NTT

Network modernization

Private 5G

A global private network delivering speed, control, security and total coverage. Finally.

Introduction

Society needs to be better prepared to enable digital transformation, hybrid working, the fourth industrial revolution (massive digitization and automation of factories) and better application performance and security.

The wireless technologies of the past, including how the main network backbone connects with endpoints and users, had no guaranteed performance service level agreements (SLAs). These are critical for the distributed, immersive experiences brought on by digital transformation.

Around the world, countries are allocating spectrum frequencies which allow businesses to become their own micro-telco operator within the organization's facilities and premises.

> **We don't see 5G suddenly replacing Wi-Fi or 4G/LTE,** each has their own part to play depending on technical and enterprise considerations.

Overview

Our innovative, industrial-grade private 5G wireless network connects your onsite teams and devices from the edge to the cloud. Empower your enterprise with the speed, control, security and complete coverage needed to transform your customer, digital and employee experience.

Our full range of consulting, implementation and managed services are designed to seamlessly integrate transformative private 5G technology with existing enterprise IT networks and industrial IoT infrastructures. We provide a global connectivity platform with one point of contact, giving you full control while ensuring all critical data remains in-house.
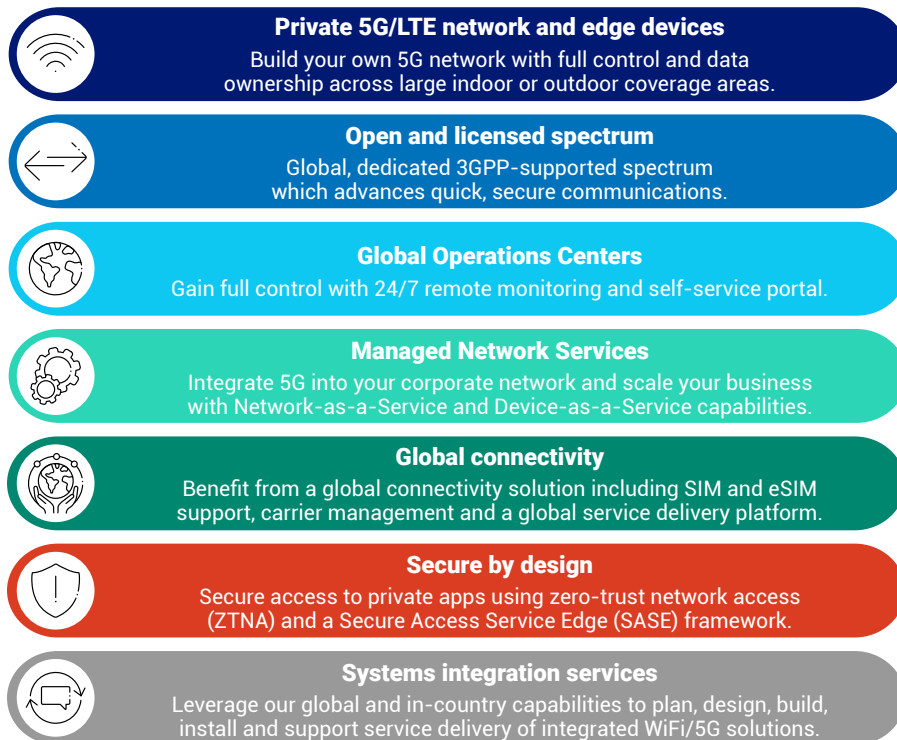
Private 5G: Accelerating digital transformation through seamless connectivity

Delivering optimal customer and employee experience requires organizations to meet a series of connectivity, operational and productivity expectations. The need for digital transformation across multiple industries has driven demand for private 5G network implementation, while also ensuring corporate control of the network and its data.

Private 5G takes connectivity beyond what's possible with current wireless connectivity to provide predictable performance when it counts. High-speed, low-latency connections enable stability for mission-critical applications and can increase the effectiveness of manufacturing processes and improve productivity.

Our Private 5G platform has been designed to supply reliable, high-bandwidth and low-latency connections on your critical infrastructure. With the ability to support multiple enterprise use cases on a single network, Private 5G enables an application- and device-aware networking solution that hasn't been possible previously with cellular wireless connectivity. Our solution is the first of its kind to offer a full stack of network, device and service options to meet the challenge of scaling private 5G installations within your organization.

Private 5G combines several platform and partner components into a single. integrated solution with a global SIM that delivers a vast array of applications. This helps your frontline workers achieve unprecedented productivity and enables informed decision-making on your latest digital business initiatives.

Private 5G/LTE network and edge devices
Build your own 5G network with full control and data ownership across large indoor or outdoor coverage areas.

Open and licensed spectrum
Global, dedicated 3GPP-supported spectrum which advances quick, secure communications.

Global Operations Centers
Gain full control with 24/7 remote monitoring and self-service portal.

Managed Network Services
Integrate 5G into your corporate network and scale your business with Network-as-a-Service and Device-as-a-Service capabilities.

Global connectivity
Benefit from a global connectivity solution including SIM and eSIM support, carrier management and a global service delivery platform.

Secure by design
Secure access to private apps using zero-trust network access (ZTNA) and a Secure Access Service Edge (SASE) framework.

Systems integration services
Leverage our global and in-country capabilities to plan, design, build, install and support service delivery of integrated WiFi/5G solutions.

Private 5G

An **end-to-end private 5G** solution for speed, control, security and coverage

---

Experience seamless connectivity

- Gain the best connectivity experience for critical infrastructure with guaranteed service levels on bandwidth, latency and packet-error rate.
- Extend cellular coverage where public networks aren't available.
- Access secure, reliable communications, reserving and assigning network resources to critical applications.
- Evolve your responses from reactive to proactive with access to real-time data.

Accelerate digital transformation

- Reduce costs using networking delivered as a service.
- Enable reliable mobile communication continuity with global coverage and local specialist support.
- Gain customer insight and data interpretation through real-time analysis leveraging artificial intelligence and machine learning tools.
- Reduce response times to applications, time-to-delivery and enable automated delivery.

Private 5G
Business Outcomes

Improve employee experience and enhance productivity

- Provide service professionals with remote support, training and task management through augmented reality to reduce training times and error rates.
- Implement a push-to-talk group communications service to improve collaboration through cloud-managed radio components.
- Support frontline and remote workers through wearable augmented reality devices which offer hands-free remote collaboration.
- Eliminate the need to work close to ethernet ports and outlets by diminishing the need for wired devices.

Maintain control of your network and data

- With the ability to be deployed entirely on-premise, all traffic remains under the control of the enterprise.
- Enhanced security inherent in the solution protects data flowing over the wireless network in ways not previously possible.
- Quality of service defined for the wireless data traffic provides predictability and assurance.
- Authentication enhancements allow superior network access control.

Challenges and solutions

Challenge	How our solution addresses it
Poor connectivity and mobility	For certain areas, where mobility and challenging environments cause poor connectivity, you can use dedicated radio network equipment that is architected to meet the needs of mission-critical applications that suffer performance degradation in these poor connectivity locations.
Visibility and control across complex environments	Complete ownership of your private 5G network with the ability to customize and manage network support for your employees and critical applications. Leverage our scalable solution to keep local traffic on site and secure enterprise data.
Transporting growing volumes of data at lower latency	Private 5G provides greater transmission speeds at lower latency to create greater capacity for remote execution and to support quick decision-making, artificial intelligence processing or Internet of Things analytics.
Prioritizing network traffic and ensuring reliable connectivity	Protect your critical applications with MicroSlicing, which ensures they have the necessary dedicated bandwidth, low latency and packet error rate guarantees. Focus on specific mission-critical and business use cases, independent of the traffic fluctuations and resulting unreliability on other forms of wireless connectivity across the enterprise.
Managing devices and sensors	To effectively run a smart factory, a high density of sensors and devices are required. Private 5G allows for a greater number of connected devices with traffic scheduling controlled by the infrastructure.
The complexity of a fully scalable and integrated solution	Using a software-defined model, we integrate Private 5G into your existing enterprise IT and industrial IoT infrastructures at each site, with centralized management. Our cloud-native operating system supports a variety of compute platforms (virtual machine, private/public cloud, edge compute) for mobile core implementation. No more need for custom network integration at each site or separate licensing schemes for different use cases.

Our Private 5G accelerates your digital transformation and enables smart manufacturing

Private 5G optimizes factory floor communications and improves the security of IT and OT environments. In addition, our solution provides the in-house visibility and control you need to implement monitoring and predictive maintenance, improve safety and drive innovation, including advances such as autonomous vehicles for supply chain automation.
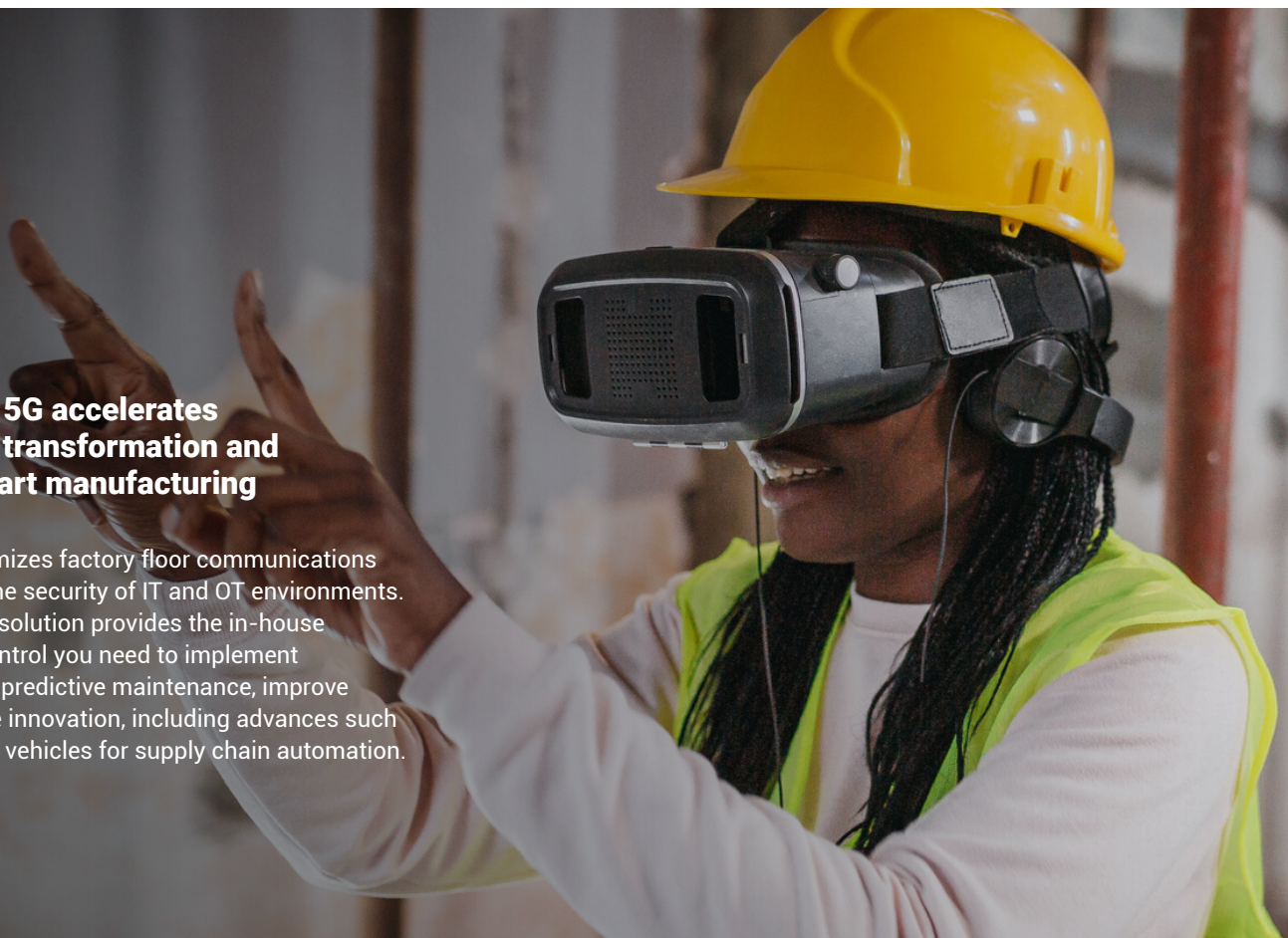
What our Private 5G solution delivers

Speed

With greater capacity and dedicated resources, transmission is faster and delivered reliably. Seamless connectivity is achieved across public and private 5G networks, providing super low-latency and real-time data and analysis.

Control

Standardized solutions with broader reach and a software-defined operational model enables integration and visibility across devices and applications. Our solutions are pre-integrated with leading network suppliers.

Security

MicroSlicing enables network segmentation, with device- and app-level access control so your critical applications are protected. Our Security Services proactively address threats to your network while Managed Network Services handle your day-to-day operations.

Coverage

Dedicated radio equipment architected to meet the needs of business-critical use cases, centrally managed across your organization, per site. Our Private 5G solution scales to meet your business needs across branches, operations and regions.

With upload speeds three **times better than 4G, private 5G is a true business growth enabler.**

We believe in using technology for good.

We are excited to play a role in the democratization of cellular technology for businesses to leverage as part of their digital transformation.

What makes us different

Secure data, granular control

Our cloud-first architecture offers clients full, end-to-end control over their network. As data stays local, it's secure and enables cloud and edge-based data analytics to support asset management, condition monitoring, predictive maintenance and other industry 4.0 automation goals.

Integration with leading suppliers

Our private 5G solution is pre-integrated with leading network suppliers and provides the flexibility to seamlessly work with any certified 4G and 5G applications.

Global support

Carrier management, operations and device management are all supported through our global service delivery platform.

Recognized expertise

Gartner recognized us as a Leader in the 2021 Magic Quadrant for Network Services, Global, and the 2021 Critical Capabilities Report for Network Services, Global.*

![NTT logo]

NTT