

# 5G Network Infrastructure Market Forecasts to 2034 – Global Analysis By Component (Hardware, Software and Services), Network Architecture, Frequency Band, Deployment Mode, End User and By Geography

<https://marketpublishers.com/r/5F187B689117EN.html>

Date: March 2026

Pages: 200

Price: US\$ 4,150.00 (Single User License)

ID: 5F187B689117EN

## Abstracts

According to Statistics MRC, the Global 5G Network Infrastructure Market is accounted for \$18.19 billion in 2026 and is expected to reach \$122.37 billion by 2034 growing at a CAGR of 26.9% during the forecast period. 5G Network Infrastructure refers to the comprehensive framework of hardware, software, and network components that enable fifth-generation (5G) wireless communication. It includes base stations, small cells, antennas, routers, fiber optic backhaul, and core network elements designed to deliver ultra-fast data speeds, low latency, and massive device connectivity. Supporting technologies such as network slicing, edge computing, and massive MIMO optimize performance for diverse applications across industries. 5G infrastructures is critical for enabling smart cities, autonomous vehicles, IoT ecosystems, and enhanced mobile broadband, forming the backbone of next generation digital transformation worldwide.

## Market Dynamics:

Driver:

Explosive Demand for High-Speed Connectivity

The global demand for ultra-fast and reliable connectivity is a key driver for the 5G Network Infrastructure market. Rising smartphone penetration, increased mobile data consumption, and the adoption of bandwidth-intensive applications such as AR/VR, cloud gaming, and video streaming are pushing the need for next-generation networks. Enterprises and industries are leveraging 5G to enhance operational efficiency, enable

real-time communication, and support digital transformation initiatives, making high-speed connectivity an essential catalyst for market growth.

Restraint:

#### High Deployment Costs

The high capital expenditure required for deploying 5G infrastructure remains a major restraint. Costs associated with acquiring spectrum, installing base stations, small cells, antennas, and fiber optic backhaul, alongside network maintenance, create financial challenges for operators, especially in emerging markets. Additionally, the need for advanced hardware and software integration to support technologies such as massive MIMO and edge computing further increases investment requirements. These high deployment costs can slow network rollout and limit market adoption in cost sensitive regions.

Opportunity:

#### Expansion of IoT and Connected Devices

The rapid proliferation of IoT devices across industries presents a significant growth opportunity for 5G network infrastructure. Smart homes, connected vehicles and healthcare applications require robust and high bandwidth networks to operate efficiently. 5G infrastructure, integrated with edge computing and network slicing, provides the capacity and performance needed to support massive device connectivity. This growing ecosystem of interconnected devices drives increased investment in network deployment, enabling new revenue streams and transforming digital services across multiple sectors.

Threat:

#### Regulatory and Spectrum Challenges

Regulatory hurdles and spectrum allocation challenges pose a critical threat to the 5G Network Infrastructure market. Delays in licensing, inconsistent policies across regions, and complex compliance requirements can hinder network deployment timelines. Additionally, spectrum scarcity and high auction costs limit operators' ability to expand coverage efficiently. These challenges are particularly pronounced in developing countries, where regulatory frameworks are evolving. Such uncertainties increase

operational risks, slow infrastructure rollout, and may impact the overall adoption of 5G technologies.

### **Covid-19 Impact:**

The COVID-19 pandemic initially disrupted the 5G network infrastructure supply chain, delaying equipment manufacturing and deployment due to lockdowns and logistical challenges. However, the crisis also accelerated digital transformation and online services, significantly increasing data traffic and highlighting the need for robust 5G networks. Post-pandemic, operators have intensified investment in network expansion to support remote connectivity, IoT adoption, and smart city initiatives. This dual impact underscores both the temporary challenges and long term growth potential of the market during and after the pandemic.

The software segment is expected to be the largest during the forecast period

The software segment is expected to account for the largest market share during the forecast period, due to increasing demand for network management, orchestration, and optimization solutions. Software defined networking (SDN), network slicing, and AI enabled automation allow telecom operators to enhance efficiency, reduce latency, and dynamically manage traffic. Additionally, cloud-native applications and edge computing integration rely on advanced software platforms to deliver reliable services across diverse industries, making software a critical component of 5G infrastructure deployment and market expansion.

The telecom operators segment is expected to have the highest CAGR during the forecast period

Over the forecast period, the telecom operators segment is predicted to witness the highest growth rate, due to increased investment in 5G deployment and network modernization. Operators are expanding coverage to support growing demand for mobile broadband, IoT connectivity, and enterprise solutions. Strategic partnerships with equipment vendors, government incentives, and adoption of advanced technologies such as massive MIMO and network slicing further fuel growth. This segment's rapid adoption of 5G infrastructure positions telecom operators as the primary beneficiaries of market expansion.

### **Region with largest share:**

During the forecast period, the Asia Pacific region is expected to hold the largest market share, due to early adoption of 5G technology, large population, and growing smartphone penetration. Major countries such as China, Japan, and South Korea are investing heavily in network infrastructure, supported by government initiatives and private sector collaboration. Rapid industrialization, smart city projects, and increased IoT deployment further contribute to market growth. Asia Pacific's strong manufacturing base and technological capabilities reinforce its position as the largest 5G network infrastructure market globally.

### **Region with highest CAGR:**

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, owing to rising demand for high speed connectivity, and expansion of IoT and smart city projects. Governments are actively supporting network rollouts through spectrum allocation and regulatory incentives. Additionally, the presence of leading telecom operators and equipment manufacturers fosters innovation and rapid adoption of advanced 5G technologies. This combination of supportive policies, technological readiness, and growing consumer and enterprise demand drives robust growth in the region's 5G network infrastructure market.

### **Key players in the market**

Some of the key players in 5G Network Infrastructure Market include Huawei Technologies Co., Ltd., Ericsson AB, Nokia Corporation, Samsung Electronics Co., Ltd., ZTE Corporation, Cisco Systems, Inc., Qualcomm Technologies, Inc., Intel Corporation, NEC Corporation, Fujitsu Limited, Hewlett Packard Enterprise (HPE), Dell Technologies Inc., Juniper Networks, Inc., Mavenir Systems, Inc. and CommScope Holding Company, Inc.

### **Key Developments:**

In December 2025, Samsung Electronics announced that it will introduce a new Samsung interior fit installation service that expands its products and strengthens customer benefits to customer response. Samsung's interior fit installation service is a service that provides customers with the removal of existing furniture stores, construction, and product installation at once according to their new purchases or home appliances.

In October 2025, OpenAI, Samsung Electronics, Samsung SDS, Samsung C&T and

Samsung Heavy Industries announced a letter of intent (LOI) for their strategic partnership to accelerate advancements in global AI data center infrastructure and develop future technologies together in relevant fields.

#### Components Covered:

Hardware

Software

Services

#### Network Architectures Covered:

Standalone (SA) 5G

Non-Standalone (NSA) 5G

#### Frequency Bands Covered:

Sub-6 GHz

mmWave

Low Band

#### Deployment Modes Covered:

On-Premises

Cloud-Based

Hybrid

#### End Users Covered:

Telecom Operators

Enterprise

Government & Public Sector

Regions Covered:

North America

United States

Canada

Mexico

Europe

United Kingdom

Germany

France

Italy

Spain

Netherlands

Belgium

Sweden

Switzerland

Poland

Rest of Europe

Asia Pacific

China

Japan

India

South Korea

Australia

Indonesia

Thailand

Malaysia

Singapore

Vietnam

Rest of Asia Pacific

South America

Brazil

Argentina

Colombia

Chile

Peru

Rest of South America

## Rest of the World (RoW)

### Middle East

Saudi Arabia

United Arab Emirates

Qatar

Israel

Rest of Middle East

### Africa

South Africa

Egypt

Morocco

Rest of Africa

### **What our report offers:**

- Market share assessments for the regional and country-level segments
- Strategic recommendations for the new entrants
- Covers Market data for the years 2023, 2024, 2025, 2026, 2027, 2028, 2030, 2032 and 2034
- Market Trends (Drivers, Constraints, Opportunities, Threats, Challenges, Investment Opportunities, and recommendations)
- Strategic recommendations in key business segments based on the market estimations
- Competitive landscaping mapping the key common trends
- Company profiling with detailed strategies, financials, and recent developments
- Supply chain trends mapping the latest technological advancements

## Free Customization Offerings:

All the customers of this report will be entitled to receive one of the following free customization options:

### Company Profiling

Comprehensive profiling of additional market players (up to 3)

SWOT Analysis of key players (up to 3)

### Regional Segmentation

Market estimations, Forecasts and CAGR of any prominent country as per the client's interest (Note: Depends on feasibility check)

### Competitive Benchmarking

Benchmarking of key players based on product portfolio, geographical presence, and strategic alliances

## Contents

### **1 EXECUTIVE SUMMARY**

- 1.1 Market Snapshot and Key Highlights
- 1.2 Growth Drivers, Challenges, and Opportunities
- 1.3 Competitive Landscape Overview
- 1.4 Strategic Insights and Recommendations

### **2 RESEARCH FRAMEWORK**

- 2.1 Study Objectives and Scope
- 2.2 Stakeholder Analysis
- 2.3 Research Assumptions and Limitations
- 2.4 Research Methodology
  - 2.4.1 Data Collection (Primary and Secondary)
  - 2.4.2 Data Modeling and Estimation Techniques
  - 2.4.3 Data Validation and Triangulation
  - 2.4.4 Analytical and Forecasting Approach

### **3 MARKET DYNAMICS AND TREND ANALYSIS**

- 3.1 Market Definition and Structure
- 3.2 Key Market Drivers
- 3.3 Market Restraints and Challenges
- 3.4 Growth Opportunities and Investment Hotspots
- 3.5 Industry Threats and Risk Assessment
- 3.6 Technology and Innovation Landscape
- 3.7 Emerging and High-Growth Markets
- 3.8 Regulatory and Policy Environment
- 3.9 Impact of COVID-19 and Recovery Outlook

### **4 COMPETITIVE AND STRATEGIC ASSESSMENT**

- 4.1 Porter's Five Forces Analysis
  - 4.1.1 Supplier Bargaining Power
  - 4.1.2 Buyer Bargaining Power
  - 4.1.3 Threat of Substitutes
  - 4.1.4 Threat of New Entrants

- 4.1.5 Competitive Rivalry
- 4.2 Market Share Analysis of Key Players
- 4.3 Product Benchmarking and Performance Comparison

## **5 GLOBAL 5G NETWORK INFRASTRUCTURE MARKET, BY COMPONENT**

- 5.1 Hardware
  - 5.1.1 Radio Access Network (RAN)
  - 5.1.2 Antennas
  - 5.1.3 Transceivers
  - 5.1.4 Transport Equipment
- 5.2 Software
  - 5.2.1 Network Slicing
  - 5.2.2 Virtualization Software (NFV/SDN)
- 5.3 Services
  - 5.3.1 Deployment & Integration
  - 5.3.2 Managed Services
  - 5.3.3 Support & Maintenance

## **6 GLOBAL 5G NETWORK INFRASTRUCTURE MARKET, BY NETWORK ARCHITECTURE**

- 6.1 Standalone (SA) 5G
- 6.2 Non-Standalone (NSA) 5G

## **7 GLOBAL 5G NETWORK INFRASTRUCTURE MARKET, BY FREQUENCY BAND**

- 7.1 Sub-6 GHz
- 7.2 mmWave
- 7.3 Low Band

## **8 GLOBAL 5G NETWORK INFRASTRUCTURE MARKET, BY DEPLOYMENT MODE**

- 8.1 On-Premises
- 8.2 Cloud-Based
- 8.3 Hybrid

## **9 GLOBAL 5G NETWORK INFRASTRUCTURE MARKET, BY END USER**

- 9.1 Telecom Operators
- 9.2 Enterprise
  - 9.2.1 Manufacturing
  - 9.2.2 Healthcare
  - 9.2.3 Automotive
  - 9.2.4 Media & Entertainment
- 9.3 Government & Public Sector

## **10 GLOBAL 5G NETWORK INFRASTRUCTURE MARKET, BY GEOGRAPHY**

- 10.1 North America
  - 10.1.1 United States
  - 10.1.2 Canada
  - 10.1.3 Mexico
- 10.2 Europe
  - 10.2.1 United Kingdom
  - 10.2.2 Germany
  - 10.2.3 France
  - 10.2.4 Italy
  - 10.2.5 Spain
  - 10.2.6 Netherlands
  - 10.2.7 Belgium
  - 10.2.8 Sweden
  - 10.2.9 Switzerland
  - 10.2.10 Poland
  - 10.2.11 Rest of Europe
- 10.3 Asia Pacific
  - 10.3.1 China
  - 10.3.2 Japan
  - 10.3.3 India
  - 10.3.4 South Korea
  - 10.3.5 Australia
  - 10.3.6 Indonesia
  - 10.3.7 Thailand
  - 10.3.8 Malaysia
  - 10.3.9 Singapore
  - 10.3.10 Vietnam
  - 10.3.11 Rest of Asia Pacific
- 10.4 South America

- 10.4.1 Brazil
- 10.4.2 Argentina
- 10.4.3 Colombia
- 10.4.4 Chile
- 10.4.5 Peru
- 10.4.6 Rest of South America
- 10.5 Rest of the World (RoW)
  - 10.5.1 Middle East
    - 10.5.1.1 Saudi Arabia
    - 10.5.1.2 United Arab Emirates
    - 10.5.1.3 Qatar
    - 10.5.1.4 Israel
    - 10.5.1.5 Rest of Middle East
  - 10.5.2 Africa
    - 10.5.2.1 South Africa
    - 10.5.2.2 Egypt
    - 10.5.2.3 Morocco
    - 10.5.2.4 Rest of Africa

## **11 STRATEGIC MARKET INTELLIGENCE**

- 11.1 Industry Value Network and Supply Chain Assessment
- 11.2 White-Space and Opportunity Mapping
- 11.3 Product Evolution and Market Life Cycle Analysis
- 11.4 Channel, Distributor, and Go-to-Market Assessment

## **12 INDUSTRY DEVELOPMENTS AND STRATEGIC INITIATIVES**

- 12.1 Mergers and Acquisitions
- 12.2 Partnerships, Alliances, and Joint Ventures
- 12.3 New Product Launches and Certifications
- 12.4 Capacity Expansion and Investments
- 12.5 Other Strategic Initiatives

## **13 COMPANY PROFILES**

- 13.1 Huawei Technologies Co., Ltd.
- 13.2 Ericsson AB
- 13.3 Nokia Corporation

- 13.4 Samsung Electronics Co., Ltd.
- 13.5 ZTE Corporation
- 13.6 Cisco Systems, Inc.
- 13.7 Qualcomm Technologies, Inc.
- 13.8 Intel Corporation
- 13.9 NEC Corporation
- 13.10 Fujitsu Limited
- 13.11 Hewlett Packard Enterprise (HPE)
- 13.12 Dell Technologies Inc.
- 13.13 Juniper Networks, Inc.
- 13.14 Mavenir Systems, Inc.
- 13.15 CommScope Holding Company, Inc.

## List Of Tables

### LIST OF TABLES

Table 1 Global 5G Network Infrastructure Market Outlook, By Region (2023-2034) (\$MN)

Table 2 Global 5G Network Infrastructure Market Outlook, By Component (2023-2034) (\$MN)

Table 3 Global 5G Network Infrastructure Market Outlook, By Hardware (2023-2034) (\$MN)

Table 4 Global 5G Network Infrastructure Market Outlook, By Radio Access Network (RAN) (2023-2034) (\$MN)

Table 5 Global 5G Network Infrastructure Market Outlook, By Antennas (2023-2034) (\$MN)

Table 6 Global 5G Network Infrastructure Market Outlook, By Transceivers (2023-2034) (\$MN)

Table 7 Global 5G Network Infrastructure Market Outlook, By Transport Equipment (2023-2034) (\$MN)

Table 8 Global 5G Network Infrastructure Market Outlook, By Software (2023-2034) (\$MN)

Table 9 Global 5G Network Infrastructure Market Outlook, By Network Slicing (2023-2034) (\$MN)

Table 10 Global 5G Network Infrastructure Market Outlook, By Virtualization Software (NFV/SDN) (2023-2034) (\$MN)

Table 11 Global 5G Network Infrastructure Market Outlook, By Services (2023-2034) (\$MN)

Table 12 Global 5G Network Infrastructure Market Outlook, By Deployment & Integration (2023-2034) (\$MN)

Table 13 Global 5G Network Infrastructure Market Outlook, By Managed Services (2023-2034) (\$MN)

Table 14 Global 5G Network Infrastructure Market Outlook, By Support & Maintenance (2023-2034) (\$MN)

Table 15 Global 5G Network Infrastructure Market Outlook, By Network Architecture (2023-2034) (\$MN)

Table 16 Global 5G Network Infrastructure Market Outlook, By Standalone (SA) 5G (2023-2034) (\$MN)

Table 17 Global 5G Network Infrastructure Market Outlook, By Non-Standalone (NSA) 5G (2023-2034) (\$MN)

Table 18 Global 5G Network Infrastructure Market Outlook, By Frequency Band

(2023-2034) (\$MN)

Table 19 Global 5G Network Infrastructure Market Outlook, By Sub-6 GHz (2023-2034) (\$MN)

Table 20 Global 5G Network Infrastructure Market Outlook, By mmWave (2023-2034) (\$MN)

Table 21 Global 5G Network Infrastructure Market Outlook, By Low Band (2023-2034) (\$MN)

Table 22 Global 5G Network Infrastructure Market Outlook, By Deployment Mode (2023-2034) (\$MN)

Table 23 Global 5G Network Infrastructure Market Outlook, By On-Premises (2023-2034) (\$MN)

Table 24 Global 5G Network Infrastructure Market Outlook, By Cloud-Based (2023-2034) (\$MN)

Table 25 Global 5G Network Infrastructure Market Outlook, By Hybrid (2023-2034) (\$MN)

Table 26 Global 5G Network Infrastructure Market Outlook, By End User (2023-2034) (\$MN)

Table 27 Global 5G Network Infrastructure Market Outlook, By Telecom Operators (2023-2034) (\$MN)

Table 28 Global 5G Network Infrastructure Market Outlook, By Enterprise (2023-2034) (\$MN)

Table 29 Global 5G Network Infrastructure Market Outlook, By Manufacturing (2023-2034) (\$MN)

Table 30 Global 5G Network Infrastructure Market Outlook, By Healthcare (2023-2034) (\$MN)

Table 31 Global 5G Network Infrastructure Market Outlook, By Automotive (2023-2034) (\$MN)

Table 32 Global 5G Network Infrastructure Market Outlook, By Media & Entertainment (2023-2034) (\$MN)

Table 33 Global 5G Network Infrastructure Market Outlook, By Government & Public Sector (2023-2034) (\$MN)

Note: Tables for North America, Europe, APAC, South America, and Rest of the World (RoW) are also represented in the same manner as above.

## I would like to order

Product name: 5G Network Infrastructure Market Forecasts to 2034 – Global Analysis By Component (Hardware, Software and Services), Network Architecture, Frequency Band, Deployment Mode, End User and By Geography

Product link: <https://marketpublishers.com/r/5F187B689117EN.html>

Price: US\$ 4,150.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/5F187B689117EN.html>