

5G Core Network Market Outlook 2025-2034: Market Share, and Growth Analysis By Components (Solutions, Services), By Deployment Model (Cloud, On-Premises), By Application, By End User

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Abstracts

The 5G Core Network Market is valued at USD 4.1 billion in 2025 and is projected to grow at a CAGR of 20.4% to reach USD 21.8 billion by 2034. The 5G core network market is a critical component of the overall 5G ecosystem, providing the essential control and management functions for 5G services. This market focuses on the software and hardware that enables the 5G core, including network function virtualization (NFV), software-defined networking (SDN), and cloud-native technologies. The 5G core is designed to support a wide range of services, from enhanced mobile broadband to ultra-reliable low-latency communication and massive machine-type communication.

The market is characterized by rapid innovation in cloud computing, virtualization, and automation technologies. The adoption of cloud-native architectures and microservices is enabling greater flexibility and scalability in the 5G core. The integration of artificial intelligence (AI) and machine learning (ML) is enhancing network automation and optimization, improving service delivery and reducing operational costs. Furthermore, the increasing adoption of open interfaces and standards is promoting interoperability and reducing vendor lock-in. The market is also seeing a trend towards edge core deployments, which bring processing and storage closer to the end-users, enabling latency-sensitive applications.

Geographically, the 5G core network market is expanding globally, with significant activity in developed regions and emerging economies. Developed regions are leading the way in technology adoption, driven by their advanced telecommunications infrastructure and strong research and development capabilities. Emerging economies

are also investing heavily in 5G core infrastructure to support their digital transformation and meet the growing demand for advanced 5G services. The market's future is promising, with continuous innovation and increasing adoption expected to drive significant growth.

Key Insights 5G Core Network Market

Cloud-Native Architecture: Increasing adoption of cloud-native principles, microservices, and containerization.

Network Slicing: Implementation of network slicing to support diverse 5G use cases with tailored performance requirements.

Edge Computing Deployment: Expanding deployment of edge core networks to reduce latency and support edge-based applications.

AI and ML Integration: Enhanced network automation, optimization, and anomaly detection through AI and ML.

Open RAN and Open Interfaces: Growing adoption of Open RAN and open interfaces for greater interoperability and vendor diversity.

5G Network Deployments: Rapid global rollout of 5G networks and infrastructure.

Demand for Advanced Services: Growing demand for enhanced mobile broadband, ultra-reliable low-latency communication, and massive machine-type communication.

Digital Transformation Initiatives: Digital transformation efforts across various industries, driving the need for robust 5G core networks.

Network Virtualization and Automation: Desire for greater network agility, flexibility, and operational efficiency through virtualization and automation.

Edge Computing Requirements: Need for low-latency processing and data storage at the network edge.

Integration Complexity: Complexity of integrating cloud-native technologies with existing network infrastructure.

Security Concerns: Ensuring robust security in cloud-based and virtualized 5G core environments.

Interoperability Issues: Challenges in achieving seamless interoperability between different vendors' 5G core components.

Scalability and Performance: Ensuring the 5G core can handle the increasing traffic and service demands.

Talent Acquisition and Skill Gap: Shortage of skilled professionals with expertise in 5G core technologies and cloud-native architectures.

5G Core Network Market Segmentation

By Components

Solutions

Services

By Deployment Model

Cloud

On-Premises

By Application

Smart Energy

Industrial Manufacturing

Smart Medical

Media Entertainment

Smart Transportation

By End User

Telecom Operators

Enterprises

Key Companies Analysed

Samsung Electronics Co. Ltd.

Reliance Industries Limited

Dell Technologies Inc.

Huawei Technologies Co. Ltd.

Intel Corporation

Cisco Systems Inc.

Qualcomm Incorporated

Oracle Corporation

Fujitsu Limited

Hewlett Packard Enterprise Company

Telefonaktiebolaget LM Ericsson

Nokia Corporation

NEC Corporation

ZTE Corporation

VMware Inc.

Juniper Networks Inc.

Ciena Corporation

Mavenir Systems Inc.

Ribbon Communications Inc.

Casa Systems Inc.

Parallel Wireless Inc.

AltioStar Networks Inc.

Affirmed Networks

Druid Software Ltd.

Athonet S.r.l.

5G Core Network Market Analytics

The report employs rigorous tools, including Porter's Five Forces, value chain mapping, and scenario-based modeling, to assess supply–demand dynamics. Cross-sector influences from parent, derived, and substitute markets are evaluated to identify risks and opportunities. Trade and pricing analytics provide an up-to-date view of international flows, including leading exporters, importers, and regional price trends.

Macroeconomic indicators, policy frameworks such as carbon pricing and energy security strategies, and evolving consumer behavior are considered in forecasting scenarios. Recent deal flows, partnerships, and technology innovations are incorporated to assess their impact on future market performance.

5G Core Network Market Competitive Intelligence

The competitive landscape is mapped through OG Analysis' proprietary frameworks,

profiling leading companies with details on business models, product portfolios, financial performance, and strategic initiatives. Key developments such as mergers & acquisitions, technology collaborations, investment inflows, and regional expansions are analyzed for their competitive impact. The report also identifies emerging players and innovative startups contributing to market disruption.

Regional insights highlight the most promising investment destinations, regulatory landscapes, and evolving partnerships across energy and industrial corridors.

Countries Covered

North America — 5G Core Network market data and outlook to 2034

United States

Canada

Mexico

Europe — 5G Core Network market data and outlook to 2034

Germany

United Kingdom

France

Italy

Spain

BeNeLux

Russia

Sweden

Asia-Pacific — 5G Core Network market data and outlook to 2034

China

Japan

India

South Korea

Australia

Indonesia

Malaysia

Vietnam

Middle East and Africa — 5G Core Network market data and outlook to 2034

Saudi Arabia

South Africa

Iran

UAE

Egypt

South and Central America — 5G Core Network market data and outlook to 2034

Brazil

Argentina

Chile

Peru

** We can include data and analysis of additional countries on demand.*

Research Methodology

This study combines primary inputs from industry experts across the 5G Core Network value chain with secondary data from associations, government publications, trade databases, and company disclosures. Proprietary modeling techniques, including data triangulation, statistical correlation, and scenario planning, are applied to deliver reliable market sizing and forecasting.

Key Questions Addressed

What is the current and forecast market size of the 5G Core Network industry at global, regional, and country levels?

Which types, applications, and technologies present the highest growth potential?

How are supply chains adapting to geopolitical and economic shocks?

What role do policy frameworks, trade flows, and sustainability targets play in shaping demand?

Who are the leading players, and how are their strategies evolving in the face of global uncertainty?

Which regional “hotspots” and customer segments will outpace the market, and what go-to-market and partnership models best support entry and expansion?

Where are the most investable opportunities—across technology roadmaps, sustainability-linked innovation, and M&A—and what is the best segment to invest over the next 3–5 years?

Your Key Takeaways from the 5G Core Network Market Report

Global 5G Core Network market size and growth projections (CAGR),
2024-2034

Impact of Russia-Ukraine, Israel-Palestine, and Hamas conflicts on 5G Core Network trade, costs, and supply chains

5G Core Network market size, share, and outlook across 5 regions and 27 countries, 2023-2034

5G Core Network market size, CAGR, and market share of key products, applications, and end-user verticals, 2023-2034

Short- and long-term 5G Core Network market trends, drivers, restraints, and opportunities

Porter's Five Forces analysis, technological developments, and 5G Core Network supply chain analysis

5G Core Network trade analysis, 5G Core Network market price analysis, and 5G Core Network supply/demand dynamics

Profiles of 5 leading companies—overview, key strategies, financials, and products

Latest 5G Core Network market news and developments

Additional Support

With the purchase of this report, you will receive

An updated PDF report and an MS Excel data workbook containing all market tables and figures for easy analysis.

7-day post-sale analyst support for clarifications and in-scope supplementary data, ensuring the deliverable aligns precisely with your requirements.

Complimentary report update to incorporate the latest available data and the impact of recent market developments.

** The updated report will be delivered within 3 working days*

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