

# **Industrial Private 5G Market Forecasts to 2034 – Global Analysis By Components (Private 5G Infrastructure, Industrial 5G Devices, Network Management Software, Edge Computing Platforms, Managed Network Services), Network Types, Connectivity Technologies, Applications, End Users and By Geography**

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## **Abstracts**

According to Statistics MRC, the Global Industrial Private 5G Market is accounted for \$1.8 billion in 2026 and is expected to reach \$8.2 billion by 2034 growing at a CAGR of 21.0% during the forecast period. Industrial private 5G networks are dedicated, localized cellular communication infrastructures designed to provide ultra-reliable, low-latency, and high-bandwidth connectivity exclusively for industrial and manufacturing facilities. They function by utilizing licensed or unlicensed spectrum to create secure, isolated networks that support massive machine-type communications and critical IoT applications. These systems encompass 5G core networks, radio units, and edge computing platforms. Their application ensures seamless automation, real-time machine control, and enhanced operational safety across smart factories, ports, and mining operations globally.

## **Market Dynamics:**

### **Driver:**

#### **Demand for Ultra-Reliable Low-Latency Communication (URLLC)**

The escalating demand for ultra-reliable, low-latency communication compels industrial

operators to adopt industrial private 5G networks offering advanced connectivity alternatives. Growing recognition of Wi-Fi limitations in critical manufacturing environments is accelerating the integration of these dedicated networks into automation frameworks. This transition is supported by advancements in 5G core technology, which enhance network slicing capabilities. Consequently, enterprises are investing in private 5G technologies to achieve compliance with operational safety benchmarks while optimizing manufacturing efficiency.

## **Restraint:**

### **High Spectrum Licensing and Infrastructure Deployment Costs**

The substantial expenses associated with acquiring spectrum licenses and deploying advanced industrial private 5G infrastructure represent a significant barrier to widespread commercial adoption. Installing complex radio units and edge computing nodes often requires sophisticated network engineering and specialized technical expertise, which escalate overall implementation costs. Furthermore, the variability in facility layouts limits the operational coverage of standardized 5G deployments. These factors collectively constrain market expansion, particularly for smaller enterprises with limited technology budgets.

## **Opportunity:**

### **Expansion in Autonomous Mining and Smart Ports**

The autonomous mining and smart port sectors present substantial growth opportunities for industrial private 5G providers due to increasing demand for reliable machine-to-machine communication. Advanced private 5G networks offer a highly effective pathway to optimize autonomous vehicle coordination without interference, utilizing dedicated spectrum bands as primary inputs. As global investments in industrial automation expand, the adoption of advanced private 5G solutions is expected to surge significantly.

## **Threat:**

### **Competition from Advanced Wi-Fi 6/7 and Wired Ethernet Networks**

The continuous reliance on advanced Wi-Fi 6/7 and wired industrial Ethernet networks poses a considerable threat to the industrial private 5G market. Conventional localized networking technologies often exhibit superior familiarity and can be more cost-effective for facilities with predictable, stationary equipment layouts. Additionally, the rapid

advancement of basic wireless protocols is enhancing the efficiency of conventional industrial networking methods. This competitive pressure may hinder market penetration.

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

The pandemic initially disrupted private 5G deployments and delayed spectrum allocations due to regulatory bottlenecks. However, the subsequent need for contactless operations and resilient supply chains accelerated the adoption of private 5G solutions for autonomous factory management. Post-pandemic, the heightened focus on supply chain agility and operational efficiency has reinforced long-term investments in private 5G technologies, driving robust market recovery and expansion across diverse industrial sectors globally.

### **The private 5g infrastructure segment is expected to be the largest during the forecast period**

The private 5g infrastructure segment is expected to account for the largest market share during the forecast period, due to its foundational role and widespread applicability across diverse industrial environments. 5G core networks and radio units offer exceptional connectivity reliability and operate effectively in complex manufacturing conditions, which significantly reduces latency and minimizes network interference in daily operations. As industries

increasingly prioritize scalable and cost-effective localized networking upgrades, the demand for specialized private 5G infrastructure continues to surge, thereby solidifying their dominant market position.

### **The 5G standalone networks segment is expected to have the highest CAGR during the forecast period**

Over the forecast period, the 5G standalone networks segment is predicted to witness the highest growth rate, driven by rapid advancements in network slicing and core virtualization techniques. These technologies enable the precise allocation of network resources to produce highly specialized and robust connectivity outputs tailored for specific industrial applications. The ability to enhance processing speed, operational scalability, and real-time adaptability through advanced standalone integration significantly improves process economics, accelerating commercial adoption globally.

## Region with largest share:

During the forecast period, the North America region is expected to hold the largest market share, due to the presence of well-established industrial manufacturing sectors and advanced automation infrastructure that heavily utilize industrial private 5G. The region benefits from substantial research and development investments, robust intellectual property protection, and supportive government initiatives promoting Industry 4.0 and technological innovation. Furthermore, the early adoption of advanced private 5G technologies by key industry players in the United States and Canada reinforces the region's dominant position globally.

## Region with highest CAGR:

Over the forecast period, the Asia Pacific region is anticipated to exhibit the highest CAGR, due to rapid industrialization and expanding smart manufacturing sectors in emerging economies. Countries such as China, India, and Japan are increasingly investing in digital factory infrastructure and advanced automation technologies to meet growing domestic production demands and stringent efficiency regulations. Additionally, favorable government policies, rising foreign direct investment, and the availability of cost-effective technological resources are collectively driving the accelerated adoption of private 5G across the region.

## Key players in the market

Some of the key players in Industrial Private 5G Market include Ericsson, Nokia Corporation, Qualcomm Incorporated, Cisco Systems, Inc., Huawei Technologies Co., Ltd., Samsung Electronics Co., Ltd., NEC Corporation, Fujitsu Limited, Siemens AG, Schneider Electric SE, ABB Ltd., Hitachi Ltd., Hewlett Packard Enterprise Company, Intel Corporation, NTT Corporation, Verizon Communications Inc., Deutsche Telekom AG, and AT&T Inc.

## Key Developments:

In September 2026, Ericsson launched a next-generation private 5G core network optimized for industrial facilities, achieving a thirty percent improvement in network slicing efficiency while significantly reducing latency requirements for global manufacturing operators.

In August 2026, Nokia Corporation expanded its industrial wireless capacity through a

strategic partnership with a leading telecom firm, enabling the scalable deployment of novel 5G radio units for smart factory environments.

In July 2026, Siemens AG secured a major supply agreement to provide customized private 5G infrastructure for a prominent automotive manufacturer, facilitating the efficient integration of advanced localized connectivity into next-generation automation ecosystems globally.

## **Components Covered:**

Private 5G Infrastructure

Industrial 5G Devices

Network Management Software

Edge Computing Platforms

Managed Network Services

## **Network Types Covered:**

5G Standalone Networks

5G Non-Standalone Networks

Local Private 5G Networks

Campus Private 5G Networks

Industrial Private Cellular Networks

Hybrid Private 5G Networks

Public-Private Network Models

## **Connectivity Technologies Covered:**

5G New Radio

5G Network Slicing

Edge Computing

Time-Sensitive Networking

Industrial Ethernet Integration

Private Spectrum

Multi-Access Edge Computing

## **Applications Covered:**

Connected Machines

Industrial Robotics

Automated Guided Vehicles

Autonomous Mobile Robots

Video-Based Quality Inspection

Connected Worker Applications

Remote Equipment Control

Predictive Maintenance

## **End Users Covered:**

Manufacturing

Mining

Oil and Gas

Energy and Utilities

Ports and Logistics

Airports

Warehousing

Healthcare and Hospitals

## **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

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