

GROCERY HEADQUARTERS

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Creative use of space: material handling equipment providers showcased ways to maximize warehouse efficiency at the recent ProMat show.

By William Epmeier

As many retailers scale back plans to build new warehouses, they are seeking ways to make the most of their existing structures, according to exhibitors at the recent ProMat Convention.

David Dux of Milwaukee-based Pflow, a manufacturer of mechanical lifts for warehouses and store backrooms, says a down economy means that retailers and wholesalers are looking for creative solutions for storing and moving goods, which can be a plus for material handling equipment providers.

"A lot of big [capital] projects are on hold in the industry," Dux says, "which actually helps us because we help people make better use of existing space." For example, some companies are putting up mezzanines as a way to expand storage areas, and then using lifts to move merchandise to and from the mezzanine area.

Dux says Pflow has also enjoyed strong sales as more chains build two-story stores, especially in urban areas where real estate prices make it prohibitively expensive to contain everything on one level. As urban stores build up, Pflow benefits both in the backroom and out on the sales floor. In the backroom the firm's lifts move pallets of merchandise from receiving to the second floor for distribution to shelves.

Out on the sales floor, the company's Cartveyor system moves shopping carts from one floor to another. Shoppers push their carts onto a conveyor that locks onto the carts and then moves the carts in tandem with the shoppers as they ride the escalator.

Containers for transporting goods were also getting a fresh look. CHEP, the manufacturer and provider of wooden pallets, is about to introduce a new design to extend the life of its pallets. The new design uses a composite wood block that is more durable. Another improvement is to clinch, or bend, some nails in the pallet, which will prevent them

from coming loose during the rough handling that pallets typically receive.

While customers may not notice the changes, the redesign will significantly help CHEP by reducing its pallet repair costs. This investment is in line with CHEP's overall drive to "become more efficient in the way we make, ship and place orders," explains Derek Hannun, director of marketing for the Orlando, Fla.-based firm. "In this economy, it's back to basics for most companies. They are not inclined to try new things unless it's proven technology--and that it something CHEP provides."

Automated Palletizing

Disassembly and building pallets have been one of the last warehouse functions that actually require human hands, but several automation companies at ProMat demonstrated systems that dispense with even that.

While automated warehouses have not really caught on within the supermarket industry, Witron, based in Arlington Heights, Ill., has been building highly-automated distribution centers for Kroger, Supervalu and Sobeys, as well as for a number of other American and European retailers.

Software is used to scan every type of merchandise case within the system and determine its case dimensions, markings, weight, type of packaging, its "crushability" and of course contents. When a store order arrives, the system will automatically order the required number of cases of various merchandise from different storage trays. These cases will be delivered to the palletizing area by conveyor. Arms will then push the selected cases into position on the pallet and continue to build layers until the maximum cube is attained. As the pallet is lowered to the shipping floor it is shrink-wrapped and ready for loading onto trucks.

The same case picking system can be used to receive, disassemble and put away inbound pallets.

Brian Sherman, business development manager for Witron,

says the palletizing technology has been in use for several years and is proven, but that this year's show is the first time the company has shown it.

The case picking system from SSI Schaefer, based in Charlotte, N.C., employs a robotic arm to move cases from waiting conveyors to the pallet instead of using a push technology to build or disassemble pallets. Schaefer's Travis Baker, marketing and business development manager, says that the system is targeted at warehouse operations that handle at least 30,000 cases a day. Depending on the operation, an automated warehouse system can reduce costs of handling cases from 40 to 50 cents to 12 to 20 cents, according to Baker. Each palletizing workstation can handle up to 750 cases per hour.

Productivity, ergonomics and safety have been the drivers of new product introductions in the forklift truck categories in recent years. Manufacturers continue to roll out a steady stream of improvements to their forklift product lines.

Yale Materials Handling Corp., based in Greenville, N.C., unveiled its ERC-VG electric rider truck with industrial grade critical components, allowing the lift trucks to operate at maximum uptime and perform at optimal levels. Additionally, company officials say these components allow the lift truck to run smoothly during the toughest applications and during maximum lift capacity. The ERC-VG features intuitive design and comfort and environmentally trustworthy technologies, according to company officials.

Yale has redesigned its arm rest to fit the contours of the operator's arm. At the end of the arm rest are a series of thumb-activated controls that the operator uses, with minimal effort and jarring, to raise and position the hydraulic lift.

Energy efficiency, durability and low maintenance have also been the focus of development efforts. For example, Yale engineers have found a way to use the energy produced by lowering a reach truck fork with a heavy pallet load on it to feed power back into the truck battery.

CLARK Material Handling was promoting its electric forklifts at ProMat, a product that it introduced into the U.S. last year. The 80-volt, alternating-current truck has the power and speed of an internal-combustion engine, but without the pollution and noise, explains Bo Maslanyk, sales director for the Lexington, Ky.-based company. AC electric trucks have steadily been replacing direct-current electric trucks and internal combustion engines in the fork lift category. The newer electric trucks can go much longer without being recharged than DC units.

Another feature of the new GEX line of fork-lifts, Maslanyk explains is that motors are completely enclosed, which prevents debris and moisture from degrading performance.

As a result, the forklifts are suitable for damp environments such as produce and frozen food warehouses.

Increasingly, manufacturers are looking for ways to reuse wasted energy in forklift activities. One area is regenerative brakes, which are designed to capture some of the latent energy in a moving machine. As the forklift is braked, that forward energy is captured and fed back into the battery, helping to prolong battery power.

Alan Marder, director of technical solutions, was heartened by the strong interest in Raymond's newly-introduced fleet optimization system called iWarehouse.

Customers who buy the service from Raymond can track individual truck maintenance and driver performance over the Internet. Hardware devices, which are attached to each truck, report continuously on a wide range of run characteristics.

Besides tracking any maintenance problems that may develop during operation, the service allows warehouse operators to track the run time, travel time, lift time and idle time for trucks. The service also allows for comparisons among drivers and even warehouses.

Raymond was also showcasing at the logistics show its AC-electric reach-fork truck used especially in narrow-aisle cold-storage applications. Worker fatigue from the cold is a major problem, and Raymond has introduced trucks that have heated foot stands and control handles that keep workers warm.

Hyster, based in Greenville, N.C., has been building out its electric powered line of lift trucks over the past two years. At the ProMat show the company launched its AC electric counterbalance truck. The truck boasts an 11% improvement in energy consumption over the older Hyster model, says Mark Hoch, industry manager for food and distribution. Ergonomic changes include 20% more foot space in the cab area and the addition of an adjustable steering column.

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