



Scale beyond 100 AGVs

Industrial Wi-Fi 6 GHz solutions for warehousing & logistics

Flyer



Ready to go from 100 to 1,000+ AGVs?

Most warehouses plateau around 100 connected robots—not because of space constraints, but because they run out of clean Wi-Fi channels.

Think of each Wi-Fi channel as a separate wireless lane on a road for data. Typical AGV applications use 100 AGVs per channel. When you're managing hundreds of AGVs, you quickly run out of high-quality channels.

Access all 25-60 clean 6 GHz channels with no radar interference — 10 x more capacity than reliable 5 GHz channels.

Traditional 5 GHz Wi-Fi offers up to 25 channels, but only 4-9 of those (depending on the country) work reliably for industrial applications. The remaining channels are shared with radar installations. Even without actual radar nearby, Wi-Fi on these radar-shared channels experiences instability several times per month.

6 GHz provides **25 channels in Europe** (ETSI standard) and **60 channels in the USA** (FCC standard), and none are shared with radar. That's **10 x more reliable wireless capacity** in clean, interference-free spectrum. Because no older legacy Wi-Fi devices use 6 GHz yet, the spectrum stays clean. Most countries are adopting either **ETSI** (Europe) or **FCC** (USA) standards, making these channels available globally soon.

Finally, the wireless capacity your automated warehouse actually needs.



Industrial Access Point



Client

Complete industrial wireless solution: IGX access points and ELXM clients work together seamlessly, providing unified diagnostics across your entire network.

Industrial Access Point - IGX

- Wi-Fi 7 with simultaneous 5 GHz and 6 GHz operation
- IP65-rated (waterproof) for warehouse environments
- Internal antenna or external antenna options
- Designed for seamless AGV roaming

ProLinx Edge Mini - ELXM

- Lightweight, compact client for installation on any AGV
- Wi-Fi 6 supporting 2,5 and 6 GHz bands
- Optimized for mobile applications





> Why system integrators choose Belden

>>> Complete solution visibility

Using access points and clients from different vendors makes troubleshooting difficult – each device provides different diagnostic data. Our IGX and ELXM solutions provide unified diagnostics, helping you identify network issues in hours instead of days.

>>> Commissioning confidence

6 GHz is greenfield spectrum—no channel negotiations with IT, no interference surprises during startup.

>>> Global support network

Remote troubleshooting within hours, anywhere in the world – because project problems don't respect time zones.

When milliseconds matter

Machine builders target 99.9% uptime or more. Any Wi-Fi interruption over 150 milliseconds causes a communication gap that triggers a safety shutdown. These shutdowns take up to half an hour to recover. Our solution keeps interruptions below 100 milliseconds, with every communication packet optimized for even safety applications.

Most customers building storage systems only identify that their Wi-Fi system suffers from these issues when they're already trying to prove full system availability to the end customer. With our experience, we can diagnose network traffic and system design even before full-scale deployment, so when it comes to the final stress test, the Wi-Fi system will no longer be an issue.

Moving robots create blind spots, electromagnetic interference causes packet collisions, positioning changes block signals. Without proper diagnostics, troubleshooting takes days instead of hours.

> Belden advantage

Fast, reliable roaming with complete system diagnostics identifies and resolves issues quickly.

> Built for warehouse realities

» Electromagnetic interference resilience

Metallic surfaces bounce Wi-Fi signals, creating noise and packet collisions. Our industrial-grade design handles these challenging RF environments.

» Scalability without limits

6 GHz spectrum provides massive headroom for automation upgrades. Support up to 10,000 AGVs per warehouse with integrated sector antenna and advanced packet flow control.

» Vendor compatibility

Works with any automation equipment and existing third-party Wi-Fi infrastructures while providing unified monitoring and diagnostics. This allows flexible adoption of the complete solution.



Technical specifications		
Feature	Industrial Access Point - IGX	ProLinX Edge Mini - ELXM
Wi-Fi Standard	Wi-Fi 7 (802.11be)	Wi-Fi 6 (Wi-Fi 7 compatible)
Frequency bands	5 GHz + 6 GHz simultaneous	2, 5, 6 GHz
Protection rating	IP65	IP30
Power	PoE+ or 24 V DC	10-30 V DC
Operating temp.	-20°C to 65°C	-20°C to 65°C
Installation	Wall or ceiling	Any machine/AGV



Ready to eliminate your Wi-Fi bottleneck?

Next steps

- 1 Wireless site assessment:** Let us guide you to a blueprint for your storage system, that can be reused on all future projects.
- 2 Custom network design:** Benefit from our experience and address reliability, security and monitoring from the start. We will analyze your network traffic and help you avoid common pitfalls.
- 3 Troubleshooting:** Use our know-how to quickly isolate root causes in network issues either through our services or through our trainings.
- 4 Commissioning support:** We will be by your side, from your first deployment to your largest deployment.

>>> Contact us to discuss 6 GHz solutions for your facility

Request a consultation →

Connect to what's possible.



© 2025 | Belden and its affiliated companies claim and reserves all rights to its graphic images and text, trade names and trademarks, logos, service names, and similar proprietary marks, and any other intellectual property rights associated with this publication. BELDEN® and other distinctive identifiers of Belden and its affiliated companies as used herein are or may be pending or registered or unregistered trademarks of Belden, or its affiliates, in the United States and/or other jurisdictions throughout the world. Belden's trade names, trademarks, logos, service names, and similar proprietary marks shall not be reprinted or displayed without Belden's or its affiliated companies' permission and/or in any form inconsistent with Belden's business interests. Belden reserves the right to demand the discontinuation of any improper use at any time.