

# High-Performance Computing Market Size to Surpass USD 92.33 Billion by 2032 | SNS Insider

*The HPC market is rapidly growing due to rising demand for advanced computing solutions to process complex, data-intensive applications.*

AUSTIN, TX, UNITED STATES, February 27, 2025 /EINPresswire.com/ -- The [High-Performance Computing Market](#) size was USD 47.07 Billion in 2023 and is expected to reach USD 92.33 Billion by 2032, growing at a CAGR of 7.80% over the forecast period of 2024-2032.



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## Segment Analysis

By Deployment, On-Premise HPC Dominates the Market in 2023, While Cloud Deployment Grows at Fastest Rate

On-premise accounted for the largest share of the HPC market in 2023 and is expected to remain the largest segment throughout the forecast period. Concerns around data security, especially in government, defense, and finance sectors, are the biggest motivators behind the usage of on-premise solutions.

The cloud deployment segment is anticipated to witness the highest growth at a CAGR of over 8.3% during the forecast period. Cloud-based high-performance computing solutions allow organizations to reduce costs, scale up operations, and access high-performance computing as needed, which is why they are an attractive option for organizations that want to optimize operational efficiency.

By Computation Type, Parallel Computing Dominates HPC Market in 2023, Driving Speed, Efficiency, and AI Growth

In 2023, Parallel Computing was the driving force behind the High-Performance Computing

(HPC) market. Parallel computing, which speeds up your computations, optimizes workflows and improves real-time data analysis, is utilized in various industries, including aerospace, healthcare, and finance. Their use has also been spurred by the rise of AI, machine learning, and big data analytics, as parallel computing separates and coordinates independent operations that can be performed at the same time, drastically cutting processing time. Due to the fast development of multi-core processors and GPU acceleration, parallel computing has become the go-to for almost every enterprise looking to perform large-scale computations quickly, economically, and optimally.

#### By End-Use, Manufacturing Sector Drives HPC Growth, While Government & Defense Adoption Surges

The manufacturing sector is expected to witness significant growth in the HPC market, driven by the increasing adoption of computational-intensive processes. HPC is also used for simulation-driven design, computational fluid dynamics (CFD), and structural mechanics analysis to make manufacturers more efficient and to shrink their time-to-market.

The government and defense it's expected to grow at a CAGR of more than 8.7% in the forecast period. The HPC need in this sector is accelerated by their growing reliance on such technologies for national security, military research, and digital transformation initiatives. Global governments are also investing in high-performance computing for increased computational capabilities and economic development.

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#### North America Leads HPC Market, While Asia Pacific Emerges as Fastest-Growing Region

In 2023, North America was the largest region in the HPC market with over 38% of global revenue. Its position is due to a high concentration of technology and substantial investment in HPC infrastructure. From large enterprises like Boeing and General Motors to countless SMEs, companies are adopting HPC solutions in increasing numbers.

The fastest growing region will be Asia Pacific, where the HPC market is expected to grow at 8.2% CAGR during the forecast timeframe as the use of HPC solutions is increasing significantly in the fields of scientific research, weather forecasting, and industrial applications. China and India are among the countries at the forefront of this growth, with the former hosting some of the world's fastest supercomputers such as Tianhe-2 and Sunway TaihuLight. The strategic investments by the Chinese government in HPC infrastructure are expected to drive market growth over the next few years.

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we employ a variety of techniques, including surveys, video talks, and focus groups around the world.

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