

AI PC Market Opportunity, Growth Drivers, Industry Trend Analysis, and Forecast 2025 - 2034

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Abstracts

The Global AI PC Market was valued at USD 50.68 billion in 2024 and is estimated to grow at a CAGR of 42.8% to reach USD 1.77 trillion by 2034, fueled by the increasing integration of neural processing units (NPUs) in computing devices. These built-in AI accelerators are transforming PCs into intelligent systems capable of supporting advanced, low-latency AI functions directly on the device. A major growth factor stems from evolving user demands for real-time, AI-driven capabilities across productivity, content creation, communication, and device security. This transition marks a shift from traditional computing to AI-native infrastructure, where processing is localized for better performance and data protection.

Trade regulations, including tariffs on key components like semiconductors and high-performance processors, have impacted the cost structure of AI PCs. These restrictions have not only led to price volatility and increased delivery timelines but have also disrupted access to essential international technologies. As a response, manufacturers are realigning supply chains and turning toward regionally produced components to reduce dependency on imports and ensure compliance with national tech policies. This shift is in line with domestic chip-making incentives across major economies, reinforcing the development of homegrown AI ecosystems. Local sourcing also provides strategic advantages in maintaining uninterrupted production cycles and mitigating risks linked to global trade tensions.

The increasing use of AI-enabled software in everyday computing tasks is accelerating the adoption of AI PCs across both business and consumer markets. More devices are being built to support on-device AI applications, which enhance user experience without needing to offload data to the cloud. This setup ensures greater data privacy and quicker performance, which are especially critical in today's hybrid work culture. AI PCs

are now acting as intelligent endpoints, working seamlessly with edge and cloud computing systems to manage distributed AI workloads efficiently. The evolution of secure, decentralized AI frameworks is being actively promoted by global regulatory bodies, emphasizing the need for responsive and compliant AI systems.

In terms of hardware design, the AI PC market is segmented into desktops, laptops, and workstations. In 2024, laptops accounted for the largest share at 56.5%, driven by growing demand for portable computing power integrated with AI capabilities. These devices now come equipped with processors specifically designed for AI tasks, making them ideal for mobile users who need intelligent features on the go. Improved battery life, responsive user interfaces, and enhanced multimedia functions are also encouraging professionals and general consumers to upgrade to AI-powered laptops.

When categorized by operating systems, Windows leads the AI PC market with a share of 68.7% in 2024. This dominance can be attributed to the widespread presence of hardware partners, software ecosystems, and enterprise adoption built around the Windows platform. Ongoing hardware refresh cycles, driven by the phasing out of older operating systems, are pushing organizations to invest in new AI-optimized Windows PCs that offer enhanced compliance, security, and productivity features.

By compute type, the market is divided into GPUs, NPUs, and others. GPUs held the highest market share at 51% in 2024, owing to their vital role in processing complex AI algorithms and delivering high-end graphics performance. These processors are particularly important for handling AI workloads such as deep learning, image processing, and real-time data analysis. The integration of advanced GPU architectures is enhancing visual quality and enabling AI-accelerated features across a wide range of applications.

In regional terms, the U.S. AI PC market is expected to reach USD 551.78 billion by 2034. Strong government investments in domestic AI and semiconductor infrastructure, combined with corporate interest in edge AI solutions, are driving market growth. As more companies embrace AI-based tools and services, the need for high-performance computing devices continues to grow. The shift toward technology independence and digital resilience is encouraging businesses to adopt AI PCs that meet stringent data protection and performance standards.

Competition in the AI PC space is intensifying, with regulatory requirements and productivity demands becoming central to purchasing decisions. Organizations across industries such as healthcare, education, and finance are turning to AI PCs to meet

compliance standards while maintaining operational efficiency. On-device AI processing enables reduced reliance on cloud storage, aligning with increasing global data protection and cybersecurity regulations. As demand for generative AI tools and intelligent automation grows, companies are refreshing IT infrastructure with AI-ready systems to optimize workflows, cut down on repetitive tasks, and support informed decision-making. Collaborative efforts between PC manufacturers and software developers are further enhancing AI integration, transforming the way users interact with personal computing devices.

Companies Mentioned

Acer, Apple Inc., ASUSTeK Computer Inc., BOXX, CORSAIR, Dell Inc., GIGA-BYTE Technology Co., Ltd., HP Development Company, L.P, Huawei, Lenovo, Microsoft, Micro-Star INT'L CO., LTD., NVIDIA Corporation, Puget Systems, Razer Inc.

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10.13 NVIDIA Corporation

10.14 Puget Systems

10.15 Razer Inc.

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