



by Richard Rix

More than

Warehouse system
delivers e-fulfillment
benefits

E N O U G H

When you're in the business of contract logistics, mistakes aren't an option. You've customers on both sides of you the inbound and outbound side. Not only must you do everything right, you have to hit the ground running each time you launch something new, especially if you serve a fast-paced, competitive sector like food and consumer products.

Schenker Canada is a company whose business is contract logistics, including the warehousing and distribution of goods on behalf of some of Canada's foremost manufacturers of food, home- and personal-care products. It performs the service at a mammoth 45,000 square-meter distribution centre (DC) in Mississauga, ON, just outside Toronto.



In the arrangement, there's more than just the physical process of logistics involved. It includes all aspects of e-commerce, including EDI (electronic data interchange), ECR (efficient consumer response) programs and VMI (vendor-managed inventory) support services.

Two years ago, Schenker went looking for a warehouse management system (WMS) that would supervise all the complex physical activities at the DC, while having the capability to support a customer-oriented and integrated view of the supply chain.

Schenker evaluated available solutions very carefully, as it needed a package that would deliver “real-time” information with absolute accuracy, yet be flexible enough for customization according to its own unique needs.

“There are many warehouse management systems out there and not all of them work as well as they claim,” says Eric Dewey, Schenker’s vice-president of logistics. “After looking at many e-fulfillment products, we selected the TECSYS system.

“In part, we did this as we were able to tour a number of *Fortune 1000* companies where it’s being used successfully. The benefits that we’ve been able to derive from the system have helped give us a definite competitive advantage in the marketplace.”

How successful has the TECSYS system application been? Well, before we move on to specific details, it’s worth noting that the system, whose commercial name is TECSYS WMS, hasn’t only been adopted by Schenker, it’s been renamed by the company as Solinet II. As well, Schenker is rolling it out as a Canada-wide, core-product offering.

At the 10 metre-high DC, storage is divided among: packaged food items; household-care products (laundry products and cleaning aids); and personal-care products (shampoos and health-and-beauty aids).

Some 75 percent of the food and personal-care products are held in rack storage, with the remainder stored in bulk. This is done to allow for better order selectivity and because of the products’ stacking limitations. There are a total of 12,000 rack locations, with storage reaching five levels high.

Household-care products stack better, so they’re 80 percent bulk-stacked. There are two main storage areas: prime (which is the live area for picking) and back-up (which is for reserve storage).

Order-picking is a combined carton-pick/pallet-pick operation, with household products being picked in a ratio of approximately 25 to 75 percent by volume, respectively, and both personal-care and food products at 75 to 25 percent.

The TECSYS system directs the putaway operation and communicates it through Norand portable RF (radio frequency) terminals. The lift truck operator confirms the putaway by scanning a licence plate that’s pre-printed and affixed to the pallet load, as well as the storage location.

This means the bar-code reader must be able to scan eight or nine metres up in the pallet racks, using special long-range scanners. The system directs order pickers to the right locations in the most efficient way, though still in accordance with the demands of a first-in/first-out (FIFO) process.

Generally, two people pick a food order, with three or four people picking orders in the other two categories. As well, the system determines at which dock to stage the order prior to loading. “Our previous system was totally paper-based,” says Dave Walbourne, Schenker supervisor. “From point-of-entry to when the product left, it was all manual. As well, we had an outdated stock location system.

“Basically, lift truck drivers would decide what was put away where and then manually record the transaction. All inventory control and checking was done manually, too.”

Busy DC

With a throughput that exceeds one million cases per month, it’s easy to see how inventory accuracy wasn’t always as sharp as it ought to have been. Walbourne, whose primary responsibility is for food products, says that accuracy is now always consistent.

A good example, is last year's physical inventory count, which came in at 99.96 percent accurate. As well, the count was done by 18 people in a half-day. Previously, 30 people over a weekend were required.

The system is an 'off-the-shelf' program, which avoids the expense of custom-designed software. Even so, Walbourne says it has demonstrated "extreme flexibility" in the way both Schenker and TECSYS have been able to customize.

This applies to the DC'S specialized requirements, such as the stock replenishment system, which is driven by FI/FO date codes and Schenker's ECR programs. Once barcode locator requirements are satisfied, the system immediately takes over the tracking of products and direction of the total order-fulfillment process.

If Schenker ever needs to change stock location, for example, by allocating different levels of space to different products within the facility, Walbourne says he has only to get on the phone. New algorithms can be downloaded electronically by TECSYS.

With the TECSYS system, no manufacturing-level changes are needed. It accommodates all existing labelling and packaging and calls for just two extra labels: the one that's applied as a licence plate when a pallet load arrives at the dock and serves as the load's identifier throughout its stay, and a shipping label.

"You forget how much manual work used to go into a facility such as ours," says 'Walbourne. "It all came back to us writing 12-digit codes, as part of our preventive measures against the Y2K threat last year. I remember seeing one of our frustrated guys on the dock shaking his hand with writer's cramp."

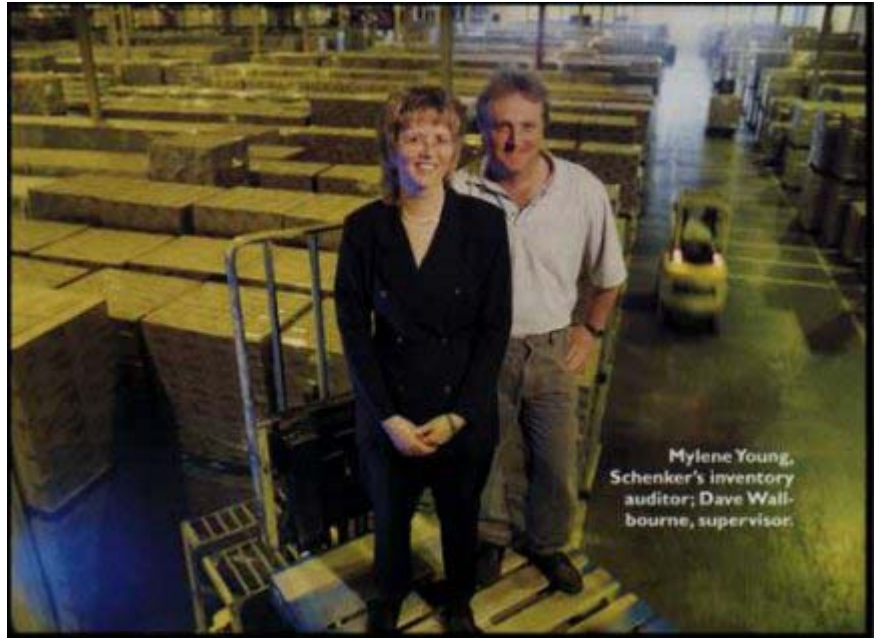
Prior to the system going in, the DC underwent a major \$3 million renovation that initially involved pressure cleaning of the ceilings, re-sealing of the floors, and replacing the entire warehouse lighting system. Secondly, extensive racking systems were supplied and installed by Pacific-Westel.

All propane materials handling equipment was replaced by electric. Today, the lift truck fleet comprises mainly Hyster counter-balance and reach trucks, with some Raymond reach vehicles.

"What I like with the system is that everything is instantaneous—it's all done in a split second," says Walbourne. "It's made us more efficient, and where the food side of the operation used to have 30 to 40 warehouse employees, that figure is now down to approximately 20.

"Another excellent feature about the system is the way it handles uneven workload distribution. On a Monday, 15 trailer loads might leave, compared with 80 or more on a Friday. None of this is a problem for the TECSYS system. It generates reports whenever we need them. We don't have to sit down daily and do charts."

The system also permits users to see the status of any order on the screen of their hand-held RF terminal. It provides full visibility of the order status, including what's being picked and packed.



Once the order is complete and shipped, the system communicates the information to the customer by EDI. Here, Schenker benefits through seamless integration between the TECSYS system and SAP's electronic commerce program, thanks to the e-fulfillment nature of the system.

Schenker's clients sat in on many development meetings, with the full opportunity to express any concerns they might have. "They're our driving force, and we don't make any decisions that affect them lightly," says Walbourne.

By keeping account of the cube, weight and space of the order—the system's reach extends beyond the warehouse and into the trailer. Then, once the trailer is loaded and full, it reports on the load's parameters.

There are 40 shipping and receiving docks at the DC, operating on a scheduled basis. Appointment times are allocated to all receipts and shipments. At its busiest, there are up to 75 inbound trailers scheduled daily, matched by a similar volume of outbound transportation activity.

"We never had a standard on cases picked before," says Walbourne. "Now, we can track the number of transactions per minute or per hour, which gives us productivity figures and helps us set standards for productivity levels."

"We used to notice that people would congregate, as they didn't have to account for their time. Now, it's so easy to track who's doing what and where – in real time."

Walbourne notes that the use of scanners and the system actually brings added value to warehouse jobs. He also reports that some of the workers have been innovative in printing off bar codes to streamline the log-in process.

The system has done a remarkable job in zone allocation, ensuring that certain products won't be stored next to certain other products for odour absorption or emission reasons. As well, it prohibits hazardous aerosol products from being in close proximity to certain healthcare products, and won't allow workers to override restrictions.

"We classified products according to such variables as proximity, velocity cube volume, odours, flammability and more," says Dewey.

"With all these algorithms working in real time, we had serious fears about system degradation. However, response time is still so fast."

A proposed algorithm will also allow for co-mingling of products in the transportation cycle, which is based upon their physical characteristics (e.g. soap products) and the length of the journey. "When complete, it will transform into major savings."

"This is a very user-friendly system," says Walbourne. "If you follow what's on the screen, you're always accurate. If you don't—it tells you."



At the Schenker installation and others (above), ASI's WMS helps companies better manage their supply chains.

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