CASE STUDY

ARUBA GIGABIT WI-FI SOLUTIONS POWER INDUSTRIAL IOT AND OTHER INNOVATIONS FOR SMART MANUFACTURING AT 34-ACRE COMPLEX

IMPERIAL INDUSTRIES INCORPORATED

Serving a global client base requires manufacturers to stay ahead of shop floor innovations, making robust Wi-Fi infrastructure an imperative for Ann Babl.

"Our industry is moving to wireless connectivity for production equipment at a rapid pace," explains Babl, contract CIO for Imperial Industries in Wausau, Wisconsin. "We were adopting a new plasma burn table and it required high-performance Wi-Fi."

GIGABIT WI-FI POWERS INDUSTRY 4.0

Like many manufacturers embracing Industrial Internet of Things (IIoT) and other smart manufacturing innovations, known as Industry 4.0, Imperial needed to modernize its IT infrastructure.

"An internal assessment showed we required a complete refresh," says Babl, a consultant with AALG Technologies contracted by Imperial to serve as CIO.

For wireless, this meant wire-speed Gigabit Wi-Fi throughout Imperial's seven buildings, which total 200,000 sq. ft. spread across a 34-acre complex. Equally important was future-proofing Imperial's network.

"Smart manufacturing is providing many new opportunities," Babl says. "We wanted a robust, scalable solution that could evolve to meet changing needs while also minimizing burdens on our ultra-lean IT staff."

Working with the manufacturer's trusted partner, RMM Solutions, Imperial evaluated the top wireless vendors and selected Aruba, a Hewlett Packard Enterprise company.

REQUIREMENTS
- High-performance, resilient Wi-Fi
- Future-proof solutions
- Simplified, centralized management

SOLUTION
- 802.11ac Wave 2 Aruba APs
- Aruba's HPE Smart Rate-Enabled Switches
- 7200 Series Controllers
- AirWave for unified wireless & wired network management

BENEFITS
- 802.11ac Wave 2-enabled Aruba Gigabit Wi-Fi blankets 34-acre complex.
- Robust HPE Smart Rate-enabled Aruba solution future proofs network.
- Securely supports Industrial IoT and Industry 4.0 applications.
- Integration and central administration of wireless and wired networks.
- Scalable to meet changing market and operational needs.

"Our Aruba Gigabit Wi-Fi is enabling us to take advantage of innovations, like IIoT and Industry 4.0 technologies, that were impossible for us before."
Ann Babl,
CIO, Imperial Industries

ARUBA PROVES THE MOST ADVANCE SOLUTION

To meet all its objectives, Imperial deployed high-performance wireless infrastructure that includes Aruba 802.11ac Wave 2 access points (APs), Aruba's 7200 Series Mobility Controllers, Aruba's 3810 Series Switches and Aruba's 2920 Series Switches. Using Aruba's robust Layer 3 switches enabled Imperial to standardize on a single vendor for both wired and wireless networking.

Imperial also chose Aruba AirWave to unify management of the wired and wireless network.

"We were impressed with Aruba's current solution quality and strategic direction," Babl says. "When we looked at the roadmap, Aruba was more advanced on multiple fronts including cybersecurity. This enabled investing in infrastructure that was ahead of the competition, rather than neck-and-neck."

As part of the larger modernization, Imperial has also adopted HPE server and storage solutions for further IT standardization.

Future-ready with multi-gigabit HPE Smart Rate

In addition to blanketing Imperial's facilities with high-density Wi-Fi, a significant Aruba advantage is the integration of HPE Smart Rate multi-gigabit Ethernet technology into its latest APs and switches, automatically ensuring up to 10Gbps connectivity.

"Although Imperial requires Gigabit Wi-Fi today, the company will be ready for multi-gigabit Wi-Fi to harness coming smart manufacturing advances," says Art Corallo, CTO at RMM.

"With HPE Smart Rate integrated into Aruba's solutions, Imperial can leverage future performance capabilities without the expense and disruption of cable upgrades," he adds.

Aruba AirWave frees up critical resources

By unifying wireless and wired network management with AirWave, Imperial ensures streamlined network configuration, troubleshooting and performance tuning.

AirWave also supports Imperial's strategy of deploying IT infrastructure via a managed service agreement with RMM. "Efficient management is key to containing costs," says Corallo. "With AirWave, we can optimize the network remotely from a single pane of glass."

The managed services set-up frees Imperial's internal IT staff to concentrate on business-critical tasks. "Now I can focus on our core business applications and supporting users, instead of basic infrastructure chores," says Chuck Allen, IT Manager. "That's a big win for our company."

Additionally, businesses like Imperial look forward to Aruba's forthcoming introductions related to incorporating artificial intelligence and advanced analytics into AirWave. Such innovations will enable adaptively and proactively managing networks for even greater resiliency and IT efficiency.

NEW WI-FI SUPPORTS IIOT, ERP & MORE

After deploying its new WLAN, Imperial could proceed with installing the innovative IIoT production equipment while benefiting from other updates and adoptions.

"For example, many of our equipment suppliers have eliminated wired connectivity in favor of wireless," explains Babl. "Among other things, this means some of our industrial vending machines wirelessly communicate supply needs to our parts vendors."

"With our new Wi-Fi," she continues, "our systems can automatically request – and pay for – only what's needed, when we need it, from the vending machines, rather than overstocking on parts as in the past."

In addition, Imperial can eliminate paper on the shop floor by mobilizing workers, adds Babl. "These advances will significantly benefit our production budgets as well as our speed to market," she says.

Mobilizing & Digitizing Sales

On the sales side, Imperial is also replacing paper with mobile and digital self-service options.

"Our sales force is excited about having real-time access to customer records, quoting capabilities and financing options from anywhere," says Babl. "Previously, sales team members only had access at their desktops."

In addition, Imperial can now roll out an e-Commerce platform for products in its commercial division. "Both customers and our staff will connect to the platform wirelessly," Babl says.

OUTDOOR MOBILITY, VOWIFI, OTHER ADVANCES ON TAP

Next up, Imperial will build out its Wi-Fi to include outdoor APs to offer seamless ubiquitous mobility.

"This will enable adopting hand scanners for outdoor inventory control, which will is particularly key to our eCommerce initiative," says Babl.

Modernizing internal communications is also in the works. "On our manufacturing floors, we'll leverage our Wi-Fi to carry two-way radio signals," says Babl. "As it's a noisy environment, radio communications have been a challenge in the past."

"We'll also leverage our Wi-Fi to adopt an IP-based phone system," she adds. "We've a sister company a few miles away and we're excited about having extension dialing between the two businesses."

Strengthening security with Aruba ClearPass

Imperial's new network will also support improvements in physical and logical security. "For building and employee safety, we anticipate deploying Wi-Fi enabled cameras," Babl says.

As new IT applications and platforms roll out, Imperial will also evaluate ClearPass to implement policy-based access for wired, wireless and IIoT devices. "With more sophisticated systems it will be important for us to control and automate device and application access," says Babl.

Overall, Imperial's modernized infrastructure is helping the manufacture extend its market leadership.

"Our Aruba Gigabit Wi-Fi is laying the groundwork for everything we want to accomplish moving forward," Babl says. "People are excited about the opportunities for our company and being able to do things that were impossible before."

aruba

a Hewlett Packard
Enterprise company

3333 SCOTT BLVD | SANTA CLARA, CA 95054
1.844.473.2782 | T: 1.408.227.4500 | FAX: 1.408.227.4550 | INFO@ARUBANETWORKS.COM

www.arubanetworks.com

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