



Wet Seal's slick

With a bit of creativity, a lot of planning, and the latest in automated sortation technology, the retailer's impressive DC retrofit increased merchandise processing speed to its stores, improved accuracy to 99.5 percent, and significantly reduced transportation costs.



Charlie Torok, Wet Seal's vice president of logistics, in the retailer's distribution center in Foothill Ranch, Calif.

If you have a teenage daughter, you've probably heard of Wet Seal. With a customer base consisting of fashion-conscious 13-year-old to 19-year-old young women, this leading specialty retailer banks on its ability to offer the latest trends in fashion apparel and accessories at affordable prices—and the strategy is paying off.

Since its founding in 1962, Wet Seal Inc. has grown considerably. It now operates over 550 stores, including 473 Wet Seal stores and 86 Arden B stores in 47 states and Puerto Rico. While Wet Seal stores target the younger teen set, its Arden B chain provides contemporary fashion separates and accessories for women aged 25 years to 35 years. The company also offers its merchandise over the Internet in what has become a \$30-million-per-year business.

At the logistics core of the retailer's business is a 265,000-square-foot distribution center (DC) located in Foothill Ranch, Calif. In early 2010, this 10-year-old DC underwent a major transformation. An impending switch from pre-packs to unit distribution coupled with strong retail and e-commerce growth had been putting pressure on the distribution team to re-think its rather manual—and inaccurate—fulfillment system.

With a bit of creativity, a lot of planning, and the latest in automated sortation technology, it doubled its sortation capacity from 400 to 800 stores. Merchandise, which used to take 4 days to 5 days to process is now in and out of the DC in about 24 hours—all of this without adding a single square inch of space.

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transformation

How did this retailer pull it off? It installed three high-speed automated unit sortation systems to support store and e-commerce fulfillment in its existing 65,000 square-foot, 17-foot clear mezzanine. This new configuration allows for significant space savings as the induction stations for the unit sorters are “stacked” on top of one another, minimizing space requirements.

And for Charlie Torok, Wet Seal’s vice president of logistics, the value of this particular DC retrofit has been incalculable. “It allowed us to remain in Southern California, which is a strategic area for our inbound product that enters Long Beach from overseas,” says Torok. “With pre-clearance and the local port being in close proximity, we can receive and turn product to ship to our stores very quickly, while consolidating smaller items with larger shipments to leverage freight costs.”

This DC retrofit has not only increased merchandise processing speed to its stores, but it has also significantly reduced operating and transportation costs. Here’s how Wet Seal made it all happen.

Inaccurate and slow

Before 2010, Wet Seal’s store fulfillment process was fairly manual, supported by a carousel “put” system. Workers read “pick cards” to manually “put” pre-packs of the required quantity of products from vendor cartons to outbound store cartons placed in carriers attached to the carousel as it gradually moved by—it was slow and inefficient.

Receiving did not fare any better, as all inbound units had to be piece counted to verify receipts. Shipping was expensive because much of the freight had to be shipped to the stores via air to offset the extra two days to three days it took to process and fulfill store orders within the DC. “Our biggest problem was the lack of accuracy,” recalls Torok. “Workers would look at their pick cards and forget whether they picked it or not, so they would double pick it. At the end of the distribution, they’d say they were short when they actually may have double-shipped to a few stores.”

But the last straw was the company’s plan to shift from pre-packs to single-unit distribution in an effort to more closely replenish to actual demand patterns to each store. If done manually, this would have required a significant increase in personnel. Torok and his team knew sweeping changes needed to be made.

Out with the old

In 2007, Wet Seal’s team started discussions with system integrators and vendors to see what options were available to them. Early on, they knew that an automated unit-sortation system would best fit their needs.

These systems are typically made up of individual trays that hold a unit of an item. The trays circulate over a horizontal plane and, depending on the tray mechanism, sort each unit to its proper destination. Most use a “bomb bay” tray mechanism where trays open in the middle—similar to airplane



1. Automatic unit sorter (Sortrak) inclines up to second level inductor. 2. Workers feeding sorter trays at top level induction stations. 3. New technology allows Sortrak to move product horizontally and vertically minimizing space requirements. 4. Garments drop from the sorter tray directly into shipping carton.

bomb bay doors—and drop each piece into outbound shipping cartons designated for a particular store.

In early 2008, after much due diligence, Wet Seal's team decided on the Sortrak, a flexible unit sortation system offered by the SDI Group USA, a California-based systems integrator. "We chose SDI because they had a split tray system," says Torok. "It basically doubles the capacity of the bomb bay drop." A unit placed on the front part of the tray can have a different destination from a unit placed on the back part of the tray. As a result, users can put one large item on both trays or two smaller items on a split tray, and it would drop with the same accuracy.

The Sortrak also had some unique properties that worked to Wet Seal's advantage, especially with the limited available space. "The typical bomb bay sorter can only go on one plane," explains Mary Adams, SDI's CEO and this project's lead manager. "With this sorter, we are able to stack them and intertwine them and get more store sort destinations within a smaller footprint."

By the fall of 2009, final plans were in place and both Wet Seal and SDI were ready to move. Mechanical installation

began in early 2010. The existing carousel system continued to operate, while the first two sorters were being installed adjacent to it. They then gradually moved one product category at a time to the new sorters before the old carousel system was completely removed to make room for yet another sorter.

Simultaneous to the mechanical install was the integration between Wet Seal's order management system and the new sortation system. IT and operations personnel went offsite for about a week and trained and tested the new system, passing real files back and forth.

Because it had to install the sorters in phases, in limited space, on a mezzanine, and with no disruptions to existing operations, SDI's Adams says the installation took about 7 months. "If it were a greenfield building we probably could have had it done in three months."

By July 2010, all three sorters were operational. "SDI was a great partner, and the system is now exceeding our expectations," says Torok.

System in action

The majority of the product is received in standard vendor cartons on pallets. The pallets are vertically transported

via lift truck to a pallet staging area on the mezzanine. Workers then take the cartons off the pallet onto processing lines to see if any value-added service will be required.

Cartons are then transported to one of three sorters. Each carton that comes to the sorter is SKU specific—the same SKU is in that box. At each sorter, the units can be inducted in any one of six stations. At induction, a worker scans the first SKU, opening up a demand file. The worker puts one (or two units) on each tray as it goes by until the carton is empty.

The system detects that a unit is on a tray, counts it, and transports it to the appropriate store destination where it drops the piece to a waiting outbound store carton. Once a store carton is full it's pushed to a center conveyor and travels to taper and print-and-apply stations before being conveyed and sorted to shipping lanes at the dock.

Reaping benefits of a retrofit

With the implementation of the new system, Torok says that the benefits keep rolling in. The DC has been able to streamline both its receiving and shipping functions, while piece-count-



ing inbound merchandise has been eliminated as the system automatically counts each piece as it is inducted into the sorter.

As a result, receiving went from a two-shift to a one-shift operation. The shipping shift has also been reduced from a 16-hour to a 12-hour total shift, and labor in each of these areas has been reduced by 25 percent.

In the old system, it used to take 4 days to 5 days for product to ship out from when it hits the DC. As a result, they needed to use expensive three-day air service to get merchandise to stores on time. But because most of the orders are now turned in less than 24 hours, all outbound cartons can now be shipped UPS ground at half the cost, with the exception of California and Arizona, where regional carriers are able to provide next day service at a very low cost.

The new system is also able to track the contents in each shipping carton down to the SKU level. In the meantime, accuracy has improved from about 92 percent to over 99.5 percent. “We estimated an ROI of about 3.5 years. It’s turning into an ROI of 2.5 years,” says Torok.

Both Torok and Adams agree that

Retrofitting advice



Mary Adams, CEO of integrator SDI Group USA, on the pros and cons of retrofitting—or implementing a new system in an existing facility—versus opening a brand new facility:

“In a perfect world every project would be a greenfield project where you have the luxury of designing everything from the ground up to suit a company’s growth and service needs. The reality for many established companies is very different. Scenarios vary, but in general, a move to a

new facility requires significant capital expenditure and sometimes the loss of a mature workforce. Renovations to existing operations, depending upon the current configuration and available space, can sometimes be painful but are generally worth the effort.”

On current retrofit trends and the economy:

“A number of companies were looking to maximize their current infrastructure, but because of the economy, many held back for a long time. Now more companies are getting back in to optimize their system within their existing facility.”

the secret to the project’s success was planning. “Planning and having redundancy is very important when adding any new technology and process,” says Torok. “We were able to continue fulfillment with our old systems right up to the day we turned on the new sortation system.”

“Plan, then plan again,” emphasizes Adams. “Throughout the whole retrofit design process you want to anticipate where the fail points could be and plan for them.”

—Maida Napolitano is a Contributing Editor to Logistics Management