



# Wholesalers move toward intelligent warehouses

For wholesalers, even the most organized warehouse is a source of cost and inefficiencies, ranging from basic overhead and energy costs to paper-based processes that can lead to errors. Fortunately, new IT capabilities are helping to make warehouses intelligent, interconnected and instrumented to enable smarter operations. By integrating business processes with technologies such as voice recognition, RFID and motion-sensitive automation, the warehouse is shedding both costs and inefficiencies. And by putting their warehouses in order, wholesalers are discovering that leaner operations can be greener as well.

The results? From reducing charge-backs to reducing paper, an automated warehouse provides new competitive capabilities and higher customer satisfaction for wholesalers.

## Intelligent supply chain balances inventory levels

"You have to look at the whole picture. The warehouse works hand-in-hand with a lot of back-office functions," explains Luke Heaton, project director at Vormittag Associates, Inc. (VAI), a developer of warehouse management software. "Or it should work with these functions. But the real picture is often more complicated."

"The problem begins in the warehouse by picking the wrong product and shipping the wrong product, but it shows itself really in the form of charge-backs," Heaton says. "That's really the biggest area where we find that customers can increase their efficiencies. The more accurate the orders, the easier it's going to be for the order takers and the people in customer service. They won't have to be taking phone calls, explaining why the order was shipped incorrectly."

Within the warehouse itself, a fully integrated view of data helps optimize warehouse space, which carries its own costs. Products can be grouped together based on data from purchasing trends, helping to reduce space requirements and enabling the design of efficient paths for warehouse handlers. This level of flexibility can mean the difference between getting stuck with hundreds of pallets of yesterday's no-longer-popular toy, or having the latest hot electronic gadget swiftly move through the warehouse and on to satisfied retailers.

One way to quickly and efficiently gain these capabilities is through centralized, Web-based portals that automate and link systems such



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as inventory, customer information and supply chain management. Online ordering, for example, can help eliminate both errors and slow procurement times that often stem from phone orders and out-of-date paper catalogs. Instead, purchasers can view and order inventory quickly, while wholesalers can use this information to more accurately stock the warehouse.

## Interconnected devices cut down on waste

The interconnectivity between portals, warehouse and supply chain helps eliminate error-prone manual processes, saving time, paper and postage. It also supports quick decision making based on up-to-date, reliable information. Real-time line of sight into market conditions and demands helps cut down the need to hold extra, just-in-case products—which are frequently the mark of outmoded warehouse systems that are not synchronized with other supply chain activities.



Today's modern warehouses are already leveraging a host of devices and solutions to eliminate waste, reduce risk and streamline processes. Solutions such as barcode scanning, voice picking and RFID are all being used by midsized wholesalers to take advantage of productivity gains and reduced costs. "The equipment these days is a lot more sophisticated," says VAI's Heaton. "The devices are smaller, they're more lightweight. They're easier to use. They're more durable."

Voice picking systems are a good example of a technology growing in popularity. Part of the reason, Heaton explains, can be found in picking accuracy of up to 99 percent. Inventory handlers wear headsets similar to hands-free cell phone accessories used by motorists. These hands-free devices provide the warehouse worker with a logical sequence of events to locate products. Each bin flat carries a check digit. If the needed item is inside, the worker is prompted to pick the product. After this, the worker confirms the item and quantity by voice.

Voice picking systems also speak to improved efficiency by making work smarter. The deployment of voice picking systems continues to grow as hands-free operation speeds up picking, and systems that support multiple languages help improve productivity because warehouse employees can choose their preferred language.

Additionally, administrative productivity is improved by paperless picking because printing and distributing picking lists or labels are eliminated—as are tasks like keying in picking confirmations, picking amendments and catch weights. Not only are the savings in paper costs significant, but real-time inventory handling is now made possible by minimizing errors from miscoding, mishandling, lost items, partial shipping and returns handling.

Voice picking also helps improve warehouse safety as hands-free operation leads to fewer accidents, and less wastepaper or label-backing sheets results in a cleaner, tidier and safer warehouse.

#### **Instrumentation extends efficiency's reach**

No examination of today's warehouse would be complete without looking at how the proliferation of instrumentation is leading to new efficiencies. Computing capabilities are now built into everything from laptops to cars to appliances, and the warehouse environment is keeping apace of these developments. Take RFID devices, which enable real-time accounting of inventory. Using these solutions optimizes the routes of forklifts, and can be used to trigger the replenishment of picking faces, and even prevent waiting for inventory to become available.

"The RF devices have a much stronger range now, where you can be up to 30 feet away, and still be able to scan bin slots or any barcode that needs to be accessed," Heaton says. And when these scanners are accompanied with additional devices, such as printers that fit onto the belts of inventory handlers, he adds, printing accurate shipping labels becomes much easier to achieve.

#### **Greening the warehouse further cuts expense**

The use of multiple intelligent, interconnected and instrumented technologies does more than enable smarter warehouse operations. It also cuts costs through greener supply chain management. "There's no need to just continually light a warehouse or run a conveyor system," Heaton says. Instead, he points to motion-activated lighting systems that reduce energy costs, along with automated conveyor systems that only operate when inventory is placed on the belt.

"There's just so many different areas where the automated warehouse can benefit the organization," Heaton adds. By getting smarter about the warehouse environment, wholesalers can act with new agility to take on today's market demands. ●

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