Ruckus
Simply Better Wireless.

case study

LaBarge
COATING

Manufacturing:
LaBarge Coating

OVERVIEW

Oil and Gas service provider requires reliable Wi-Fi connectivity for Intermec supply chain solution

REQUIREMENTS

- Reliable wireless for handheld supply chain devices
- Solid mesh networking that is self-healing
- Environmental resiliency for harsh environments
- Low power consumption to use solar for PoE

SOLUTION

- 7731 Point to Point Bridges
- ZoneFlex 7762 outdoor APs
- ZoneDirector 3000 controller

BENEFITS

- Hundreds of acres and large warehouse manufacturing plants have coverage for their handheld supply chain inventory management devices
- Low cost solar solution to power meshed APs and Point to Point bridges in remote locations reducing the cost to wire remote areas
- Ability to differentiate from other service providers by providing higher levels of customer support
- Lowered cost of supply chain management

'BULLETPROOF' WI-FI FOR LOGISTICS TRACKING IN THE INDUSTRIAL MANUFACTURING INDUSTRY

LaBarge Coating, one of the largest privately held pipe coating companies serving the oil and gas industry, has been servicing the needs of the energy sector for over a decade. Headquartered near Houston, TX, LaBarge also has locations in St. Louis, MO and has quickly grown to over 500 employees with hundreds of acres of yard and thousands of square foot of plant to safely and securely store and refurbish piping for its customers.

Maintaining several large manufacturing plants and storage yards to service and store hundreds of miles of piping for many customers is a daunting task and has proven to be a logistical nightmare. Seeing this as an opportunity to differentiate their service quality, LaBarge was the first in their industry to pioneer and employ service traceability utilizing Wi-Fi and Intermec supply chain inventory tracking devices increasing customer service and their own business efficiency.

"We wanted to manage our supply chain like a grocery store. We wanted to know exactly what product came from where, when, if it was processed, and when it went out." Said Patrick Kampwerth, IT Director for LaBarge.

Initially, LaBarge tested the technology on a small scale utilizing Intermec CK3, CK71, and CK31 scanners and found that the Wi-Fi provided by Intermec was cumbersome and slow, so they tried Cisco, "Which was a complete nightmare," according to Kent Rustad, President of AIC Partners, LeBarge's partner in the deployment

LaBarge required reliable Wi-Fi connectivity for their supply chain solution that covered hundreds of acres

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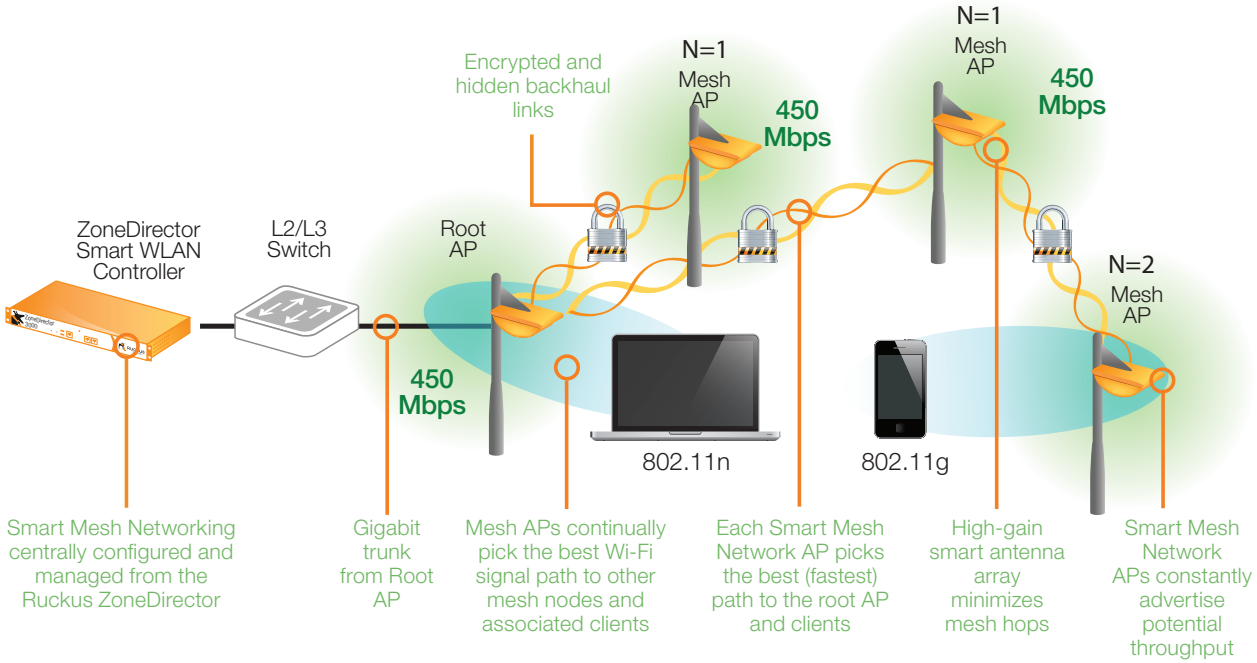

and experts at deploying inventory control solutions. "Success or failure of this type of inventory control system throughout such a widespread area completely depends on the quality of the Wi-Fi signal." Said Rustad. "Further, Cisco's mesh didn't work and this was a key requirement to enable wide spread connectivity throughout the yard without spending an exorbitant amount of money to wire hundreds of acres of land."

Intermec supply chain handheld devices required Ruckus BeamFlex Adaptive Antenna Technology for reliable connectivity over vast area

For LaBarge, the critical requirements for the wireless in the supply chain system was the ability to have complete coverage over large areas (requiring reliable meshing) and predictable performance with handheld devices that are constantly moving direction. This is where Ruckus outperformed the competition.

Ruckus' SmartMesh Networking technology allowed for high performance, reliable and easily deployed mesh. SmartMesh is unique in that it leverages Ruckus' BeamFlex and ChannelFly technologies to ensure that the mesh network is easy to deploy and self-healing. SmartMesh is simple to deploy and manage as the directional signal gain with Adaptive Antenna Technology not only increases client performance, but it also bolsters the performance of the mesh network by implicitly mitigating self-interference with other access points in the mesh.

Also critical to the performance of Intermec handheld scanner devices which are constantly moving in horizontal and vertical direction while in use is the

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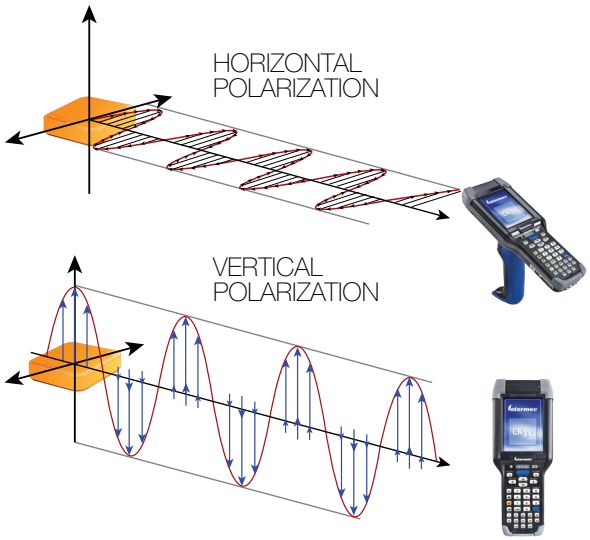

BeamFlex Adaptive Antenna Technology in action for mobile handheld devices

Solar panel for power and meshing for connectivity in remote areas of yard without Ethernet or power

polarization diversity within Ruckus' Adaptive Antenna Technology. With the thousands of antenna patterns in horizontal and vertical combinations along with BeamFlex, Ruckus can maximize the performance of single antenna handheld devices by adapting to the client in real-time.

In addition to the requirements for a bulletproof Wi-Fi system, LaBarge also required the capability to power the units in areas without power using solar power supplies. They built these on their own so they could use PoE from the solar power supply to power the APs (see Ruckus' Solar Application Note). To be effective, this required minimal power drain from the APs.

After initial problems with Wi-Fi connectivity, Kampwerth said they were thinking about installing fiber throughout the yard to implement their tracking systems, but after Rustad recommended trying Ruckus ZoneFlex access points, they scrapped the idea. "When we tried the Ruckus systems, the Wi-Fi was just bulletproof," said Kampwerth, "the system works great. It was night and day between the systems. The throughput was orders of magnitude higher with the Ruckus system, the mesh just worked, and we even installed a point to point bridge with the 7731 to provide wireless access to a remote office building." Even more importantly, the Ruckus ZoneFlex APs required less power which made the solar deployments much easier and less costly in the remote areas of the yard than with other vendor solutions.

Today, LaBarge employs the most state of the art supply chain inventory management system in the pipe coating industry. "We attribute our growth and market dominance to the innovations in the supply chain management systems we have deployed, as well as our high level of customer satisfaction" said Kampwerth.

Ruckus currently supplies LaBarge's wireless supply chain needs to hundred thousand square foot plants and 100 acre yards, as well as the offices. "Even in

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"Intermec Supply Chain, combined with bullet-proof Wi-Fi performance is a world where human errors go to zero, where no worker achieves less than 100% of productivity targets, and where unmatched customer satisfaction and loyalty can be achieved."

Kent Rustad
President of AIC Partners

harsh temperatures in Houston and the dusty environment in the plants, the Ruckus ZoneFlex APs are taking care of everything right now for our supply chain management system."

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