Edge AI Hardware Market to Exceed USD 6.90 Billion by 2032 | Report by SNS Insider

Increasing demand for real-time data processing, enabling faster decision-making and reducing latency in critical applications.

AUSTIN, TX, UNITED STATES, December 17, 2024 /EINPresswire.com/ -- Market Size & Industry Insights

According to the SNS Insider Report,"The Edge AI Hardware Market Size is to be valued at USD 1.27 Billion in 2023 and is expected to reach USD 6.90 Billion by 2032, reflecting a substantial CAGR of 20.7% over the forecast period from 2024 to 2032."

EDGE AI HARDWARE MARKET

Edge AI is an advanced type of device used for processing and intelligently designed robots and devices. This tool is used to integrate and optimize processing intelligence by processing data on the device itself.

MARKET STATISTICS

MARKET SIZE IN (2023)	CAGR (2024–2032)	MARKET SIZE BY (2032)
USD 1.27 BN	20.7%	USD 6.90 BN

REGIONAL ANALYSIS

North America is projected to lead in the largest market share for edge AI hardware during the forecast period

KEY PLAYERS

Google   intel   MEDIATEK

Edge AI Hardware Market Share & Trends

Driving Forces Behind the Growth of the Edge AI Hardware Market: Real-Time Processing, 5G Adoption, and Industry Demands

The growing demand for AI-powered devices across industries such as healthcare, automotive, and manufacturing is a significant factor driving the Edge AI hardware market. By enabling AI computations closer to the data source, edge AI hardware reduces latency, enhances efficiency, and enables faster decision-making. Moreover, the growing adoption of 5G networks is propelling the demand for edge AI, as it enables high-speed, low-latency communication between devices, allowing AI models to process data at the edge rather than relying on centralized cloud servers. Additionally, industries are focusing on real-time analytics, autonomous operations, and enhanced security, all of which further boost the need for edge AI hardware.

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SWOT Analysis of Key Players as follows:
- Google

- Intel Corporation
- MediaTek
- NVIDIA Corporation
- Samsung Electronics
- Apple
- Huawei Technologies
- International Business Machines Corporation
- Microsoft Corporation
- Qualcomm Technologies

Factors Driving the Rapid Growth of the Edge AI Hardware Market

The Edge AI Hardware Market is experiencing rapid expansion, fueled by the growing number of IoT devices, the increasing demand for real-time decision-making, and significant investments in AI technologies. By enabling local data processing, edge AI hardware minimizes latency and reduces bandwidth costs, making it more appealing for businesses. The automotive industry's push for autonomous vehicles and the healthcare sector's need for remote patient monitoring are expected to further accelerate market growth. As AI technologies continue to advance, edge computing will become essential across various sectors, sustaining high demand for edge AI hardware solutions throughout the forecast period.

Dominant and Fastest-Growing Segments Driving the Expansion of the Edge AI Hardware Market

By Component

The processor segment leads the Edge AI Hardware Market, playing a critical role in executing AI tasks and enabling faster data processing and decision-making at the edge. As AI-driven applications expand in industries such as automotive, healthcare, and manufacturing, processors are essential for handling complex computations efficiently, ensuring optimal performance of edge devices. This makes processors the dominant segment in the market.

The sensor segment is the fastest-growing in the Edge AI Hardware Market. Sensors are key to collecting data from the environment, crucial for AI applications like autonomous vehicles and smart healthcare devices. The rapid adoption of IoT devices and the demand for real-time analytics are fueling this growth, with innovations in sensor technologies enabling more accurate and efficient data collection at the edge.

By Function

The inference segment leads the Edge AI Hardware Market, as it applies pre-trained AI models to real-time data for decision-making and predictions. This function is crucial for industries like automotive, healthcare, and manufacturing, where low-latency processing and real-time

analytics are essential. Inference enables edge devices to process data locally, minimizing reliance on centralized cloud servers and driving market growth.

The training segment is the fastest-growing function. Traditionally performed in data centers, AI model training is now shifting to the edge, allowing faster model updates and better adaptability in real-time applications. As edge computing expands, the demand for localized training capabilities grows, fueling the rapid evolution of AI technologies.

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KEY MARKET SEGMENTS:

BY COMPONENT
Memory
Processor
Sensor
Other

BY DEVICE
Smartphones
Surveillance cameras
Smart speakers
Edge servers
Robots
Wearables
Automotive
Smart mirrors

BY FUNCTION
Inference
Training

BY END USER
Smart home
Automotive & transportation
Industrial
Healthcare
Consumer electronics
Aerospace & defense
Government
Construction

Regional Leaders in the Edge AI Hardware Market: North America and Asia-Pacific

North America is projected to lead the Edge AI Hardware Market, driven by increasing demand for faster processing, reduced latency, and rapid adoption of edge AI technologies in the US and Canada. The region's strong reliance on IoT devices, coupled with government funding and advancements in consumer electronics and smart home applications, further supports market growth, making it the largest market for edge AI hardware during the forecast period.

Asia-Pacific is expected to witness the highest Compound Annual Growth Rate (CAGR), propelled by the presence of major semiconductor manufacturers and exporters. This region's growing technical infrastructure and innovation in electronics offer significant opportunities for edge AI hardware market expansion.

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Recent Development

-March 5, 2024: L&T Technology Services (LTTS) has partnered with Intel to scale Edge-AI solutions across various industries, including Cellular Vehicle-to-Everything (CV2X) applications. By leveraging Intel's Edge Platform, which includes OpenVINO™ for real-time AI inferencing, LTTS aims to drive advancements in smart city traffic management, emergency safety, and intelligent transportation systems. This collaboration highlights LTTS' commitment to enhancing connectivity and infrastructure with cutting-edge edge-AI solutions.
-November 20, 2024: WekaIO, Nvidia, and Run:ai have teamed up to create cutting-edge AI infrastructure solutions, highlighted by Weka's WARRP platform. Designed to simplify the deployment of retrieval-augmented generation workflows, the platform integrates Nvidia's GPUs and Run:ai's orchestration tools, offering enterprises a seamless and scalable solution for AI deployment. This collaboration marks a significant step in optimizing AI infrastructure for large-scale enterprise use.

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