CASE STUDY

Stepping up productivity

Boot Barn: Scaling up warehouse operations with a Warehouse Control System (WCS)

Snapshot

Company
Boot Barn

Industry
Western and work apparel retail

Number of Employees
225

Warehouse Size
145,000 sq. ft.

Infios Competency
Supply Chain Software

Solution(s)
Warehouse Control System

Complexity

Overcome inadequate storage, insufficient throughput rates and dependency on temporary staff to accommodate seasonal peaks and the company's growth in eCommerce.

Best practice

Implement a WCS to control the automation system and to increase throughput speed per hour and productivity across picking and put-away.

Since its founding in 1978, Boot Barn has become the US's largest retailer of western and work apparel, footwear and accessories, with over 200 stores and three eCommerce websites. It currently offers more than 8,000 styles of boots, jeans, shirts, hats, belts, jewelry and more, from a range of leading brands.

Responding to demand
Boot Barn has major distribution centers in California and Kansas. In 2017, Boot Barn made the decision to expand its Kansas facility by 45,000 square feet—approximately a 50% increase in square footage—to support its expanding eCommerce business. With the expansion, Boot Barn also wanted to double storage capacity, increase throughput speed per hour and reduce labor shortages during peak seasons.

50%
picking productivity improvement vs previous operation

25%
increase in throughput speed

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All under one roof
It was clear that an intelligent Warehouse Control System (WCS) would be required to operate the automation system more efficiently. Having already successfully adopted Infios's WMS, Boot Barn was keen to use Infios's WCS at its Kansas warehouse. Choosing the same vendor would allow them to control all their MHE with the WCS, integrate it with the WMS and optimize workflows, maximizing the benefits of the systems as a whole. It also meant there would be just one point of contact for system integration, implementation and ongoing support.

Boot Barn also wanted to support a goods-to-person process in the expanded warehouse – one that could accommodate its existing conveyor and carousel setup. After evaluating several options, Boot Barn selected a conveyor layout with a three-level mezzanine structure, including a total of 12 intelligent diverts driving 48 pick zones.

Centralizing control
Infios's WCS was implemented by E2 Solutions in two months. The system is able to direct an empty transport crate to an order zone, where a worker scans the tote and the order, coupling the two. It then sends the tote to the next stage of processing, to a packing station, to another zone for a subsequent pick, or to a consolidation zone. The system always knows if a given tote is empty and available for the next order or if there is already an order assigned to it. Moreover, it knows when the desired threshold, 10 tote objective is reached at each of the 48 zones, allowing it to optimize throughput while leaving space for put-away activities.

Managing and leveling occurs automatically within the WCS; however, the system can be viewed and adjusted manually via a dashboard. The dashboard provides a central point for monitoring and controlling the facility's entire material handling system, showing the number and status of full and empty crates throughout the conveyor system. Operators can use it to confirm enough empty crates are available, or to drill down to the origin and destination of individual crates. This is key to identifying congestion points and re-routing crates if necessary.

> "The project has been a success so far and we are definitely tracking on our ROI calculations. We are very happy with the solution we have in place right now."
>
> **Doug Smith**
> Vice President of Supply Chain, Boot Barn

Boot Barn realized a number of key benefits from adding the WCS:

- Improved control of the whole MHE system
- End-to-end visibility of the entire material flow
- Increased throughput and units picked per hour
- Increased productivity by interleaving product picking and put-away tasks
- Reduced need for hiring seasonal staff and increased opportunities for staff reallocation in-house

Infios was able to achieve these results with almost zero impact on the business during implementation. Once implemented, the WCS has successfully performed day after day, and is set to give Boot Barn a good return on their investment.

Next steps
With Infios's WCS, Boot Barn has a single point of control for its entire MHE system, helping the business increase throughput and productivity, while reducing downtime and staffing costs. Following its success, Boot Barn intends to partner with Infios again, to migrate its legacy control system to the WCS with the promise of further expanding efficiencies.

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