parlon

ROBOTICS · CASE STUDY

Signal Check: Active Wireless Coverage Validation

How a global warehouse robotics manufacturer is catching wireless coverage gaps before they stop a robot.

Active	100K	Fast	Live
Coverage Testing Approach	Sq Ft Fulfillment Floors	Early Gap Detection	Proof of Value Stage

THE CHALLENGE

The customer designs and deploys AI-enabled robotic systems for large-scale fulfillment and distribution operations, with fleets of robots depending on continuous wireless connectivity across warehouse floors spanning hundreds of thousands of square feet — but validating that coverage meant relying on **point-in-time site surveys** to capture a single snapshot, and **passive access-point monitoring** to flag only outright outages.

The interference problem. Metal racking, moving inventory, and structural obstructions all interfere with signal propagation. A robot moving between coverage zones can briefly lose connection during the handoff between access points, or drift into a zone where signal strength has quietly degraded.

The visibility gap. Site surveys capture a single moment in time, and passive monitoring only flags an access point once it's already down — neither shows where signal quality is quietly degrading before a robot ever encounters it.

The cost of a stalled robot. A disconnected robot can stop where it is, wait to reconnect, or enter a safety state until connectivity resumes — blocking a picking lane, pulling in a technician, or holding up a chain of downstream tasks across a fleet working continuously.

WHY PARLON WON

Traditional wireless validation tools weren't built for a warehouse where the fleet never stops moving:

Active testing, not passive monitoring. Traditional monitoring could tell the team when an access point went down — not where signal quality was degrading before a robot ever encountered it.

Built for a moving fleet, not a static floor plan. Site surveys capture a snapshot in time, but conditions in a working warehouse shift as inventory, racking, and equipment move. Parlon continuously measures the same space where robots actually travel.

A faster path from gap to fix. Parlon surfaced coverage gaps, unreliable handoffs, and early degradation zones — giving the team a way to see and fix problems before they turned into a stalled robot on the floor.

THE OUTCOME

The customer deployed Parlon to actively test wireless coverage across the same floor space where its robots travel — not simply monitor access points after something breaks.

Gaps found before robots did. Parlon gave the team a continuous view of coverage consistency, surfacing where signal strength dropped, where handoffs between access points were unreliable, and where degradation was building before it could ever reach a robot.

Faster troubleshooting. The robotics and operations teams can validate fixes and troubleshoot signal issues directly, without waiting for a robot to stop and reveal the problem for them.

A staged path to scale. With proof of value complete, the customer is scoping deployment at its first production site, with plans to expand across additional facilities and geographies — and later add telemetry monitoring, normalization, and alert auto-tuning.

ENVIRONMENT AT A GLANCE

- **Platform:** Parlon Wireless Coverage Validation (Active Testing)
- **Scope:** Warehouse floor spanning hundreds of thousands of sq ft
- **Fleet:** AI-enabled mobile robots — picking, storage, retrieval
- **Replaced:** Point-in-time site surveys + passive AP monitoring
- **Deployment:** Deployed quickly across live operational floor space
- **Time to Value:** Proof of value complete — scoping deployment

ABOUT PARLON

Infrastructure Has Changed. Observability Hasn't.
Parlon is the modern replacement for legacy observability — normalized at ingestion, synthetic testing built in, and deployable anywhere your environment requires.

Want to see if this applies to your environment?
parlon.io · demo@parlon.io

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