

POINT OF VIEW

Top Considerations When It Comes to 5G



Executive Summary

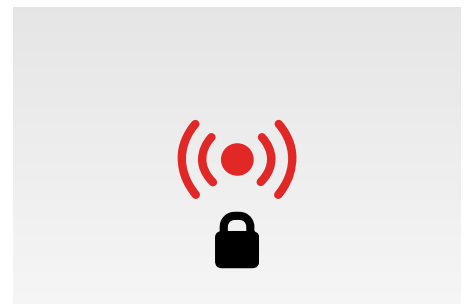
5G is enabling transformation and innovation for the enterprise and for mobile network operators (MNOs) around the world with **support for massive Internet of Things (IoT) scalability, ultrahigh reliability and low latency, and high mobile bandwidth.**

To unleash its full potential, a new industrial 5G ecosystem is being created, comprising enterprises, mobile operators, industry and mobility value-added resellers, and public cloud hyperscale providers. This ecosystem will harness the capabilities and services of 5G to create new sets of tools, applications, services, and use cases that will drive transformation for the enterprise. As 5G evolves to play a central role in all industries, it brings with it potential cybersecurity risks with a large and distributed attack surface, new attack vectors, and a complex ecosystem of vendors, partners, tools, and solutions.

Security is key for 5G adoption for all enterprises and MNOs requiring protection for increasingly complex ecosystems. Security challenges stem from limited native 5G security, its open nature, its critical use cases, and ubiquitous adoption. As 5G is poised to become an integral part of information technology (IT), operational technology (OT), and all vertical infrastructures, organizations need to position themselves with more than adequate security to cover their entire 5G implementation. Organizations need a security vendor **that can provide end-to-end connectivity, visibility, threat-intelligence sharing, and protection** for the entire 5G ecosystem.

What To Consider When Adopting 5G

5G will fundamentally alter the enterprise and its network infrastructure and capabilities. Networks will become more complex and demand will increase, so consuming 5G in a meaningful way will require security at the edge and core for all applications, new sensors, and endpoints. Organizations should proactively implement a comprehensive 5G security strategy to meet these changes before they occur to avoid the risk of compromising a single endpoint, user, or use case, fortifying latency and



**Security is key for
5G adoption.**

bandwidth before they become issues or bottlenecks. It's critical that a unified 5G security and networking (security-driven networking) approach is in place foremost to protect against threats and securely increase the capabilities of the network.


Organizations also need to consider what type of ecosystem they need to build—private or public, or a hybrid approach—based on their business and operational needs and cost evaluation.

Private, public, or hybrid

It seems that a private or hybrid 5G network will be the popular form of 5G enterprise consumption. Recent studies show that enterprises considering 5G would rather use private 5G networks than public: reasons being better control, transparency, and integrity. Many organizations assume that a private 5G network will inherently keep them safe, which is not necessarily the case. 5G private networks (radio access network [RAN], core, and mobile edge computing [MEC] environments and applications) are rarely completely isolated from the enterprise IT environment and external environments (partners, integrator, public cloud, etc.) and may be exposed to internal and external attacks that can result in productivity and production degradation, compromised physical safety, and brand degradation.


An increase in operational technology (OT) and Industrial Internet of Things (IIoT) exposure, the physical mobility of users and devices on the network, and the interplay among the enterprise, MNOs, IoT manufacturers, and OT vendors and suppliers all also contribute to 5G security challenges, whether the network is private or not.

5G is a game-changer for business.




5G

More bandwidth



5G

Low latency and high reliability



5G

Massive machine scalability

5G Technology Opportunities

For Mobile Network Operators	For Medium to Large Enterprises
<ul style="list-style-type: none"> ▪ Value-added services ▪ Generating new revenue streams ▪ Driving growth in industry verticals 	<ul style="list-style-type: none"> ▪ Increased efficiency ▪ Automation ▪ Safety ▪ Sustainability ▪ Overall innovation

Transportation, logistics, oil and gas, manufacturing, and healthcare are considered the most promising vertical industries for 5G enterprise use cases.

Organizations in all verticals are looking into 5G as an enabler for transformation and innovation. And countries are even competing to be the first to deploy fully functional, nationwide standalone 5G. The benefits of 5G are expected to enable transformative new technologies, not just for consumers, but for businesses, infrastructure, and defense applications.

