



# AWS Private 5G Benefits of Cellular with the Convenience of Wi-Fi

Enterprise networks serving applications, users, and devices are straining under increasing workloads and proliferation of connected devices. Increased video content, low-latency requirements, and the arrival of thousands of smart IoT devices place new demands on corporate connectivity. Wired networks are inflexible and expensive to expand, while Wi-Fi networks suffer coverage, reliability, and capacity issues.

Private cellular networks address Wi-Fi shortfalls by leveraging the benefits of 5G, providing greater performance, control, reliability, and density while maintaining flexibility. Traditionally, procuring and deploying private cellular networks has been complex, confusing, and expensive.

AWS Private 5G simplifies the procurement, deployment, and installation process by allowing customers to deploy their own 4G/LTE or 5G network within days instead of months, rapidly scale up and down the number of connected devices and benefit from on-demand pricing.

## Benefits of a Private 5G Network

- 1** Reliable network connectivity for use cases that involve device mobility
- 2** Longer range than Wi-Fi networks. Better coverage, especially in industrial environments.
- 3** Low-latency connectivity for smart manufacturing and industrial IoT applications.

- 4** Full enterprise control over users, devices and data. Implement enterprise-specific network configuration and security policies.
- 5** Convenience of CBRS (Citizens Broadband Radio Service) in the US with no need to acquire spectrum licenses.

## Private 5G Use Cases



### Industrial Manufacturing

Improved coverage and reliability close to wired networks with flexibility as Wi-Fi. Connect autonomous mobile robots (AMRs), automated guided vehicles (AGVs), video surveillance systems, and other production systems for increased safety, innovation, and efficiency.

### Transportation Hubs

Increase range and penetration over Wi-Fi in shipping ports, airports, train and bus terminals. Reliable connectivity for IoT sensor data for predictive maintenance, video feeds for safety, push-to-talk (PTT) applications for communications.



### Mining

Stronger penetration and performance, even in underground deployments, requiring fewer base stations and providing higher reliability than Wi-Fi. Serves PTT, video surveillance for health and safety, and IoT sensor use cases. When available, precision location capabilities can enhance safety through rapid location of assets and personnel and by enforcing geofences.



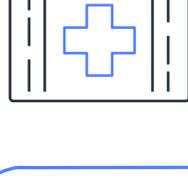
### Oil and Gas

Especially in remote sites not covered by public networks, private cellular provides reliable and cost-effective coverage for industrial IoT (IIoT) devices, video surveillance, and critical monitoring systems to ensure smooth production and safety.



### Healthcare

Reliable and secure connectivity across hospital campuses, serving Internet of medical things (IoMT) devices with edge-hosted analytics, AI/ML diagnosis applications. Private 5G can carry critical workloads such as radiology scans or camera images during procedures without the risk of channel interference.



### Sports Arenas and Performance Venues

Private 5G networks can deliver high capacity coverage in high-density arenas with large crowds. Benefits in-person augmented reality (A.R.) experiences, high-definition video feeds, instant replays and other new applications.



### Education

Supplement Wi-Fi with private cellular networks, providing ubiquitous coverage across university campuses. For K-12 school districts, private cellular can cover rural and low-income suburban neighborhoods, providing digital lifeline to students lacking broadband access.



### Retail

Cover warehouses, stock rooms, and stores with reliable private cellular as effective alternative or complement to Wi-Fi. Carry point-of-sale (PoS) transactions, video traffic for surveillance, and IoT sensor traffic enabling real-time inventory and safety checks.



### Utilities

Serve larger geographic areas, securely controlling over performance (OT) traffic. Increased isolation and direct control operation technology allow utilities to independently operate critical communications across metropolitan areas.



## AWS Private 5G



### Hassle-Free Procurement

AWS Private 5G is a managed service that allows customers to order, deploy, and manage their private cellular network with a few clicks on the AWS Console or via a few API calls. In the US, AWS Private 5G uses CBRS (Citizens Broadband Radio Service), avoiding the need to procure spectrum licenses. Integration with Spectrum Access System (SAS) for FCC regulation compliance are handled by AWS.



### Fully-Integrated Hardware and Software

Delivers, provisions, and maintains all the pre-integrated hardware, 5G Core and RAN software, and SIM cards needed to deploy and operate a private 5G network. Small cell radio units (RUs) are deployed on premises and the 5G Core (5GC) software runs either in an AWS Region or on premises using AWS managed infrastructure.



### Predictable Pay-As-You-Go Pricing

Pay-as-you-go approach to pricing, providing enterprises with a transparent, easy-to-understand pricing model. Predictable monthly spend. Zero upfront charges for radio units, on-premises hardware, and SIMs. Customers don't pay installation charges or additional software licensing fees.



### On-Demand Scaling

Order and provision a private cellular network of any size via self-service and application programming interfaces (API). Avoid radio frequency (RF) and capacity planning until after connecting enterprise applications and validating business objectives. Expand coverage, and scale number of connected devices as needed.



### Flexible Policy Management

Built-in AWS IAM integration to manage access between AWS services and devices in the network. AWS Private 5G-powered SIM cards are treated as IAM resources, allowing enterprise IT admins to set and manage SIM control policies from a single, familiar, interface.



### Built-in Network Monitoring

Metrics published to Amazon CloudWatch for network health visibility. Query metrics for network status, connected APs or SIMs, uplink and downlink usage by user, device, network categories.

**AWS Private 5G is the most convenient way to bring up enterprise private cellular networks, with options to customize and scale as needed.**

## Getting Started with AWS Private 5G

Getting started with new technologies like private cellular networks can be daunting. AWS Private 5G streamlines the process and provides hassle-free purchase, rapid deployment, and convenient management, so customers can achieve faster time-to-value and start reaping the benefits of private 5G.

Learn more <https://aws.amazon.com/private5g/>