fabrication processes involved. Miniaturization and the increased complexity of GPU architecture pose difficulties in achieving high yields during production. The demand for cutting-edge technologies such as advanced semiconductor materials and lithography techniques contributes to higher production costs. Supply chain disruptions and shortages of critical components further restrain efficient manufacturing. Striking a balance between performance advancements and cost-effectiveness remains a persistent challenge, impacting the overall growth and competitiveness of the graphic processor market.

### **Opportunity:**

#### Blockchain and cryptocurrency mining

Cryptocurrency mining involves solving complex mathematical problems to validate transactions on the blockchain. Graphic processors (GPUs) are highly efficient in performing the parallel computations required for mining, presenting a significant market opportunity. GPUs excel at the repetitive and parallel tasks involved in mining, making them ideal for processing cryptographic algorithms. This trend creates a lucrative market for GPU manufacturers, who benefit from increased sales driven by the expanding cryptocurrency mining industry.

### **Threat:**

#### Increasing manufacturing costs

As manufacturing expenses rise, companies may struggle to maintain competitive

pricing, potentially leading to reduced profit margins. This threat could hinder innovation and investment in research and development, limiting the ability to introduce cutting-edge technologies. Higher production costs may force companies to pass on the burden to consumers through elevated product prices, potentially impacting market demand. To mitigate this threat, industry participants must explore cost-effective manufacturing solutions, optimize supply chains, and seek operational efficiencies to sustain competitiveness.

### **Covid-19 Impact:**

The COVID-19 pandemic significantly impacted the market as it led to an increased demand for remote work and entertainment. With a surge in home-based activities such as gaming, streaming, and video editing, there was a heightened need for powerful graphic processors. This resulted in supply chain disruptions and shortages, leading to increased prices and delays in product launches. On the other hand, the pandemic also accelerated the development of remote collaboration tools and cloud-based services, driving demand for graphics processing units (GPUs) in data centers.

The device segment is expected to be the largest during the forecast period

The device segment in the graphic processor market has witnessed substantial growth due to increasing demand for high-performance graphics in various consumer electronics. Smart phones, gaming consoles, and laptops are driving this surge as consumers seek enhanced visual experiences. The evolution of graphics-intensive applications, such as gaming and virtual reality, has fueled the need for advanced graphic processors in these devices. Moreover, the integration of AI capabilities into devices further amplifies the demand for powerful GPUs. As technology continues to advance, this segment is poised for continuous expansion, driven by the relentless pursuit of improved graphics performance and the overall user experience.

The IT and telecommunications segment is expected to have the highest CAGR during the forecast period

The IT and telecommunications segment has witnessed robust growth in the market due to escalating demand for high-performance computing and enhanced graphics capabilities. As technology advances, there is an increasing need for powerful GPUs in data centers, cloud computing, and telecommunications infrastructure to support complex tasks such as artificial intelligence, virtualization, and network processing. The proliferation of 5G networks and the rise of edge computing further fuel this demand, as

these technologies require efficient graphic processing for faster data transmission and low-latency applications.

### **Region with largest share:**

The North American region has experienced substantial growth in the market, fueled by increasing demand for high-performance computing across various industries. The expansion of gaming applications has been a key driver, with major players continually innovating to meet these evolving needs. The rise of immersive technologies like virtual reality and augmented reality has contributed to the heightened demand for advanced graphic processing units (GPUs) in the region. Additionally, the ongoing investments in research and development, coupled with a robust ecosystem of technology companies, have positioned North America as a significant hub for GPU market growth.

### **Region with highest CAGR:**

The Asia-Pacific region has witnessed robust growth in the market, driven by increasing demand for high-performance computing in gaming, artificial intelligence, and data centers. Emerging economies such as China and India have become key contributors, with a rising tech-savvy population and an expanding gaming industry. The region's rapid urbanization and industrialization have fueled the adoption of graphic processors across various sectors. Additionally, advancements in technology, coupled with a surge in digital content creation and consumption, have further propelled the market's expansion.

### **Key players in the market**

Some of the key players in Graphic Processor market include Advanced Micro Devices, Inc. (AMD), Amazon Web Services, Inc, Autodesk, Dassault Systems, Inc., Google Inc., IBM, Imagination Technologies, Intel Corporation, Matrox Electronic Systems Ltd., Microsoft Corporation, NVIDIA Corporation, Qualcomm Incorporated, Samsung Electronics Co., Ltd., Siemens AG, Sony Corporation and VIA Technologies, Inc.

### **Key Developments:**

In January 2024, Chip maker Intel announced its latest ambitions in artificial intelligence. It is establishing an independent company dedicated to generative AI. The enterprise firm, named Articul8 AI, is being formed in partnership with DigitalBridge Group, a digital-focused asset manager. The organization will operate with an

independent board of directors, with Intel continuing as a shareholder.

In November 2023, Valeo and Qualcomm announce intentions to extend their strategic cooperation to enhance safety and provide an always-connected digital experience for the Small Mobility segment in India. Companies intend to optimize their complementary product portfolios, in which Qualcomm Technologies and Valeo' solutions for 2-wheelers and new vehicle classes will be used for connected display, clusters, driver assistance, and sensor technology. Strategic collaboration is expected to leverage the strong local R&D presence of the two companies and the local manufacturing capabilities of Valeo.

#### Types Covered:

Hardware

Software

Service

Device

Other Types

#### End Users Covered:

Electronics

IT & Telecommunication

Defense & Intelligence

Media & Entertainment

Automotive

Other End Users

## Regions Covered:

### North America

US

Canada

Mexico

### Europe

Germany

UK

Italy

France

Spain

Rest of Europe

### Asia Pacific

Japan

China

India

Australia

New Zealand

South Korea

Rest of Asia Pacific

## South America

Argentina

Brazil

Chile

Rest of South America

## Middle East & Africa

Saudi Arabia

UAE

Qatar

South Africa

Rest of Middle East & Africa

### **What our report offers:**

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

### **Free Customization Offerings:**

All the customers of this report will be entitled to receive one of the following free customization options:

#### Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

#### Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

#### Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

## Contents

### **1 EXECUTIVE SUMMARY**

### **2 PREFACE**

- 2.1 Abstract
- 2.2 Stake Holders
- 2.3 Research Scope
- 2.4 Research Methodology
  - 2.4.1 Data Mining
  - 2.4.2 Data Analysis
  - 2.4.3 Data Validation
  - 2.4.4 Research Approach
- 2.5 Research Sources
  - 2.5.1 Primary Research Sources
  - 2.5.2 Secondary Research Sources
  - 2.5.3 Assumptions

### **3 MARKET TREND ANALYSIS**

- 3.1 Introduction
- 3.2 Drivers
- 3.3 Restraints
- 3.4 Opportunities
- 3.5 Threats
- 3.6 End User Analysis
- 3.7 Emerging Markets
- 3.8 Impact of Covid-19

### **4 PORTERS FIVE FORCE ANALYSIS**

- 4.1 Bargaining power of suppliers
- 4.2 Bargaining power of buyers
- 4.3 Threat of substitutes
- 4.4 Threat of new entrants
- 4.5 Competitive rivalry

### **5 GLOBAL GRAPHIC PROCESSOR MARKET, BY TYPE**

- 5.1 Introduction
- 5.2 Hardware
  - 5.2.1 Dedicated
  - 5.2.2 Integrated
  - 5.2.3 Hybrid
- 5.3 Software
  - 5.3.1 CAD/CAM
  - 5.3.2 Simulation
  - 5.3.3 Imaging
  - 5.3.4 Digital video
  - 5.3.5 Modeling and animation
  - 5.3.6 Others Softwares
- 5.4 Service
  - 5.4.1 Training & consulting
  - 5.4.2 Integration & maintenance
  - 5.4.3 Managed service
  - 5.4.4 Other Services
- 5.5 Device
  - 5.5.1 Computer
  - 5.5.2 Tablet
  - 5.5.3 Smartphone
  - 5.5.4 Gaming Console
  - 5.5.5 Television
  - 5.5.6 Other Devices
- 5.6 Other Types

## **6 GLOBAL GRAPHIC PROCESSOR MARKET, BY END USER**

- 6.1 Introduction
- 6.2 Electronics
- 6.3 IT & Telecommunication
- 6.4 Defense & Intelligence
- 6.5 Media & Entertainment
- 6.6 Automotive
- 6.7 Other End Users

## **7 GLOBAL GRAPHIC PROCESSOR MARKET, BY GEOGRAPHY**

- 7.1 Introduction
- 7.2 North America
  - 7.2.1 US
  - 7.2.2 Canada
  - 7.2.3 Mexico
- 7.3 Europe
  - 7.3.1 Germany
  - 7.3.2 UK
  - 7.3.3 Italy
  - 7.3.4 France
  - 7.3.5 Spain
  - 7.3.6 Rest of Europe
- 7.4 Asia Pacific
  - 7.4.1 Japan
  - 7.4.2 China
  - 7.4.3 India
  - 7.4.4 Australia
  - 7.4.5 New Zealand
  - 7.4.6 South Korea
  - 7.4.7 Rest of Asia Pacific
- 7.5 South America
  - 7.5.1 Argentina
  - 7.5.2 Brazil
  - 7.5.3 Chile
  - 7.5.4 Rest of South America
- 7.6 Middle East & Africa
  - 7.6.1 Saudi Arabia
  - 7.6.2 UAE
  - 7.6.3 Qatar
  - 7.6.4 South Africa
  - 7.6.5 Rest of Middle East & Africa

## **8 KEY DEVELOPMENTS**

- 8.1 Agreements, Partnerships, Collaborations and Joint Ventures
- 8.2 Acquisitions & Mergers
- 8.3 New Product Launch
- 8.4 Expansions
- 8.5 Other Key Strategies

## 9 COMPANY PROFILING

- 9.1 Advanced Micro Devices, Inc. (AMD)
- 9.2 Amazon Web Services, Inc
- 9.3 Autodesk
- 9.4 Dassault Systems, Inc.,
- 9.5 Google Inc.
- 9.6 IBM
- 9.7 Imagination Technologies
- 9.8 Intel Corporation
- 9.9 Matrox Electronic Systems Ltd.
- 9.10 Microsoft Corporation
- 9.11 NVIDIA Corporation
- 9.12 Qualcomm Incorporated
- 9.13 Samsung Electronics Co., Ltd.
- 9.14 Siemens AG
- 9.15 Sony Corporation
- 9.16 VIA Technologies, Inc.

## List Of Tables

### LIST OF TABLES

- Table 1 Global Graphic Processor Market Outlook, By Region (2023-2034) (\$MN)
- Table 2 Global Graphic Processor Market Outlook, By Type (2023-2034) (\$MN)
- Table 3 Global Graphic Processor Market Outlook, By Hardware (2023-2034) (\$MN)
- Table 4 Global Graphic Processor Market Outlook, By Dedicated (2023-2034) (\$MN)
- Table 5 Global Graphic Processor Market Outlook, By Integrated (2023-2034) (\$MN)
- Table 6 Global Graphic Processor Market Outlook, By Hybrid (2023-2034) (\$MN)
- Table 7 Global Graphic Processor Market Outlook, By Software (2023-2034) (\$MN)
- Table 8 Global Graphic Processor Market Outlook, By CAD/CAM (2023-2034) (\$MN)
- Table 9 Global Graphic Processor Market Outlook, By Simulation (2023-2034) (\$MN)
- Table 10 Global Graphic Processor Market Outlook, By Imaging (2023-2034) (\$MN)
- Table 11 Global Graphic Processor Market Outlook, By Digital video (2023-2034) (\$MN)
- Table 12 Global Graphic Processor Market Outlook, By Modeling and animation (2023-2034) (\$MN)
- Table 13 Global Graphic Processor Market Outlook, By Others Softwares (2023-2034) (\$MN)
- Table 14 Global Graphic Processor Market Outlook, By Service (2023-2034) (\$MN)
- Table 15 Global Graphic Processor Market Outlook, By Training & consulting (2023-2034) (\$MN)
- Table 16 Global Graphic Processor Market Outlook, By Integration & maintenance (2023-2034) (\$MN)
- Table 17 Global Graphic Processor Market Outlook, By Managed service (2023-2034) (\$MN)
- Table 18 Global Graphic Processor Market Outlook, By Other Services (2023-2034) (\$MN)
- Table 19 Global Graphic Processor Market Outlook, By Device (2023-2034) (\$MN)
- Table 20 Global Graphic Processor Market Outlook, By Computer (2023-2034) (\$MN)
- Table 21 Global Graphic Processor Market Outlook, By Tablet (2023-2034) (\$MN)
- Table 22 Global Graphic Processor Market Outlook, By Smartphone (2023-2034) (\$MN)
- Table 23 Global Graphic Processor Market Outlook, By Gaming Console (2023-2034) (\$MN)
- Table 24 Global Graphic Processor Market Outlook, By Television (2023-2034) (\$MN)
- Table 25 Global Graphic Processor Market Outlook, By Other Devices (2023-2034) (\$MN)
- Table 26 Global Graphic Processor Market Outlook, By Other Types (2023-2034) (\$MN)
- Table 27 Global Graphic Processor Market Outlook, By End User (2023-2034) (\$MN)

Table 28 Global Graphic Processor Market Outlook, By Electronics (2023-2034) (\$MN)

Table 29 Global Graphic Processor Market Outlook, By IT & Telecommunication (2023-2034) (\$MN)

Table 30 Global Graphic Processor Market Outlook, By Defense & Intelligence (2023-2034) (\$MN)

Table 31 Global Graphic Processor Market Outlook, By Media & Entertainment (2023-2034) (\$MN)

Table 32 Global Graphic Processor Market Outlook, By Automotive (2023-2034) (\$MN)

Table 33 Global Graphic Processor Market Outlook, By Other End Users (2023-2034) (\$MN)

Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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