

## Zeiss Optical Clearly Sees Big Benefits from Making Distribution Lean

### Lean Tools and Thinking Key to 19% Labor Cost Reduction; Rethinking Slotting Drivers

#### SCDigest Editorial Staff

The tools and approach of Lean have proven themselves in thousands of manufacturing sites.

Increasingly, companies are taking Lean principles to the broader supply chain and other functional processes outside of manufacturing. That includes distribution center operations, where there have been some concerns as to how well adopting a Lean approach really works. Certainly, there have been relatively few success stories in distribution compared with manufacturing and even broader supply chain processes.

Zeiss Optical is one company that has found Lean distribution success. As detailed during a recent presentation at the CSCMP 2008 conference in Denver by **Sue Armstrong**, Vice President of Supply Chain at Zeiss, and **Robert Martichenko**, president of consulting firm LeanCor, Zeiss made major improvements in its Hebron, KY DC through an aggressive Lean improvement program.

Zeiss Optical is a more than \$2 billion division of Germany's Carl Zeiss AG. The company makes and distributes lenses, equipment, and other eye care products. It recently moved into a new distribution center in Hebron that also took on the business from a shuttered DC in San Diego to become the sole distribution facility for the company in the US, handling 40,000 SKUs with the help of more than 100 operators.

While the DC was by some measures functioning well, management believed there was a significant opportunity for improvement, and that Lean might be part of the answer.

The first step was to use a variety of Lean tools to

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do a system audit and to identify areas for improvement. The audit showed the DC was weak in a number of areas, and that customer satisfaction was often "being achieved by brute force," rather than quality processes.

Several steps were critical to the improvement process. One was the use of value stream mapping, a core component of the Lean tool kit, rather than the traditional "process mapping" that most distribution center improvement projects employ.

Value stream mapping focuses very much on identifying, as the name suggests, those steps (and related time buckets) that add true customer value and those that do not.

Value stream mapping, for example, might identify that on average, order pickers spend 24 minutes of value added time processing an order, but that they also wait an average 10 minutes for assignments, replenishments, etc. That makes an average picking cycle time of 34 minutes (24 value added minutes plus 10 minutes of wait time) – and identifies clear opportunities for improvement by reducing or eliminating non-value added wait time.

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In Zeiss' case, value stream mapping showed extreme variation in certain processes. For example, receiving process time varied from a minimum of 30 minutes to as long as 42 days.

### **Setting Clear Goals**

After an analysis phase that showed problems/opportunities in a number of areas, the Zeiss team used the common Lean strategy of setting "breakthrough goals" across a number of areas, then using value stream mapping and other Lean techniques to identify how to get there.

Receiving was quickly identified as a major area for improvement, with wild variations in the time it took to process inbound receipts, especially on the increasing volume of product sourced from Asia.

The team used Lean tools to identify a variety of process improvement opportunities, but quickly zeroed in on the extreme variation in how products were shipped into the DC as the biggest source of the problems. Packaging sizes and configurations, for example, were mostly up to the vendor to decide. Many put multiple SKUs into the same box, in effect making Zeiss receive the product twice, once for the original receipt and then to repackage the product for putaway into the DC.

The opportunity for improvement could not only reduce receiving costs and cycle times, but also ultimately reduce inventory levels, as the DC had to hold buffer inventory to account for the long delays from shipment receipt to putaway.

Zeiss ultimately issued and enforced new packaging standards on its internal and external suppliers. Along with related process improvements, it reduced the time it took to receive product from China, as an example, from an average of 12-15 days to now just 1-2 days.



### **Rethinking the Layout**

Lean thinking was also employed to rethink the DC layout. Lean principles really emphasize smooth and consistent flow in a DC, Martichenko said, and in some ways uses strategies that are different than normal DC thinking.

For example, in doing a traditional ABC product classification for slotting, Martichenko said he "is interested in volume, but even more interested in consistency and flow."

That might mean a product with high but unpredictable or spiky volumes might not be slotted in the front, while another medium mover with very consistent volumes is. It also means doing a detailed analyses of what products really get ordered together; if an order picker usually picks 10 of a fast mover but then has to walk all the way to the back to get just one of another SKU that generally is ordered with the fast mover, the slotting plan hasn't helped much.

"Averages don't mean anything," Martichenko said.

In addition to that type of slotting analysis, LeanCor employed some basic simulation on potential layout options to analyze what the impacts would be on travel time and flow.

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### **Substantial Operating Improvement**

As a result of the Lean DC strategy, Zeiss Optical has made substantial improvements in operating performance.

In addition to the improvements in receiving operations, Armstrong said Zeiss has achieved many other benefits:

- Significant improvement in transaction per

hour per employee

- 19% reduction in labor costs
- \$2.5 million in total cost reductions
- 63% reduction in overtime

All achieved with increasing volumes moving through the DC.

"To walk through the DC and see no more pallets sitting around waiting for something to be done with them is a great testament to the Lean process," Armstrong said.