Private 5G

Leverage private 5G to enable game-changing new applications that can transform your business. With private 5G, your whole plant, distribution centre or campus can have high-capacity, extremely low latency connectivity.

5G is expected to play a crucial role in enabling the next phase of mobile-driven disruption. It takes the capacity, responsiveness and security of mobile connectivity to new heights. Verizon's On Site 5G provides a private 5G network across your plant, distribution centre or campus. This enables extremely fast transfer of data between many devices, with extremely low delay and improved security.

The possibilities are almost endless.

A private 5G network can enable an enormous range of use cases, including many that weren't possible before. Its extremely low latency, the lag in response, opens up numerous applications in healthcare and industrial safety. And its ability to support a huge numbers of devices — the 5G specification can support up to 1,000,000 per square kilometre — will enable a new wave of massive IoT solutions.

The potential uses span practically all industries, from manufacturing to retail, healthcare to financial services. Private 5G could help you:

- Increase productivity (e.g. predictive maintenance of equipment, cutting downtime; more responsive supply chains; greater visibility of production).
- Enhance customer experiences (e.g. augmented reality in stores, personalisation).
- Increase efficiency (e.g. real-time monitoring of goods, cutting losses from spoilage and shrinkage; modelling of process changes using digital twins).
- Improve safety and wellbeing (e.g. smart safety monitoring, like collision avoidance systems in ports).
- Increase automation (e.g. autonomous vehicles, including forklift trucks in warehouses; autonomous checkouts in retail stores).

Not just fast, fast and secure.

While 5G provides a whole new experience, it faces many of the same challenges as other networks. 3GPP's 5G standards include numerous optional features to enhance security, including a new trust model and security architecture. The specification also includes unprecedented flexibility for enabling operators to deploy additional security features, including sophisticated encryption and SIM-based authentication to combat cyber threats. New radio access network (RAN) security features enable network operators to secure communications on all RAN interfaces, including implementing extra protections at places that are vulnerable to physical attacks.

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5G or Wi-Fi 6?

Private Wi-Fi networks offer greater control than public mobile networks, but they can't scale-up to provide the comprehensive connectivity that many enterprises need. Even Wi-Fi 6, the latest iteration, struggles to provide connectivity outdoors.

5G handles handoffs between user devices at the network level, unlike Wi-Fi which uses device-based handoffs. This makes it better at keeping devices that are moving connected.

Another advantage of 5G is that it typically requires fewer access points than Wi-Fi. As well as the cost and time benefits of having fewer devices to manage, this makes 5G suitable for sites where installing enough Wi-Fi access points to achieve coverage would be impractical — such as a port.

Private 5G requires a private spectrum licence whereas Wi-Fi uses unlicensed spectrum. That means that private 5G is limited to where the regulator has made private spectrum available and requires the applications process to be followed — the fees are usually nominal. On the plus side, private spectrum is less subject to interference. In most cases this isn't a major problem, but in some environments and where applications are mission-critical it may be a concern.

Additionally, unlike some value-added Wi-Fi applications that rely on cloud-based computing, On Site 5G can support local, or edge, computing.

Private or public?

Public 5G networks offer low-latency, high-bandwidth connectivity, but can't provide the control over security and quality of service (QoS) that many cutting-edge enterprise solutions need. The ability to prioritise traffic is vital to providing the deterministic performance — including throughput and latency — needed to support a Real Time Enterprise. Private 5G offers much greater control, enabling you to prioritise critical applications and quickly re-prioritise when necessary.
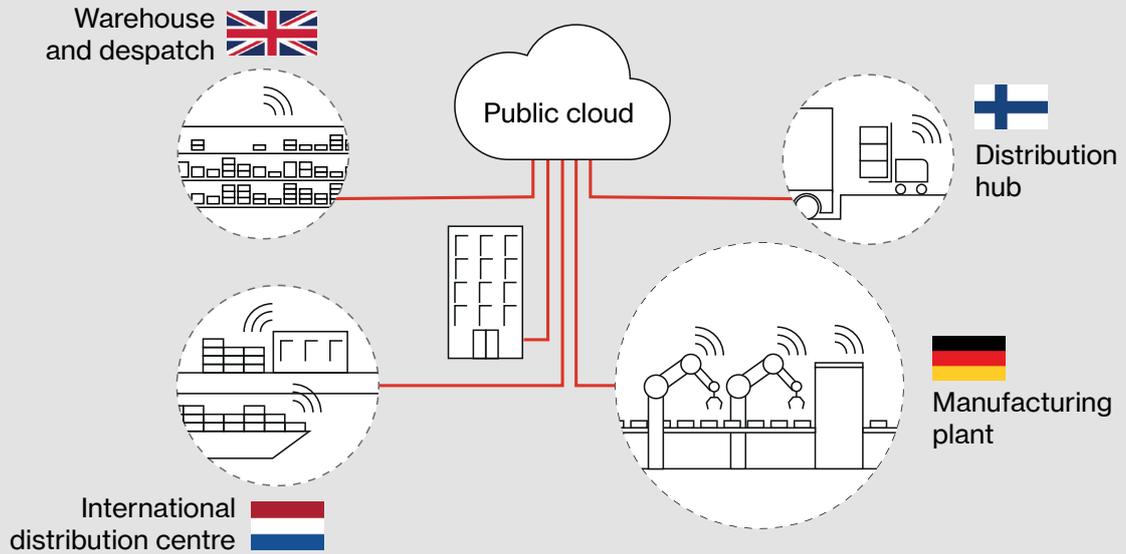
Many regulators — including those in France, Germany, Japan and the UK — have released private spectrum. And many others aren't far behind. If private spectrum is available, then so is private 5G — regardless of whether public 5G is available at all your locations.

5G workshops

If you're ready to get started with 5G, consider a Verizon 5G Transformation Workshop. In these workshops, Verizon Business Architecture Consultants will work with you to understand your business challenges, recommend ways 5G could help address these and help you to evaluate and prioritise initiatives.

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5G built right

Warehouse and despatch

Public cloud

Distribution hub

Manufacturing plant

International distribution centre

To the edge and beyond.

Many workloads are moving to the edge of the network to meet growing expectations for application performance, latency and throughput.

On Site 5G is built to support edge computing. Customers can also use our Secure Cloud Interconnect (SCI) to access cloud-based compute and storage services over a secure connection.

Private 5G built right.

Verizon has earned a reputation for engineering excellence and technical expertise. We've built and operate mobile networks that span diverse landscapes – from densely populated cities, to vast open spaces like mountain ranges and plains. This experience translates directly to building private mobile networks that deliver seamless connectivity no matter how complex your environment.

Many of the new security features in the 5G specification build on measures that were developed in the 4G environment. As the owner and operator of the one of the world's largest 4G LTE networks, we have a massive head start on leveraging these features to create more secure 5G networks. We're also developing how we use AI, automation and proactive security measures to accelerate the identification and mitigation of threats.

You're in control, but we're with you all the way.

On Site 5G gives enterprises a dedicated, on-premises, private 5G network. It's suitable for any space of 4,000m^2 and up, indoor, outdoor or a mix of both. Each installation is custom built to provide the coverage, reliability and capacity you need.

Private 5G spectrum licences are generally quite inexpensive – akin to an admin fee But the process of obtaining licences isn't always straightforward, especially when you need licences in multiple countries. Our 5G team has extensive experience with regulators and applying for licences and can help you through the process.

Our experts will be with you all the way, through site survey/design, installation and commissioning. And each site will be fully project managed through to successful operation.

On Site 5G comes with a management platform that enables you to monitor and control all the components of the network, including the radio nodes, private packet core and user equipment. You can decide which devices have access to the network; track usage, connectivity and other key performance indicators; and report and track issues. This platform is supported by 24x365 managed services, enabling you to focus on building and managing the applications that transform your business.

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