

A woman with reddish-brown hair in a ponytail, wearing a yellow and blue plaid shirt, is looking down at a tablet computer. She is standing in a greenhouse, with rows of green plants in the foreground and background. In the background, there are hanging grow lights and a white electrical box on a pole.

Private Networks

Build your high-performance communications foundation, designed for growth.



piersonwireless.com

A night cityscape with a digital particle effect overlay. The background shows a city skyline at night with many lit-up buildings. In the foreground, there's a body of water reflecting the city lights. Overlaid on the image is a large number of small, glowing blue and green particles that look like digital data or network connections.

What is a Private Network

Private networks offer enterprises a **purpose-built, high-performance** wireless network with **dedicated bandwidth** and wireless infrastructure for their unique operational and connectivity needs. With a private network, **you** are in control of the mobile environment, and not a carrier in a traditional network. **You** make operational and management decisions for user devices and network parameters.

Wireless Communications are viewed as increasingly essential by most businesses today. Wireless connectivity is the “fourth utility,” joining legacy contributors electricity, water, and HVAC.

Carrier Networks and **Wi-Fi** have traditionally been leveraged to provide the wireless backbone for a wide range of enterprises, but those solutions present limitations that hinge on the networks being utilized by the general public or lacking the level of security and coverage your enterprise requires.

Pierson Wireless is an industry leader in the design, deployment, and ongoing support of private network solutions. We communicate closely with our customers at every step of their private network journey – initial site assessment and feasibility analysis, design and engineering phases, proof of concept deployment, on-site network demonstration, and finally, the activation of their unique private network solution. To learn more about how a private network operates and how it can improve your business operations, contact our expert team today!

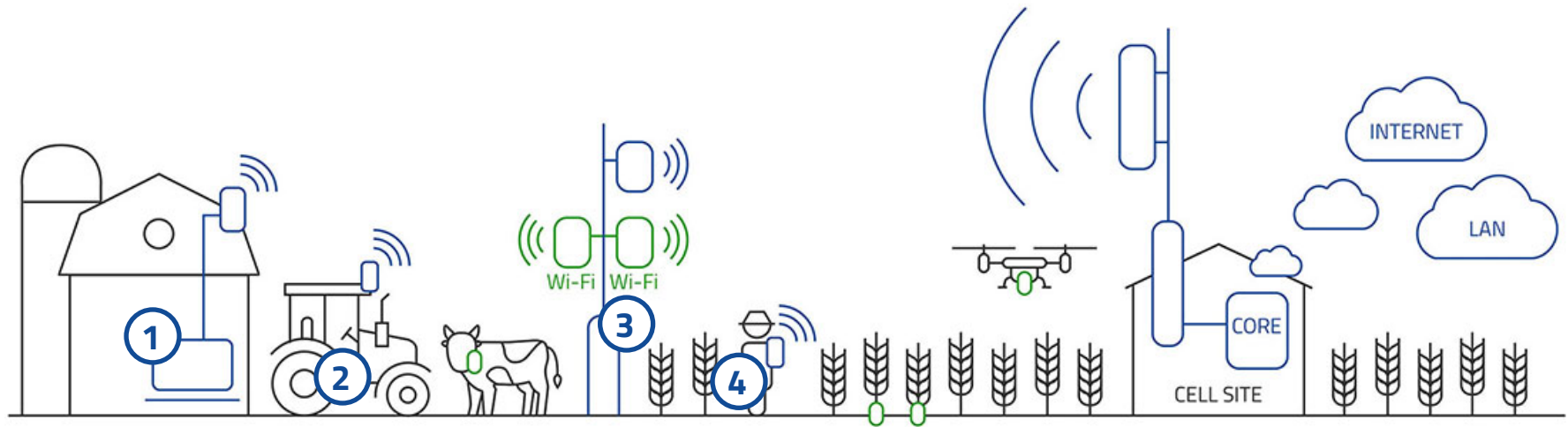


Benefits of a Private Network

- ☆ **Dedicated** - A private network is exclusively yours, dedicated to and controlled by your enterprise.
- 🔒 **Secure** - Your data never leaves your network, and SIM-based access ensures all devices on the network are authenticated and access is controlled by the network operator.
- ✅ **Reliable** - A private network ensures reliability due to its predictable high performance and low latency.
- ⬇️ **Low Latency** - Private 5G end-to-end latency will be less than 10 milliseconds.
- ⬆️ **High Capacity** - Private networks deliver the ability to incorporate up to 1 million devices per square kilometer.
- 👤 **Quality of Service (QoS)** - Customer is in control of how data is prioritized, from end-to-end.
- 📶 **Mobility** - The handoff between private network small cells is seamless.
- ⚙️ **Cost** - Fewer small cells are needed to provide the same coverage as WiFi access points, and the expense of running power, cable, and providing maintenance on a smaller number of access points is more cost-efficient.

How a Private Network Works

Outdoor / Agriculture Example

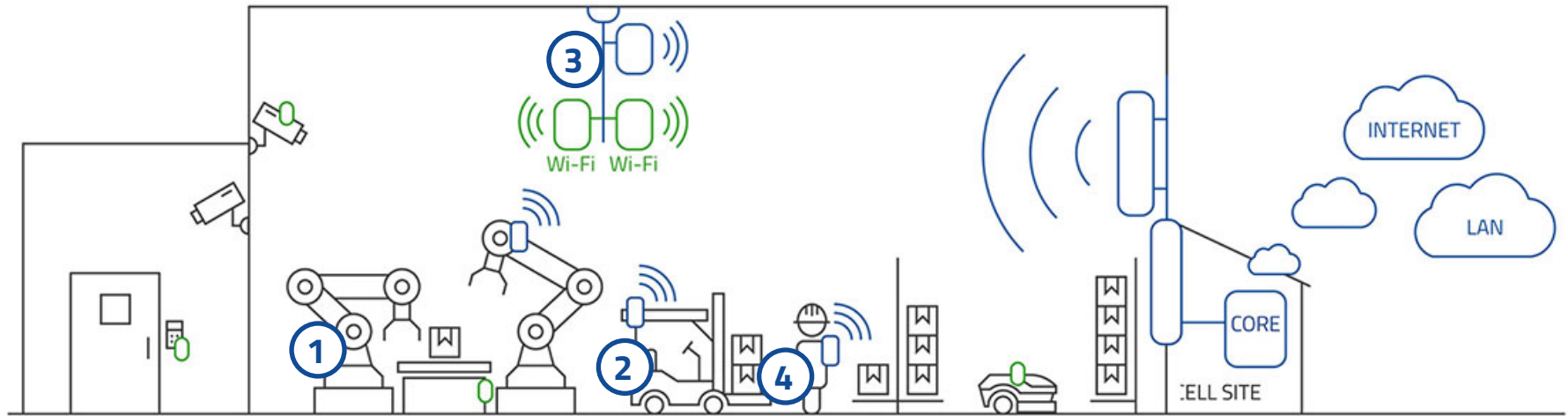


1. Connectivity for IoT Sensors & Automation
2. Connectivity for Autonomous Operations

3. Private Networks Support Backhaul for Wi-Fi
4. Real-Time Access to Information

How a Private Network Works




Indoor / Manufacturing Example

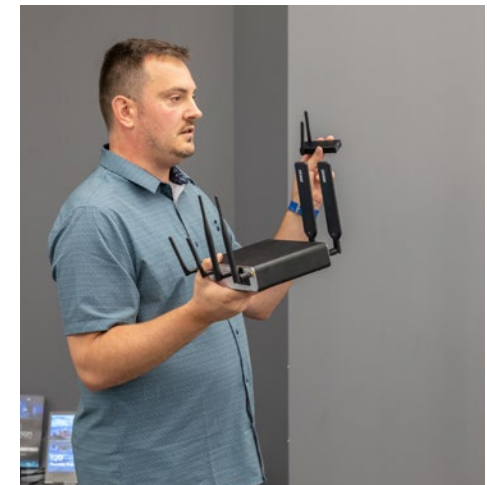


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Deployment of a Private Network Requires

-  **Equipment** - Base stations, towers, small cells from telecommunication infrastructure integrators like Pierson Wireless.
-  **Edge Devices** - Routers, gateways, modules, tablets, and smartphones.
-  **Spectrum** - Secured from the government, mobile network operators (MNOs), or third-party owners.



Notable Industries for Private Networks



Agriculture



Colleges & Universities



K-12 Education



Healthcare



Hospitality



Logistics (Warehouses, Ports)



Manufacturing



Sports & Entertainment



Utilities

To read more on each industry, please visit: piersonwireless.com/private-networks/



CBRS – The Innovation Band

CBRS is the **Citizen's Broadband Radio Service**, a 150 MHz-wide domestic broadcast band (3.55 GHz - 3.70 GHz). In January 2020, the Federal Communications Commission (FCC) authorized full use of the band's spectrum for wireless service provider commercialization, paving the way for deployment of private networks.

CBRS is governed by a three-tiered spectrum authorization framework:

- **Incumbent Access** – Legacy band users, namely satellite ground stations and the US Navy
- **Priority Access License (PAL)** – Auctioned, 10-year licenses for up to 70 MHz of CBRS spectrum, available on a county-by-county basis. Use may not interfere with Incumbent Access entities.
- **General Authorized Access (GAA)** – The 80 MHz balance of the CBRS spectrum not allocated to a PAL. Use of this portion of the spectrum does not require a license, but it does require interference coordination via a Spectrum Access System (SAS).

CBRS enables Private LTE and soon, Private 5G Network solutions. It's often referred to as "The Innovation Band."

OnGo is the brand name for Private 4G & 5G Network services using the CBRS band.



Additional Frequency Bands

Band 41 EBS (Educational Broadband Service) is a part of the Time Division Duplex (TDD) 4G Long Term Evolution (LTE) spectrum that requires only a single uplink and downlink frequency band. Band 41 rests between traditional bands and millimeter wave (mmWave), a range commonly referenced as “mid-band.” It has a bandwidth of 194 MHz and ranges from 2496 – 2690 MHz.

Band 53 GlobalStar is also a part of the TDD 4G LTE spectrum, and like Band 41, requires a single band for uplink and downlink. It has a narrower bandwidth (11.5 MHz), ranging from 2483.5 – 2495 MHz.

MuLTEFire combines the high performance of a 4G LTE network with the simple deployment of Wi-Fi. A network utilizing MuLTEFire’s unlicensed and shared 5 GHz spectrum can support private LTE and neutral host deployment models.



Monitoring & Maintenance

Your organization depends on the performance and reliability of your private network solution to provide reliable performance for essential systems and uninterrupted user device connectivity. Pierson Wireless offers a variety of programs that provide 24/7/365 peace of mind and confidence your private network is operating optimally.

Through our programs, Pierson Wireless technicians proactively identify issues and outline solutions BEFORE your critical functions are interrupted. Active monitoring solutions result in reduced expenses related to service visits, improved system performance, and reliable communications during an emergency situation.

Pierson Wireless' programs assign highly-skilled technicians to quickly and efficiently resolve issues with your system.



THANK YOU!

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