Edge Computing - Market Share Analysis, Industry Trends & Statistics, Growth Forecasts (2025 - 2030)

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Report description:

Edge Computing Market Analysis

The edge computing market size is estimated at USD 227.80 billion in 2025 and is on track to reach USD 424.15 billion by 2030, advancing at a 13.24% CAGR. Intensifying data-gravity at the network edge, the roll-out of 5G radio access networks, and global data-sovereignty mandates are redefining enterprise architecture by shifting time-sensitive processing away from centralized clouds. Hardware vendors benefit from falling ASIC and SoC prices that lower entry barriers for real-time AI inference, while telecom operators carve new revenue streams through multi-access edge compute (MEC) services aligned with ETSI Phase 4 specifications. Enterprises in manufacturing, energy, and mobility adopt edge nodes to minimize latency, protect sensitive data, and improve operational resilience. At the same time, cloud hyperscalers extend managed services to customer premises, enabling unified observability and lifecycle management of distributed workloads

Global Edge Computing Market Trends and Insights

5G Roll-out Catalyzing Ultra-Low-Latency Use-Cases

Global 5G deployments enable sub-millisecond latency that autonomous vehicles, telesurgery, and immersive maintenance applications require. Verizon and NVIDIA have begun piloting real-time AI services on private 5G networks, anchoring edge nodes at base stations to meet stringent round-trip delay budgets. Hyperscalers now colocate micro-data-centres at telecom exchanges, allowing developers to push containers closer to users. ETSI MEC Phase 4 profiles create common APIs, helping operators

monetize differentiated latency tiers while ensuring workload portabilit.The investment cycle aligns with governments funding rural 5G coverage, extending edge-powered services beyond dense urban corridors.

Proliferation of IoT Endpoints and Data Gravity

Industrial sites deploy thousands of sensors that stream terabytes daily, making centralized analytics both costly and sluggish. Manufacturers report 89% intent to shift AI inference to local gateways for real-time quality control. Edge-native architectures cut bandwidth expenses and avoid cloud egress charges by keeping high-volume data onsite until summarized. Platforms such as TCS Clever Energy use local inference to flag anomalies and trigger immediate corrective action. As IoT devices integrate lightweight GPUs and NPUs, they can execute vision models autonomously, freeing backhaul links for supervisory tasks.

Cyber-Attack Surface Expansion at Distributed Nodes

Every gateway, sensor, and micro-data-centre becomes a potential ingress point, raising the probability of lateral movement across converged IT/OT networks. Industrial operators deploy zero-trust firmware, hardware root-of-trust, and TPM-backed attestation, yet retrofitted legacy devices often lack secure boot sequences. Physical tampering risk climbs as edge nodes leave protected data-centre premises and reside on factory floors or in roadside cabinets. The scarcity of real-time forensics tools that run locally hampers incident response, extending mean-time-to-contain breaches.

Other drivers and restraints analyzed in the detailed report include:

Regulatory Data-Sovereignty Mandates / Declining ASIC/SoC Costs for Edge Inference Accelerators / Skills Gap in Deploying and Managing Heterogeneous Edge Stacks /

For complete list of drivers and restraints, kindly check the Table Of Contents.

Segment Analysis

Hardware accounted for 45.2% of the edge computing market in 2024, reflecting the up-front capital required for ruggedized servers, accelerators, and field-deployable storage. The edge computing market size for hardware reached USD 102.8 billion in 2025 and is expected to grow steadily as ASIC prices fall. Software platforms trail in revenue but lead in innovation, posting the highest 13.7% CAGR as orchestration stacks add AI model lifecycle management and remote observability. Services revenue remains modest yet essential, addressing integration of legacy PLCs and real-time operating systems within brownfield industrial sites.

Intense competition among chipmakers compresses unit costs, enabling high-volume deployment of low-power AI inference cards that withstand industrial temperature ranges. Intel's 18A roadmap improves transceiver density, boosting deterministic throughput in intelligent gateways. Simultaneously, zero-touch deployment frameworks from Advantech and Namla lower integration costs by automating node provisioning, signalling future growth for managed services that wrap around hardware.

On-premises solutions retained 67.2% of the edge computing market in 2024, driven by data locality and deterministic latency requirements. Hybrid-cloud edges grow rapidly at 14.9% CAGR as enterprises adopt central model training in hyperscale clouds with distributed inference at factory cells. Enterprises pilot workload tiering, where real-time inference runs locally, and non-urgent analytics backhaul to regional availability zones overnight.

Air-gapped cruise-ship payment systems illustrate on-premises resilience, continuing operation when satellite links fail. Conversely, Microsoft's investment in Armada reflects hyperscaler conviction that unified control planes spanning cloud and edge

will win long term. Vendors now ship appliances pre-registered with cloud consoles, enabling frictionless expansion from single-site POCs to multi-country estates

Edge Computing Market is Segment by Component (Hardware, Software, Services), Deployment (On Premise, Cloud), End User Industry (Manufacturing and Industrial, Energy and Utilities, and More), Application (Industrial IoT and Predictive Maintenance, and More), Organization Size (Large Enterprise, Small and Medium Enterprise), and by Geography. The Market Forecasts are Provided in Terms of Value (USD).

Geography Analysis

North America held 24.8% of the edge computing market in 2024, anchored by robust 5G deployment, a vast hyperscaler footprint, and public funding for semiconductor production. The Biden administration allocated USD 269 million to micro-electronics programs that strengthen domestic edge hardware capacity. Utilities in the United States deploy private LTE coupled with ruggedized MEC nodes to modernize grid operations, and 75% of enterprise-generated data is forecast to remain at or near the source by 2025 Canada follows, targeting autonomous mining and energy workflows that cannot tolerate WAN latency.

Asia Pacific is the fastest-growing region at a 15.1% CAGR through 2030. China's "new infrastructure" policy incentivizes edge data-centre buildouts close to manufacturing clusters, and Huawei invested 20.8% of its 2024 revenue back into research and development that spans AI, automotive, and cloud services. India's smart-city programs integrate edge-enabled surveillance and traffic optimization, while Japan's automation giants embed deterministic Ethernet and TSN in production lines. Regional telcos leverage aggressive fiber roll-outs to backhaul edge aggregates to metro cores, minimizing jitter for immersive gaming and telepresence.

List of Companies Covered in this Report:

Amazon Web Services (AWS) / Microsoft Corporation / Cisco Systems Inc. / Huawei Technologies Co. Ltd. / IBM Corporation / Hewlett Packard Enterprise (HPE) / Dell Technologies Inc. / Google LLC (Alphabet Inc.) / Intel Corporation / NVIDIA Corporation / Juniper Networks Inc. / Advantech Co. Ltd. / ADLINK Technology Inc. / Schneider Electric SE / Siemens AG / Capgemini Engineering / EdgeIQ (MachineShop Inc.) / Vapor IO Inc. / Litmus Automation / FogHorn Systems / Lumen Technologies Inc. /

Additional Benefits:

The market estimate (ME) sheet in Excel format /
3 months of analyst support /

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