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Private 5G & Enterprise Connectivity Market Forecasts to 2032 – Global Analysis By Component (Hardware, Software and Services), Deployment Mode, Frequency Band, Organization Size, Spectrum Type, End User and By Geography

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Abstracts

According to Stratistics MRC, the Global Private 5G & Enterprise Connectivity Market is accounted for $4.07 billion in 2025 and is expected to reach $41.30 billion by 2032 growing at a CAGR of 39.2% during the forecast period. Private 5G and enterprise connectivity are reshaping digital infrastructure for organizations that rely on fast, reliable, and secure communication. By using dedicated spectrum, private 5G networks ensure consistent performance, minimal latency, and robust data protection across industrial sites such as warehouses, logistics hubs, airports, and energy facilities. The technology handles thousands of connected devices, autonomous vehicles, smart sensors, and immersive tools with real-time responsiveness. Unlike traditional Wi-Fi, it provides greater range, network slicing, and deterministic connectivity, making it ideal for Industry 4.0 environments. As companies adopt edge platforms and AI-driven analytics, private 5G enhances automation, safety, and operational efficiency while supporting sustainable digital growth.

According to GSMA Intelligence, over 70 countries have already launched 5G networks, encouraging enterprises to deploy private 5G for manufacturing, mining, logistics, and smart infrastructure.

Market Dynamics:

Driver:

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Growing need for secure, low-latency industrial connectivity

The demand for secure and ultra-reliable communication in industrial environments is pushing the growth of private 5G and advanced enterprise connectivity solutions. Factories, ports, and energy sites need high-speed wireless systems that support automation, robotics, and IoT equipment without signal drops or delay. Private 5G provides guaranteed bandwidth, enhanced encryption, and isolated networks, outperforming traditional Wi-Fi in large-scale operations. Businesses rely on real-time analytics, remote control of assets, and continuous data flow, which makes low latency essential. By protecting critical information and minimizing operational interruptions, private 5G helps industries improve safety, asset utilization, and decision-making while enabling widespread digital transformation.

Restraint:

High deployment and operational costs

Private 5G deployment involves high upfront spending on radios, antennas, on-premise cores, spectrum access, and advanced automation tools. Maintenance adds additional burden, as networks require skilled staff, managed services, and continual optimization to ensure performance and security. Many enterprises compare these costs with Wi-Fi or public networks and hesitate to adopt private systems due to limited budgets. Industries in emerging markets often struggle to justify long-term investment in dedicated 5G networks when immediate ROI is uncertain. The financial pressure becomes a major roadblock for manufacturing units, logistics firms, and service providers, slowing global adoption and limiting the reach of enterprise-grade connectivity.

Opportunity:

Expansion of industry 4.0 and smart infrastructure

Industry 4.0 adoption is opening significant opportunities for private 5G, especially as factories and industrial sites shift to intelligent automation. Connected robots, smart sensors, and advanced analytics require uninterrupted data flow, which private 5G can deliver with strong security and minimal latency. Modern ports, logistics hubs, and heavy-industry environments are upgrading to smart infrastructure that demands robust and scalable wireless communication. Wi-Fi cannot provide the same coverage or device density, making private 5G a preferred solution. With rising investments in digital

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twins, remote asset control, and predictive operations, enterprises are looking for reliable networks that enhance output, minimize failures, and support continuous modernization.

Threat:

Competition from alternative wireless technologies

Private 5G adoption is threatened by competing wireless solutions that are cheaper and simpler to deploy. Wi-Fi 6/6E and emerging Wi-Fi 7 offer faster speeds, higher capacity, and enhanced security features that reduce the traditional advantage of 5G. Private LTE and low-power networks like LoRaWAN also remain appealing for IoT environments that do not need ultra-low latency. For many businesses, these technologies deliver “good enough” performance without the high investment or technical complexity of private 5G. As WLAN standards continue advancing, enterprises may postpone upgrades or choose hybrid systems, limiting widespread adoption of dedicated 5G networks in cost-sensitive markets.

Covid-19 Impact:

The pandemic reshaped enterprise connectivity needs, pushing companies toward faster and more reliable networks. With remote working, automation, and digital collaboration rising sharply, private 5G gained relevance for supporting IoT devices, autonomous equipment, and continuous monitoring. Critical sectors like healthcare, manufacturing, ports, and emergency services used private 5G to improve safety, reduce manual intervention, and maintain business continuity. At the same time, global supply disruptions, longer equipment lead times, and reduced capital spending slowed deployment schedules. Despite short-term delays, COVID-19 strengthened the long-term adoption outlook, as enterprises recognized the need for resilient, secure, and low-latency communication systems to withstand future disruptions.

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

The hardware segment is expected to account for the largest market share during the forecast period because enterprises must first build a dedicated physical network before using advanced applications. Key infrastructure such as small cells, radios, antennas, gateways, and on-premise 5G cores enable stable and secure wireless performance. Industries with mission-critical operations depend on strong signal coverage and real-time responsiveness, which makes hardware deployment a priority. As connected

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devices and automation increase, businesses invest in scalable and durable equipment to maintain uptime. The need for continuous modernization of network components ensures that hardware remains the primary spending category in private 5G adoption across industrial and commercial environments.

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

Over the forecast period, the hybrid segment is predicted to witness the highest growth rate because they offer the advantages of both on-premise and cloud setups. Enterprises can keep mission-critical data secured within local infrastructure while using cloud-based orchestration and analytics to improve network intelligence. This approach enables agility, centralized management, and rapid scaling across factories, warehouses, and remote operations. Hybrid private 5G supports workload distribution between edge and cloud, ensuring low latency for real-time applications without heavy hardware investment at every site. As companies modernize operations and adopt automation, AI, and smart assets, hybrid systems provide a cost-efficient and future-ready pathway, driving strong growth rate in the market.

Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share due to its advanced digital landscape and strong industrial modernization. Companies in sectors such as manufacturing, ports, transportation, healthcare, and utilities are deploying private 5G to support real-time automation, asset tracking, and IoT-driven operations. The region benefits from early 5G rollouts, robust telecom players, and technology innovators developing enterprise-grade wireless networks. High investment capacity, government-backed initiatives, and widespread digital transformation projects in factories, research centers, and logistics hubs enhance adoption. With a well-developed ecosystem of hardware, software, and cloud service providers, North America continues to dominate private 5G deployments across large enterprises.

Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR because industries are rapidly shifting toward digital infrastructure and automation. Governments are promoting smart manufacturing, intelligent transport, and connected public services, driving interest in dedicated 5G networks. Major economies such as Japan, South Korea, China, and India are rolling out private 5G for factories,

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logistics fleets, and industrial assets that depend on real-time communication. Expanding IoT ecosystems, strong regional telecom investments, and wider spectrum availability are boosting adoption. As enterprises scale robotics, AI, and cloud-driven operations, Asia-Pacific continues to show the most dynamic and accelerated demand for private wireless connectivity.

Key players in the market

Some of the key players in Private 5G & Enterprise Connectivity Market include Huawei Technologies Co., Ltd., Telefonaktiebolaget LM Ericsson, Nokia Corporation, Samsung Electronics Co., Ltd., ZTE Corporation, Vodafone Group Plc, Cisco Systems, Inc., Verizon Communications, Inc., Hewlett Packard Enterprise Company, Qualcomm Incorporated, Nybsys, Amazon Web Services, Inc., Microsoft Corporation, Intel Corporation and Anterix.

Key Developments:

In July 2025, Ericsson and OPPO have signed a multi-year global patent cross license agreement. This agreement includes a cross license covering patents essential to standards for cellular technologies, including 5G. OPPO, a leading smartphone vendor with sales in global markets, and significant presence in developing countries, will make royalty payments to Ericsson.

In May 2025, Samsung Electronics announced that it has signed an agreement to acquire all shares of Fl?ktGroup, a leading global HVAC solutions provider, for €1.5 billion from European investment firm Triton. With the global applied HVAC market experiencing rapid growth, the acquisition reinforces Samsung’s commitment to expanding and strengthening its HVAC business.

In April 2025, Huawei and SAIC have jointly developed the Shangjie smart car brand, and now both parties are putting in more efforts to expand this new project via EV and battery plants. These plants will open a new production base for SAIC in China. Both SAIC and Huawei have been working for months on a new EV brand called Shangjie. The companies even announced the new brand at the Auto Shanghai 2025. Now, both parties aim to boost the production of Shangjie smart cars.

Components Covered:

- Hardware

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Software

Services

Deployment Modes Covered:

On-premise

Cloud-based

Hybrid

Frequency Bands Covered:

Sub-6 GHz Band

Millimeter Wave (mmWave)

Organization Sizes Covered:

Small & Medium Enterprises (SMEs)

Large Enterprises

Spectrum Types Covered:

Licensed Spectrum

Unlicensed Spectrum

Shared/CBRS Spectrum

End Users Covered:

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- Manufacturing
- Energy & Utilities
- Transportation & Logistics
- Healthcare
- Defense & Public Safety
- Smart Infrastructure & Cities
- Retail
- Education

Regions Covered:

- North America
  - US
  - Canada
  - Mexico
- Europe
  - Germany
  - UK
  - Italy
  - France
  - Spain

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- Rest of Europe
- Asia Pacific
  - Japan
  - China
  - India
  - Australia
  - New Zealand
  - South Korea
  - Rest of Asia Pacific
- South America
  - Argentina
  - Brazil
  - Chile
  - Rest of South America
- Middle East & Africa
  - Saudi Arabia
  - UAE
  - Qatar
  - South Africa
  - Rest of Middle East & Africa

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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 2024, 2025, 2026, 2028, and 2032
- 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

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Note: Tables for North America, Europe, APAC, South America, and Middle East & Africa Regions are also represented in the same manner as above.

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