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## Carl Zeiss brings Lean to its distribution centers

By William Atkinson -- Purchasing, 4/9/2009 2:00:00 AM

When companies implement Lean concepts in their warehouses and distribution centers (DCs), most of the efforts tend to focus on processes internal to the warehouse. However, to get even broader benefits in the supply, the Lean processes should also be extended beyond the four walls of the building and out to supply chain partners.

Until about three years ago, San Diego-based Carl Zeiss Vision had two DCs—one in San Diego, and the other in Hebron, Kentucky. The latter has been open for about 10 years. Three years ago, the manufacturer and distributor of lenses and other eye care products made the decision to close the San Diego DC and have everything in the U.S. go through its Kentucky DC. Eighteen months after that, the company made the decision to implement Lean in the Hebron facility as a way to maximize efficiency, reduce costs, and, ultimately, improve customer service.

The first step was an analysis phase, in which Florence, Ky.-based LeanCor was brought in to conduct a system audit and identify areas for improvement. LeanCor is a consulting and logistics firm that provides Lean training, consulting and actual 3PL operations to customers. "We conducted an analysis of the Hebron facility to identify opportunities," states Robert Martichenko, CEO of LeanCor. "After Karl Zeiss reviewed our findings, they made the decision to let us work with them to implement some Lean projects to capitalize on the opportunities."

While the audit uncovered a number of opportunities, three were of special interest: layout, employee work time and supplier shipments. "One of the first things we did was review the layout and how products flowed through the facility," reports Martichenko. "When we changed some of the layout features, the DC gained some real efficiency."

The primary focus of the layout was on smooth and consistent flow. For example, with the "ABC" product classification that focuses on volume, the idea is to slot the highest volume products closest to the point of access (where they will be picked by employees). However, according to Martichenko, consistency and flow are also important. This may mean slotting a high-volume product, but one where the volume lacks predictability and has some picking spikes, further away than a product that may have less volume, but has more consistent volume.

LeanCor also worked with Zeiss on order analysis. Specifically, identifying the products that tended to be picked most often with each other on an order. For example, if a standard order usually consists of five items, and four of those items are located close to each other, but the fifth is located in a different area further away, that fifth item might be relocated closer to the other four, allowing the picker to select all five items more quickly.

A second project related to finding other ways to cut time from processes by cutting steps from those processes. Here, LeanCor and Karl Zeiss utilized value stream mapping to identify the steps that add value to the process, especially in terms of providing value to the customer, and those that do not. For example, if a worker spends x number of minutes waiting to start working on an order and another x number of minutes to actually pick the order, value stream mapping can identify that and help the DC to create new processes to reduce or eliminate the amount of time workers had to wait to begin picking orders.

The third project focused on "quality at source" efforts. "When we received materials into the DC before we started the Lean process, a lot of the shipments would be in different configurations and packages," says Sue Armstrong, vice president of global supply chain for Karl Zeiss Vision. This led to a lot of inconsistency and inefficiencies such as increased time, increased costs, increased inventory levels and reduced customer service levels. For example, some suppliers put multiple SKUs into the same box, requiring the DC to receive the same product twice, once for the original receipt, and subsequently to repackage the products before they could be put away. All of this led to excessive manual time to handle and reconfigure all of the packages as they came in, before they could be put away into the DC, ready for picking.

To address this, the DC went out to some of its third-party vendors, as well as some of its own affiliates around the world, and created partnership agreements which outlined exactly how the DC needed incoming pallets, boxes and labels to be configured. "Now, when material comes into the DC, it can be quickly scanned and put away," Armstrong says. "This not only reduced labor, but, since we were able to get the inventory onto the shelves quicker, we were also able to reduce buffer inventory levels." In terms of products coming in from China, for example, the DC was able to reduce put-away time for a total delivery by over 90% from 12 days to one day.

Since launching Lean at the Hebron facility in mid-2007, the Karl Zeiss Vision DC has realized about \$2.5 million in total cost reductions. The labor savings were about 28%. "This has been the result of reduced headcount and reduced overtime," explains Armstrong. "In fact, we have been able to almost completely eliminate overtime. Before, it was about 8%. Now, it is under 1%."

There was another less tangible, but equally important, benefit related to employee morale, which was ratcheted up as a result of the opportunity for employees to get more involved. "We created about 12 different projects around Lean implementation, and we had every single person on the floor involved in at least one of those projects," explains Armstrong. "As a result, they felt a sense of accomplishment."

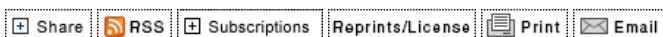
Martichenko sees another more long-term benefit. "Karl Zeiss's involvement in Lean wasn't just a one-time effort," he emphasizes. "They have embraced Lean and continue to work on opportunities. They have actually been able to create a continuous improvement culture, which is really the essence of Lean."

Armstrong affirms this observation by discussing current and future Lean projects. In late 2008, for example, the DC created a large visual board that everyone in the DC can see. Every picking ticket is allocated to a person at the start of the shift, and all of these are posted on the board. "During the day, everyone can monitor how well each person is progressing against the expected pick rate of the job," Armstrong says.

And in the future, the company plans to use Lean concepts to work more closely with customers. "We are starting to look for ways to improve our freight and delivery arrangements from the DC to customers," she adds. The focus will be on improving service to customers, as well as reducing cost for customers and Karl Zeiss at the same time.

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When you decided to move toward Lean did you have to make any changes to your current batch size to try to move more toward continuous flow?  
Robert Minor - 2/16/2010 11:19:16 PM EST

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