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Lightening the load

INNOVATIONS IN MATERIAL HANDLING ARE SAVING RETAILERS TIME AND MONEY.

BY JOHN KAROLEFSKI



Material handling in the warehouse kicks off the journey that products travel to reach supermarket shelves. From beginning to end, the trip can be costly and inefficient. Retailers for years have looked for and tested solutions.

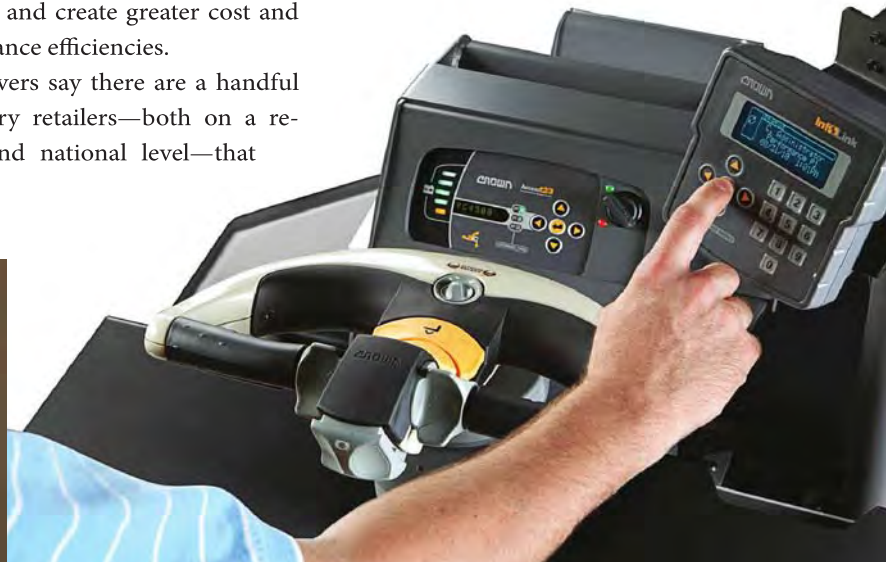
The good news is that the latest innovations mean less heavy lifting is required.

This is especially apparent when looking at automated technology, as well as the mechanical design of moving goods through a distribution center or a cross-dock facility, say industry observers. Some say that there is even a desire within the retail and manufacturing community to remove people from the supply chain equation and create greater cost and performance efficiencies.

Observers say there are a handful of grocery retailers—both on a regional and national level—that

have dedicated resources to identifying areas of innovation and how to move products more effectively. Some of these areas include automating the standard picking process, logic-based conveyers as well as the pick systems. In some industries, these technologies have been in place for some time.

Some say retailers struggle between supply chain cost and store effectiveness. And while pallets are great for shipping from manufactur-





ing to distribution there is not a standardized way to ship from distribution to stores. Many supply chain teams focus on such areas as trailer cube and replenishment rates, while retail stores focus on reducing store labor, “shopability” and sales. Often the two groups work together to find the optimal balance, yet existing infrastructure and metrics remain major hurdles.

Additionally, stores have millions of dollars worth of fixtures in place, and distribution centers have millions of dollars of racking in place. To be truly successful any material handling solution must be viewed as a system, say observers. It is easier to take an iterative approach, but much more difficult to achieve breakthrough results. The capital investment required to optimize a systemic model change is extremely high. They add that to have that discussion, a retailer must be willing to address fundamental strategic questions that will impact organizational performance for years. Therefore, the hurdle to improve material handling practices from warehouse to the supermarket is not taken lightly.

Further along the supply chain—specifically from the warehouse to the truck—there is not much automation, observers say, but there are improvements in other areas within material handling. For example, the design of platforms that can move products, including pallet designs, totes, racks and containers.

Bill Leber, director of business development, North America for Swisslog, with U.S. headquarters in Newport News, Va., says that supermarket retail-

ers are dealing with the effects of increased SKU proliferation. “This growth has increased over the past few years and is now a greater challenge for distribution centers, which are tasked with the challenge of handling smaller amounts of more products,” he says. “Instead of sending a half-pallet of something, they are sending two cases, for example.”

Observers say material handling practices on both ends of the supply chain present challenges for retailers. Forklifts and pallets are often singled out as key areas for study.

“Forklifts are dangerous due to the propensity for human error,” says Leber. “They are also expensive, as each forklift requires one person to man it.” He adds that stacker cranes can replace the use of many forklifts in a large semi-automated or automated distribution center. Pallets are automatically put away and replenished to the pick spaces by stacker cranes.

Maximizing open slots at the top of racks that fill warehouses has been a challenge for retailers seeking to store heavy loads at high heights, says Andy Smith, senior marketing product manager for Crown Equipment Corp., based in New Bremen, Ohio. This is especially true for narrow-aisle warehouses that grocers typically use.

“Retailers stand to gain utilization, flexibility and financial benefits if they can leverage existing open rack space versus building new warehouses or adding onto existing facilities,” he says. “Also, reach-truck operators in grocery ware-

houses have encountered challenges associated with mast sway and twisting when managing heavier loads at high heights. As a result, personnel operating reach trucks are seeking a forklift with visibility features that can reduce strain and fatigue associated with managing loads at that height.”

Nate Franck, director of sales for St. Louis-based CABKA North America, says that plastic nestable pallets continue to be the most cost-effective solution for grocery retailers due to their closed shipping loops. They almost always result in lower cost per case shipments, which allow retailers to be competitive in a very price sensitive industry.

Searching for efficiency

Keeping warehouse operators safe and productive can translate into more efficiency—especially considering the alternative. Observers say one of the largest costs associated with warehouse operations involve the operators themselves.

“Loading and unloading pallets is time consuming, backbreaking work that can lead to excess worker fatigue or even bodily injury,” says Brian McNamara, president of Retail Handling

■ supply chain

Solutions, a division of Falmouth, Maine-based Southworth International Group. “Inexpensive pallet positioners exist that eliminate the bending and reaching normally required to build or breakdown pallet loads. Safety improvements are obvious if these dangerous motions are eliminated, and productivity gains up to 40% are also easily available.”

A focus on automation

Crown Equipment’s Smith says that anything that can be done to simplify workflow and keep operators productive and comfortable helps to improve efficiency. Understanding the relationship between the operator and the forklift helps improve the overall operator experience, as well as warehouse efficiency.

Most of the distribution centers are at conventional manual warehouses. Therefore a significant amount of labor is needed to pick and move cases from supplier to distribution center and distribution center to stores each day. Con-

cess requires organizations to look holistically at the supply chain through a unique lens—one that factors in actions such as reverse logistics and overall product flow. In order for this to happen, companies need better data, better



sequently, automation should be a key focus for grocery retailers in the future.

Leber promotes equipment that incorporates such design features as direct-to-voice interface, mobile label printing, dual auto/manual operation, onboard order displays and rapid drive manual capabilities. Advanced case-picking equipment is designed for better productivity and doubles as a pallet transport vehicle to move pallets from one area of the warehouse to another.

“Too often in the retail environment, companies are focused only on the flow of goods from distribution center to retail store location, and not on the supply chain as a whole,” says Chris Timmer, vice president of retail sales at Orlando, Fla.-based CHEP USA. “Creating a more efficient and cost effective pro-

information and better visibility into the flow of goods by type.”

Grocery retailers vary in their amount of supply chain savvy and expertise, but “most of them do a great job in the material handling process,” says Hiram Nigaglioni, sales manager for Superior Handling Equipment, based in Ormond Beach, Fla. “The ones that can do it while increasing productivity and safety are the most successful.”

For Smith, the ones that do the best job in material handling are companies that can identify and understand their biggest costs—and how to address them. “We’ve seen customers come to us and simply not understand how their fleets are being used in the warehouse,” he says. “Implementing fleet and operator management technology provides warehouse managers with coherent organization of forklift data. Understanding and using that data is really key to optimizing material handling operations and addressing productivity, com-

pliance and maintenance issues that hinder efficiency.”

Meanwhile, observers say there are three areas where today’s leading grocery retailers are clearly standing apart from the rest when it comes to material handling.

Culture of Innovation: Retailers build a culture of innovation and evolution by continuously questioning the next opportunity to drive costs out of the supply chain.

Internal Infrastructures: They build internal infrastructures that can investigate these opportunities for innovation, and are willing to test new platforms, equipment and technologies.

People and Process: They have the right processes and people in place to evaluate these opportunities.

CHEP USA works with a large national grocery retailer that relies on a designated team of individuals constantly looking for innovation, best practices and the ways in which to refine the store experience. “Material handling is typically a byproduct of defining best practices and best process flow. Inherently, if you’re designing best practices in product flow, material han-

dling of that part will logically improve as a result,” says Timmer.

What of the retailers not focused on their extended supply chain from the warehouse to the store floor? What has held them back? It is simply priorities such as sales metrics, energy consumption and environmental compliance programs among other things according to Retail Handling Solutions’ McNamara.

“All of these issues are very important to the store’s success,” he says. “At the same time, labor is a monster expense that should receive equal or higher priority. The prioritization of work processes for efficiency and safety struggles to move to the top of the in-

A significant amount of labor is needed to pick and move cases from supplier to distribution center and distribution center to stores each day.

vestment ladder.”

McNamara adds that some chains are certainly more progressive than others in their efforts to optimize work processes and labor resources. However, very few have focused on the benefits

of ergonomics the way manufacturers have in recent years—despite the fact that there are at least as many benefits handling goods into the warehouse and through store operations.

Another consideration holding retailers back is the magnitude of the problem. “Poor handling practices are rampant,” says McNamara. “Due to the huge structure of these organizations, it is a problem times 100 stores or 500 or 1,000 or more. Most of these stores are already in place with an infrastructure and layout that is not always easy to retrofit. Eating the elephant one bite at a time is not a concept that has been grasped. Rather, it is often considered just too big to start eating. Yet very prof-

itable retrofit opportunities abound on an incremental basis.”

McNamara said these retrofits on the store floor are urgently needed nowadays for several reasons: Economy packages are typically heavier and/or bulkier; economy packaging is typically flimsier and less secure and increasing consumer demand for variety is increasing the number of SKUs.

“On the back end of the supply chain—from the retail store location back to the retail distribution center—there simply has not been the same level of innovation in material handling that has resulted in other areas of the supply chain,” says Timmer. “Traditionally, these areas of the supply chain have been ignored by many and present a great opportunity for the industry moving forward.”

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