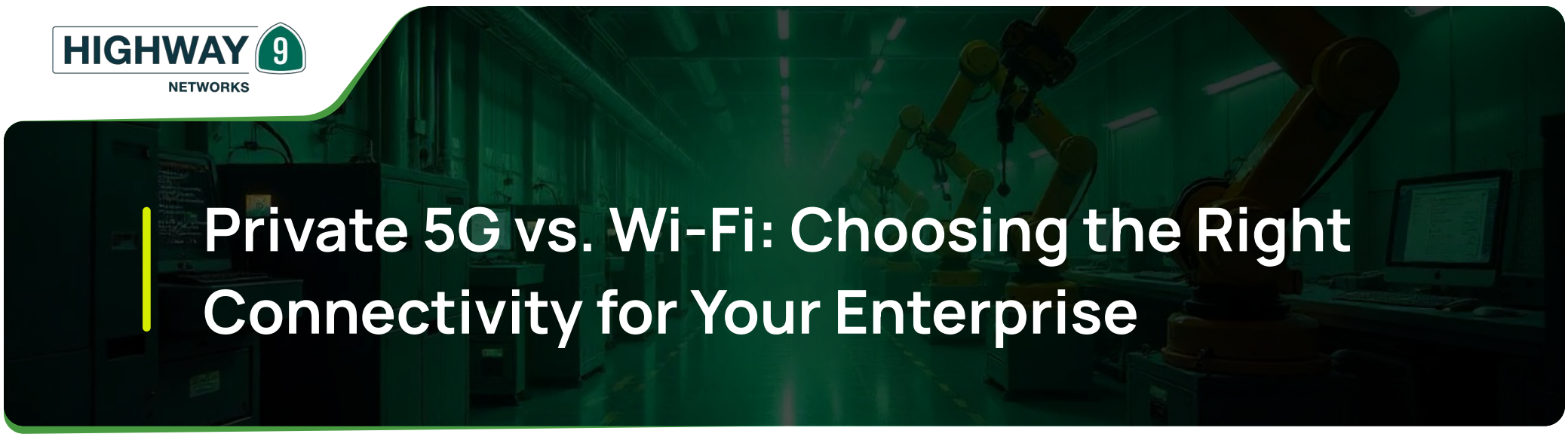
HIGHWAY 9 NETWORKS



Private 5G vs. Wi-Fi: Choosing the Right Connectivity for Your Enterprise

Private 5G wireless and Wi-Fi are both essential technologies today for enterprise connectivity, but they differ significantly in their design, capabilities, and optimal use cases. Understanding their differences and unique advantages can help organizations decide which technology best suits their needs for specific use cases and business requirements.

Private 5G		Wi-Fi
Utilizes both licensed and unlicensed spectrum, including lightly licensed bands like CBRS, offering reduced interference and more stable connections.	SPECTRUM & INTERFERENCE	Operates on unlicensed bands (2.4, 5, and 6 GHz), making it susceptible to congestion and interference, especially in crowded areas.
Provides broader coverage, both indoors and outdoors, and is ideal for large facilities and mobile use cases like AGVs and drones.	COVERAGE RANGE & MOBILITY	Best for short to medium-range indoor use; performance may degrade with walls or interference - more so than Private 5G in complex environments.
Designed for consistent low latency, making it suitable for applications requiring near-instantaneous responses, such as automated manufacturing.	LATENCY & RELIABILITY	Latency can vary, especially under network congestion, affecting time-sensitive applications.
Offers enhanced security features, including SIM-based authentication and dedicated spectrum, reducing exposure to external threats.	SECURITY	Security can be compromised due to shared spectrum and potential for unauthorized access.

Optimal Deployment Scenarios

PRIVATE 5G IS IDEAL FOR

- **Industrial Environments:** Manufacturing plants, warehouses, and facilities with heavy machinery.
- **Large Campuses:** Universities, hospitals, and expansive corporate campuses requiring seamless mobility.
- **Outdoor Coverage:** Agricultural fields, ports, oil and gas facilities, storage and warehouses etc.

WI-FI IS IDEAL FOR

- **Office Spaces:** Traditional indoor settings with standard connectivity needs.
- **Public Areas:** Cafés, libraries, and other small to mid-size public venues where ease of access is prioritized.

In conclusion, while Wi-Fi remains a staple for general connectivity in many businesses, private 5G (especially when offered as part of a modern mobile cloud) offers enhanced performance, security, and scalability for environments that require higher reliability and faster response times. By carefully assessing your specific needs, your business can determine whether Wi-Fi, private 5G, or a very likely hybrid approach is the most effective solution for your wireless infrastructure and ever-growing connectivity requirements.