



CASE STUDY

Knoll Inc.

Consolidating outbound shipments yields high marks

Knoll Incorporated is a global leader in office furnishings, design and manufacturing. The company wanted to consolidate the outbound shipments of several North American manufacturing plants into one network. This consolidation would allow customers to receive entire orders simultaneously and reduce overall transportation costs. Penske's solution to develop consolidation warehouses and a unique load plan layout resulted in a 10 percent reduction in transportation and warehousing costs and a 45 percent increase in their overall customer satisfaction rating.

Challenges

- To consolidate outbound shipments of Knoll's four North American manufacturing plants into a single distribution network
- To maximize Knoll's existing infrastructure during an economic downturn with little or no interruption in business
- To increase on-time delivery rates, order accuracy and shipping efficiency to Knoll's customers

Solutions

- Penske established centrally located mixing centers, resulting in a 10 percent reduction in transportation and warehousing costs.
- Penske and Knoll devised and met an aggressive 60-day transition strategy for two existing cross-docking and manufacturing facilities. During this time, Penske moved more than 10,000 products enabling Knoll to maintain productivity levels.
- Penske deployed its unique "footprint" loading approach to expedite loading and increase product visibility. Knoll realized a 45 percent increase in customer satisfaction.

Getting Started

With an expansive network of more than 400 dealerships and showrooms in North America, Europe, Asia and Latin America, Knoll has worked diligently to ensure every customer receives each order efficiently, on time and accurately. To accomplish this, Knoll employed Penske Logistics to consolidate outbound

shipments of its four North American manufacturing plants into a single distribution network.

Previously, customer shipments were unconsolidated. As each of Knoll's manufacturing plants are responsible for different product lines, the company had to make multiple shipments to each customer to fulfill a single order. This distribution approach created a costly gap of inefficiency within Knoll's operations.

Look Before You Leap: Taking Stock of Knoll's Current Distribution Operations

Knoll knew a major shift in its transportation and distribution strategy would be no small task. They needed a third party logistics provider who was willing to acquire a deep understanding of the company's current distribution operations and infrastructure and could provide flexible, cost efficient solutions.

"We could not risk the cost and customer implications of a blind change in our logistics strategy. Penske Logistics' willingness to understand every nut and bolt of our distribution processes was crucial to a successful change in our operations."

Rich Cirulli, Vice President of Logistics, Knoll Inc.

Once selected, Penske Logistics met these initial requirements and hit the ground running. The first step was to conduct an in-depth analysis of Knoll's current operations. For nearly 14 months, Penske closely monitored product volume, transportation rates, delivery points and freight combinations. During this time, the unstable economy allowed Penske to acquire data representing the entire spectrum of productivity, while enabling Penske to theorize logistics strategies in a variety of economic conditions.

Penske's next step was to help Knoll develop benchmarks to allow for the measurement. Using a combination of Knoll and Penske financial specialists, the team analyzed previous financial statements to determine areas of high costs. Two key areas for



cost improvement quickly surfaced - transportation and labor. These areas would be closely measured throughout the change in Knoll's transportation and distribution strategy.

Maximizing Knoll's Existing Infrastructure

With a solid understanding of current operations and an established set of benchmarks, Penske determined that the most cost-effective strategy for consolidating Knoll's customer shipments was a two-pronged solution involving Penske's experienced Distribution Center and Transportation Management teams:

- Establish two centrally located mixing centers to consolidate products from Knoll's four manufacturing plants
- Re-engineer warehouse infrastructure and load planning processes

Initially, Penske recommended establishing two new mixing centers in Holland, Mich., and Allentown, Pa. As planning progressed, productivity at Knoll's manufacturing plant in East Greenville, Pa., reached an all-time low. This provided a unique opportunity for Penske. Rather than have Knoll spend an estimated \$1 million leasing a new facility in Allentown, Penske could convert the existing facility in East Greenville from an under-utilized warehouse to one of the proposed mixing centers.

During the East Greenville plant conversion, Penske faced several challenges. The layout of the facility consisted of three separate buildings and was not optimized for the functions of a distribution center. Penske re-engineered each of the buildings to the optimal footprint, bulk and buffer layout to maximize efficiency and track inventory location.

Penske devised an aggressive 60-day strategy to move out Knoll's manufacturing operations and move in Penske's mixing center operations. The transition was divided into thirds – as Knoll moved out of one-third of the facility, Penske moved in and immediately began racking and installing sprinklers in each of the buildings. On Day 61, Penske proved they had successfully met their aggressive schedule. During the 60-day transition schedule, Penske operators had shipped approximately 10,000 units to customers, enabling Knoll to maintain productivity levels and minimize the impact of the transition.

The second mixing center in Holland also presented a challenging conversion process. The existing facility had been laid out to suit a cross-docking approach. Penske was required to convert the facility and its operational processes to meet the storage and labor demands of a mixing center. At 165,000 square feet, this mixing center would not only be required to handle its half of Knoll's outbound storage and distribution, but also needed to temporarily alleviate a significant portion of East Greenville's distribution load. Furthermore, Knoll had recently

shortened its production time from two weeks to one week. Products now had to be moved within three days of inbound receipt.

The pending demands on the Holland mixing center and Knoll's shortened production time prompted Penske to create a unique warehouse layout strategy. Knoll needed a warehouse layout that allowed for easy racking and storage of products, while enabling quick movement of the product for outbound shipment.

Penske dismissed conventional loading strategies and developed a footprint approach. Load plans, which determine how products are loaded into a trailer for customer delivery, are sent to Penske operators two weeks in advance of the scheduled outbound shipment date. The plan is uploaded into Penske's logistics software to determine how products should be racked and sequenced for expedited loading. This footprint is then set up to mirror the trailer load. Incoming components are consolidated and stored to match the footprint until outbound shipment.

Penske's unprecedented footprint approach worked. New loading procedures required by this approach were implemented at the two mixing centers. Penske and Knoll employees were cross-trained to follow the new racking, storage and loading procedures. In addition, Penske established stricter scanning requirements, enabling Knoll to improve inventory and order accountability.

Reduced Costs, Increased Productivity, Improved Customer Service

In less than 18 months, Penske and Knoll reached their goal with little interruption to Knoll's overall business operations. Knoll customers now received orders in a single shipment. All products from Knoll's manufacturing plants were routed to a specified mixing center. As a result, Knoll reduced its overall distribution costs, including a 10 percent reduction in transportation and warehousing costs.

Penske's unique footprint method also enabled Knoll to improve order accuracy and expedite outbound shipping. Because each product received during an inbound shipment is planned for in the footprint, Penske can easily identify missing items and quickly load trailers. By streamlining its product flow, Knoll realized a 45 percent increase in its customer satisfaction rating for shipping and transportation.

In addition to reduced costs and increased customer satisfaction, Penske provided Knoll with several more indirect benefits. Centralizing shipments increased order visibility, providing Knoll with information that was not captured or unavailable in the past. Through Penske's Open Order Report system, Knoll can measure the impact of production delays on shipping operations and customer service while tracking open order issues. This



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information is used to identify and correct problems during the order-to-fulfillment process, as well as keep customers informed on order status. By allowing Penske to manage open order issues, Knoll's sales force spends less time resolving problems and more time selling.

Penske's success at the East Greenville and Holland mixing centers paved the way for future collaboration with Knoll. In addition to being Knoll's logistics operator, Penske provided Knoll with LTL, inventory clearing and field support services. With an increased understanding of Knoll's operations, Penske continues to improve logistics operations and, ultimately, customer satisfaction for their customers throughout North America. Recently, another mixing center was added in Toronto, Canada.

"Knoll's ability to ship customers a complete and accurate order provides us more than cost savings - it provides us a competitive advantage in the marketplace. Our customers are more satisfied and our operations, from the warehouse and beyond, are more efficient."

Rich Cirulli, Vice President of Logistics, Knoll Inc.

For more information on Penske Logistics solutions, visit GoPenske.com.