

China 5G Network Infrastructure Market - Strategic Insights and Forecasts (2026-2031)

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Abstracts

The China 5G Network Infrastructure market is forecast to grow at a CAGR of 4.2%, reaching USD 39.8 billion in 2031 from USD 32.4 billion in 2026.

China's 5G network infrastructure market is the largest globally, reflecting strategic national initiatives and robust state investment. The country's strong policy support, including the '5G+Industrial Internet' initiative and directives under the 14th Five-Year Plan, has propelled widespread 5G adoption across consumer, industrial, and enterprise applications. Rapid mobile data growth, accelerated digital consumption, and a government-backed emphasis on industrial automation are key macro drivers. State-owned carriers and leading domestic vendors ensure coordinated deployment, reinforcing China's position as a global 5G leader.

The market is transitioning from consumer-focused enhanced mobile broadband to industrial and enterprise applications, including smart manufacturing, energy management, ports, mining, healthcare, and intelligent transportation. Urban centers and industrial hubs see dense deployment, while rural areas benefit from shared infrastructure initiatives promoting nationwide digital inclusion. Standalone (SA) 5G architecture adoption, coupled with edge computing, ultra-low latency services, and network slicing, is central to this transformation.

Market Drivers

Government directives for industrial digitization remain the primary growth driver. The '5G+Industrial Internet' initiative has accelerated private 5G network installations and specialized RAN deployments in smart factories. The surge in 5G device adoption—over 1.18 billion connections by 2024—drives capacity expansion and densification of public

carrier networks. Cloud-native 5G Core deployments and edge computing integration further increase demand for NFV software and high-performance MEC hardware.

Rapid digital consumption also fuels growth. The proliferation of mobile gaming, HD and ultra-HD streaming, immersive applications, and e-commerce has heightened network loads. Rising online retail, reaching nearly USD 2.15 trillion in 2024, along with augmented reality, virtual reality, and immersive entertainment adoption, underscores the need for high bandwidth and low latency infrastructure.

Market Restraints

Capital expenditure requirements for network densification are significant. 5G macro stations require 1.2 to 1.5 times the density of 4G stations, limiting rapid high-band (mmWave) rollout. Supply chain reliance on advanced foreign semiconductors introduces geopolitical risks and potential short-term cost increases. Despite these challenges, initiatives such as co-building, shared infrastructure, and private 5G networks present high-margin opportunities that partially offset these constraints.

Technology and Segment Insights

The market is segmented by component, spectrum, deployment type, deployment mode, and end-user. Key technology segments include RAN, 5G Core Network, transport/backhaul, edge infrastructure, and network management. Standalone (SA) architecture adoption dominates, supporting ultra-low latency applications and network slicing for industrial automation. Mid-band (1–6 GHz) spectrum facilitates optimal coverage and capacity for enterprise applications. Manufacturing and industrial automation are critical end-user segments, with demand driven by smart factories, predictive maintenance, and integration with AI-driven operations.

Competitive and Strategic Outlook

Huawei and ZTE dominate the equipment landscape, offering integrated RAN, core, and transport solutions. Ericsson China and Nokia maintain strategic positions, while firms like CICT, Comba Telecom, and FiberHome enhance ecosystem capabilities. Operators such as China Mobile, China Telecom, and China Unicom drive nationwide deployment. Market competition focuses on energy-efficient, high-capacity solutions, 5G-Advanced product launches, and private network adoption for industrial clients. Regulatory support ensures stable spectrum allocation and investment incentives,

facilitating ongoing market expansion.

China's 5G network infrastructure market is strategically positioned for steady growth through 2031. Policy support, industrial digitization, and strong domestic vendor capabilities enable continued expansion. The market is evolving beyond consumer broadband to advanced industrial applications, emphasizing low-latency, high-reliability networks. Infrastructure investments and technological innovations, particularly in SA core networks, edge computing, and network slicing, will continue to drive adoption across sectors.

Key Benefits of this Report

Insightful Analysis: Gain detailed market insights across regions, customer segments, policies, socio-economic factors, consumer preferences, and industry verticals.

Competitive Landscape: Understand strategic moves by key players to identify optimal market entry approaches.

Market Drivers and Future Trends: Assess major growth forces and emerging developments shaping the market.

Actionable Recommendations: Support strategic decisions to unlock new revenue streams.

Caters to a Wide Audience: Suitable for startups, research institutions, consultants, SMEs, and large enterprises.

What Businesses Use Our Reports For

Industry and market insights, opportunity assessment, product demand forecasting, market entry strategy, geographical expansion, capital investment decisions, regulatory analysis, new product development, and competitive intelligence.

Report Coverage

Historical Data: 2021-2024, Base Year: 2025, Forecast Years: 2026-2031

Growth opportunities, challenges, supply chain outlook, regulatory framework, and trend analysis

Competitive positioning, strategies, and market share evaluation

Revenue growth and forecast assessment across segments and regions

Company profiling including strategies, products, financials, and key developments

Contents

1. EXECUTIVE SUMMARY

2. MARKET SNAPSHOT

- 2.1. Market Overview
- 2.2. Market Definition
- 2.3. Scope of the Study
- 2.4. Market Segmentation

3. BUSINESS LANDSCAPE

- 3.1. Market Drivers
- 3.2. Market Restraints
- 3.3. Market Opportunities
- 3.4. Porter's Five Forces Analysis
- 3.5. Industry Value Chain Analysis
- 3.6. Policies and Regulations
- 3.7. Strategic Recommendations

4. TECHNOLOGICAL OUTLOOK

5. CHINA 5G NETWORK INFRASTRUCTURE MARKET BY COMPONENT

- 5.1. Introduction
- 5.2. RAN
- 5.3. 5G Core Network
- 5.4. Transport or Backhaul Network
- 5.5. Edge Infrastructure
- 5.6. Network Management and Orchestration
- 5.7. Others

6. CHINA 5G NETWORK INFRASTRUCTURE MARKET BY SPECTRUM BAND

- 6.1. Introduction
- 6.2. Low-band (24 GHz)

7. CHINA 5G NETWORK INFRASTRUCTURE MARKET BY DEPLOYMENT TYPE

- 7.1. Introduction
- 7.2. Public Carrier Networks
- 7.3. Private 5G Networks
- 7.4. Shared Infrastructure
- 7.5. Hybrid

8. CHINA 5G NETWORK INFRASTRUCTURE MARKET BY DEPLOYMENT MODE

- 8.1. Introduction
- 8.2. Standalone
- 8.3. Non-Standalone

9. CHINA 5G NETWORK INFRASTRUCTURE MARKET BY END-USER

- 9.1. Introduction
- 9.2. Telecom Operators
- 9.3. Manufacturing and Industrial Automation
- 9.4. Transportation & Logistics
- 9.5. Energy and Utilities
- 9.6. Healthcare
- 9.7. Education
- 9.8. Retail and Hospitality
- 9.9. Public Sector
- 9.10. Other Enterprises

10. COMPETITIVE ENVIRONMENT AND ANALYSIS

- 10.1. Major Players and Strategy Analysis
- 10.2. Market Share Analysis
- 10.3. Mergers, Acquisitions, Agreements, and Collaborations
- 10.4. Competitive Dashboard

11. COMPANY PROFILES

- 11.1. China Mobile Limited
- 11.2. China Telecom Corporation Limited
- 11.3. China Unicom (Hong Kong) Limited
- 11.4. Huawei Technologies Co., Ltd.

11.5. ZTE Corporation

11.6. Ericsson China

11.7. Nokia Solutions and Networks (China) Co., Ltd.

11.8. China Information and Communication Technologies Group Corporation (CICT)

11.9. Comba Telecom Systems Holdings Limited (China)

11.10. FiberHome Telecommunication Technologies Co., Ltd.

12. RESEARCH METHODOLOGY

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