

## ShowCase

# Leading Tools Manufacturer Transforms Operations with IoT

### Products

- Cisco 2911 Integrated Services Router
- Cisco Catalyst® 3750 Series Switches
- Cisco Unified Wireless
- Cisco Aironet® 1200 Series Access Points
- AeroScout MobileView Software
- AeroScout Wi-Fi Active RFID Tags

### Results

- Provided 24 % increase of overall equipment effectiveness (OEE) on the router production line
- Allowed faster decision making because of immediate notifications of any issues
- Reduced labeling DPMO by 16 %
- Realized labor utilization improvements from 80- 92 %
- Provided better labor ergonomics (line layout redesign to reduce excess of motion and repetitive movements) and reduced labor training

### Introduction

Stanley Black & Decker Inc., an S&P 500 company headquartered in New Britain, Connecticut, is a leading global provider of hand tools, power tools and related accessories, mechanical access solutions, electronic security and monitoring systems, and products and services for industrial applications. The company operates one of its largest tool manufacturing plants in Reynosa, Mexico, which serves the North American market. Opened in 2005, the Reynosa plant primarily manufactures dozens of products, such as jigsaws, planers, cordless drills, floodlights, and screwdrivers for the DeWALT brand and lawnmowers for the Black & Decker brand. With 40 multiproduct manufacturing lines and thousands of employees, the plant produces millions of power tools each year.

### Challenges

Managing this scale of production and manufacturing complexity can be a challenge.

Like many large enterprises, Stanley Black & Decker strives to bring together line-of- business decision makers with experts from operational technology (OT) and information technology (IT). In order to integrate technology solutions into business operations, the Stanley Black & Decker team relies on line-of-business, OT, and IT experts to determine which issues are the most pressing, how to approach these fixes and improvements, and what approaches are best suited for root cause remediation. As part of its continuous improvement strategy, Stanley Black & Decker sought to give all the plant managers an equal seat at the table to drive priorities.

After management decided on the appropriate solution investment approach, it had to test the new technology based on a highly networked factory floor. The team selected the Reynosa Mexico manufacturing facility and its router production line, which produces nearly three dozen models of router power tools. The line requires quick changeovers and

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- Increased through put by around 10 %
- Reduced inventory or material holding costs by 10 %
- Empowered employees on the line to notify supervisors of product quality problems
- Provided visibility to the line managers to immediately react to line issues

### Project Details

To find out more about Cisco Manufacturing solutions, go to: [www.cisco.com/go/manufacturing](http://www.cisco.com/go/manufacturing)

To find out more about Cisco Wireless, go to: [www.cisco.com/go/wireless](http://www.cisco.com/go/wireless)

To find out more about the AeroScout and Cisco solution, go to: [www.cisco.com/web/strategy/docs/manufacturing/cisco-aeroscout-pov.pdf](http://www.cisco.com/web/strategy/docs/manufacturing/cisco-aeroscout-pov.pdf)

or

[www.aeroscoutindustrial.com](http://www.aeroscoutindustrial.com)

demands that assets be managed efficiently. Questions on transparency of the schedule and production output, updates on quality, and effect of shift changes were all issues management wanted to improve on this complex line.

Management at the Reynosa plant understood the potential benefits that real-time production metrics provide to operations and looked to integrate technology with its people to realize aggressive cost savings goals.

### Solution

As constant connections become more important, companies are relying on the network of physical objects accessed through the Internet to connect people, places, and things, referred to as the “Internet of Things” (IoT). Stanley Black & Decker’s plant in Reynosa is a textbook example of IoT through its fully connected production lines with Real-Time Location System (RTLS), powered by Cisco’s robust wireless network and AeroScout Industrial’s leading enterprise visibility solutions. The RTLS includes small and easily deployed Wi-Fi RFID tags that attach to virtually any material and provide real-time location and status to assembly workers, shift supervisors, and plant managers.

For nearly a decade, Stanley Black & Decker relied on a Cisco Unified Wireless Network infrastructure to provide a scalable and high-performance networking platform for its Reynosa plant. Having wireless enabled by Cisco throughout the plant meant Reynosa did not have to spend the resources laying the network, but could use those strong connections to better inform its employees and ultimately provide value to its end

customers. During the RTLS implementation, management further took advantage of the networked facility by using Cisco access points to offer mobile access to production line information through plant floor managers’ tablets and smartphones.

Along with AeroScout Industrial, the Reynosa plant deployed visual and executable dashboards to keep production floor managers up to the minute, making sure of a high-quality end product that is produced and delivered on time. For example, because the AeroScout Wi-Fi tag is integrated with the Programmable Logic Controller (PLC) of the



quality scale at the end of the line, good and bad production results are immediately sent when the router box is weighed at final test.

The RTLS tags, which connect throughout five inventory lines, track production as it happens. This means that floor managers are constantly aware of each line's output, whether production needs to speed or slow to meet daily targets, and how quickly employees are completing their respective stages of production. With increased visibility across operations, managers looked to better understand how to remove obstacles preventing the plant from achieving greater efficiency.

## References

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