

Artificial Intelligence (AI) Semiconductors Market Set to Reach \$136.79 Billion by 2030

*The Business Research Company's
Artificial Intelligence (AI) Semiconductors
Global Market Report 2026 – Market Size,
Trends, And Forecast 2026–2030*

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/EINPresswire.com/ -- [The artificial
intelligence \(AI\) semiconductors](#)

[market](#) has been experiencing remarkable growth, driven by rapid technological advancements and increasing demand across various sectors. This market is poised for continued expansion as AI applications become more widespread and sophisticated. Let's explore the current market size, key growth drivers, leading regional insights, and future outlook for AI semiconductors.

Projected Growth and Market [Size of the Artificial Intelligence Semiconductors Market](#)

The AI semiconductors market is on a strong upward trajectory, expected to increase from \$57.74 billion in 2025 to \$68.5 billion in 2026, representing a compound annual growth rate (CAGR) of 18.6%. This recent surge is largely fueled by the expanding cloud computing infrastructure, a rising need for high-performance computing, and the growth in smartphone and consumer electronics sectors. Early adoption of GPU-based AI workloads and increasing investments in semiconductor manufacturing facilities have also been key contributors to this rapid growth.

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Looking further ahead, the market is projected to reach \$136.79 billion by 2030 with an impressive CAGR of 18.9%. The forecast period's expansion is anticipated to be driven by the booming adoption of generative AI applications, more widespread deployment of edge AI computing systems, and a growing demand for specialized AI inference chips. Additionally, rising investments in advanced semiconductor production processes and the growth of autonomous systems that rely on AI hardware acceleration will fuel this growth. Notable trends expected to

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shape the market include increased use of AI accelerators in data centers, higher demand for energy-efficient semiconductor designs, integration of edge AI chips in consumer electronics, expansion of GPU and ASIC-based AI platforms, and the adoption of heterogeneous computing methods for AI workloads.

Overview of Artificial Intelligence Semiconductors and Their Applications

AI semiconductors refer to specialized microchips designed to efficiently handle the demanding computations required for AI tasks like machine learning, deep learning, and neural network processing. These chips are critical components across a range of sectors, including data centers, consumer electronics, autonomous vehicles, and industrial automation. By providing the hardware foundation necessary for AI technologies, these semiconductors enable large-scale, high-speed AI processing, which is essential for modern AI-driven innovations.

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Significant Drivers Behind the Growth of the AI Semiconductors Market

One of the primary factors propelling the AI semiconductors market is the rapid expansion of data centers globally. With ever-increasing global needs for data storage, cloud computing capabilities, and real-time AI processing, data centers demand substantially higher computing power. AI semiconductors are integral to this ecosystem, as they enable more efficient and faster processing of complex AI workloads such as machine learning and deep learning. These chips deliver high throughput and improved energy efficiency, making them indispensable for modern data center operations.

For example, in 2023, the U.S. Department of Energy reported that data centers in the United States consumed roughly 176 terawatt-hours (TWh) of electricity, accounting for about 4.4% of the country's total electricity use. This figure reflects increasing processing and operational activity linked to the growth of data centers, indicating strong demand for AI semiconductor technology. Therefore, the expansion of data centers is expected to be a major catalyst for the AI semiconductor market's growth.

Regional Overview of the AI Semiconductors Market

In 2025, Asia-Pacific emerged as the largest market for AI semiconductors, reflecting the region's dynamic technological development and strong manufacturing base. Meanwhile, North America is forecasted to register the highest growth rate during the coming years, driven by significant technology adoption and innovation in AI hardware. The market report also covers other key regions including South East Asia, Western Europe, Eastern Europe, South America, the Middle East, and Africa, providing a global perspective on the evolving AI semiconductor landscape.

Our 2026 market reports now feature expanded strategic intelligence through market attractiveness scoring and analysis, total addressable market (TAM) analysis, company scoring

matrix graphics and tables, Excel-based dashboards, market hotspots infographics, key technology and future trend analysis, along with updated graphics and tables.

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Speak With Our Expert:

Saumya Sahay

Americas +1 310-496-7795

Asia +44 7882 955267 & +91 8897263534

Europe +44 7882 955267

Email: marketing@tbrc.info

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Oliver Guirdham

The Business Research Company

+44 7882 955267

info@tbrc.info

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