

# TAKING COSTS OUT OF PACKAGING

**MODERN MATERIALS HANDLING**

 Reed Business Information

**I**ncreased competition and a more global economy are putting pressure on manufacturers and distributors of goods in all categories to cut costs. As a result, many are turning to more advanced materials handling equipment and systems to help handle the demanding industrial packaging requirements needed to remain competitive today.

"There is continued pressure on producers to be more productive, more efficient, and provide increased accuracy. Therefore, automation solutions are more likely to be embraced," says Ken Ruehrdanz, director of corporate development for Siemens Logistics & Assembly Systems (877-725-7500; [www.logistics-assembly.siemens.com](http://www.logistics-assembly.siemens.com)).

Distributors and their suppliers in all categories are implementing packaging equipment and systems that will help reduce inventories while remaining flexible enough to adapt to unpredictable changes in consumer trends. These include automated palletizers, both conventional and robotic, standardized reusable containers and

totes for storage and distribution, and new bar coding and labeling technologies to help with inventory management.

Here, a look at the technologies and solutions that are helping producers and distributors handle their diverse industrial packaging needs.

## **AUTOMATING FACILITIES**

Process improvements throughout the supply chain in industrial packaging have grown tremendously important. Companies are seeking to cut handling steps, wasted time, inventory and costs throughout their processes, with packaging being one of the key areas identified for improvement.

"One of the big challenges is, how do you know what's going on at every microsecond in the process? Can your systems communicate with each other, and can you automatically feed back the information to affect the process?" observes Bill Armstrong, technical development manager for Sealed Air Corporation (201-791-7600; [www.sealedair.com](http://www.sealedair.com)). "To answer these questions,

companies are looking to getting not just newer, better, faster equipment, but actually getting smarter equipment that integrates into the process easily, quickly, and efficiently."

Along with increasing levels of automation, there is also an increasing focus on ergonomics and safety. "End users are clearly seeking to increase productivity in their operations through more use of conveyors to move palletized goods, and also placing more emphasis on reduced load handling by personnel," says Mack Greene, president of Orion Packaging Systems (800-333-6556; [www.orionpackaging.com](http://www.orionpackaging.com)). He also notes an increase in the use of conveyorized automatic stretch wrapping systems to reduce personnel and improve load handling.

Key to the increased implementation of automated technologies is flexibility—companies are looking increasingly to automated solutions that can handle the wide variety of sizes, shapes, and quantities of packaged goods coming down the line.

"We're still seeing smaller, taller, less stable loads getting into machines, which requires some more advanced technology primarily in terms of drives," says Paul Probst, vice president and general manager of the vonGal Palletizer division of HK Systems (334-261-2777; [www.hksystems.com](http://www.hksystems.com)). "Companies are primarily looking to make moderate improvements on speed and handling rates, with an emphasis on eliminating operators."

Also, robotic palletizing technology is gaining momentum since robots offer improved flexibility, improved economics, and a reduced layout footprint, says Ruehrdanz of Siemens. "This comes into play as robotic palletizers can accommodate a wider variety of carton sizes in comparison to traditional palletizers," notes Ruehrdanz. "Because of this flexibility, fewer robotic palletizers are required for many applications, reducing system cost."

Another reason for the growth in popularity of robotic palletizers is that DCs are trying to automate the



**Using a high-resolution, large character ink jet printer for graphics, numerical codes and barcodes companies can eliminate the need for pre-printed boxes.**

building of more mixed, or rainbow, pallet loads. With the virtual elimination of the back room for storage at the retail level, distributors have to provide increased shipments of fewer items. To save space in shipping and at the store level, they're building one pallet of several different products.

"It's a real challenge to automate the building of a rainbow load, not only because of the different physical dimensions of all these different packages, but also to put them in the proper delivery sequence," says Rodney Erickson, director of beverage accounts for FKI Logistex (877-935-4564; [www.fkilogistex.com](http://www.fkilogistex.com)). "Robotics gives you a lot of flexibility, since you can program the equipment to adapt."

Because of the time involved in building a mixed load, robotic palletizers aren't ideal for high-speed, in-line applications. But because they can eliminate up to 90% of the labor traditionally required to hand-build mixed pallets, many warehouses see them as a good investment.

For smaller companies, like electronics, software, and small catalog distributors, it sometimes makes sense to outsource the direct-to-consumer packaging of individual shipments to a third-party logistics provider (3PL).

"Because the 3PLs are large groups and they package for multiple companies, they can achieve greater cost savings by buying packaging materials in bulk, and by using one line to service multiple companies," says Mollie Eardley, director of marketing

for Ranpak Corp. (800-726-7257; [www.ranpak.com](http://www.ranpak.com)). Since 3PLs tend to have a centralized packaging process, they can deliver faster throughput, increased accuracy, and greater flexibility to companies that prefer to focus on other core competencies.

#### **REUSABLE CONTAINERS/PALLETS**

More manufacturing and distribution operations are investing in reusable plastic container systems, both bulk containers and hand-held totes, for storage and transport of finished and in-process goods.

"We are becoming a nation with a global distribution economy because there are so many products and jobs overseas," says Ken Beckerman, vice president of Flexcon (973-467-3323; [www.flexcontainer.com](http://www.flexcontainer.com)). "So companies are working to make their DCs as efficient as possible by implementing space-efficient containers and pallets that are using all the cube."

By implementing returnable containers as part of internal process improvements, companies are able to get more productivity out of an existing facility. But what about the cost? Although the cost of the resins that form these containers continues to rise, so do the costs of other forms of packaging.

"I think that the rising cost of the raw materials is really driven by fuel. The increases that you see at the pump every day translate into both fuel for transportation, and into raw materials. It seems to hit the transport packaging user pretty hard,

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### ORBIS Plastic Reusable Packaging Drives Supply Chain Optimization

According to Forrester Research, 92% of supply chain professionals cite operational efficiency as their top priority.

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probably more so than it hits the average consumer," says Eric Fredrickson, sector manager for IPL Material Handling (800-818-1318; [www.ipl-mh.com](http://www.ipl-mh.com)).

Many companies are finding that the cost savings and the return on investment (ROI) generated from using reusable containers outweighs the increase in the raw materials and resins that go into producing the containers themselves. They now see a real savings that they can't get from negotiating for lower prices from a corrugated supplier, or freight carrier, notes Fredrickson.

"The increased cost of steel and wood materials brings the benefits of reusable packaging back into light," agrees Margot Beesley, director of marketing and communications for Buckhorn Inc. (800-543-4454; [www.buckhorninc.com](http://www.buckhorninc.com)) and Akro-Mils (800-253-2467; [www.akro-mils.com](http://www.akro-mils.com)). "Reusable packaging improves handling efficiency, maximizes the use of storage and shipping space, and reduces waste and costs associated with expendable packaging. This translates to more profitability for the user."

In addition to implementing returnable container systems to control transportation costs, many facilities must standardize on specific container sizes to get the maximum value from their new automated handling equipment. This includes automated conveyor, robotic palletizing, automated storage and retrieval systems (AS/RS) and automatic guided vehicle (AGV) systems.

"From the materials handling side, what you're seeing is the requirements of repeatable, predictable packaging with standard, easy-to-handle package sizes influenced by automation," says Dave Stewart, senior product manager for general industry products at ORBIS ([www.orbiscorporation.com](http://www.orbiscorporation.com); 888-307-2185). "Plastic pallets, hand held containers, bulk containers—they're all designed for that repeatability and predictability."

### RESTRICTIONS ON WOOD PALLETS

Companies that export and import have been affected by the recent



**End of process packaging systems require controls to tie all the sub-systems together. Human machine interface (HMI) screens like this help operators monitor and control automation technology.**

implementation of the International Standard for Phytosanitary Measures (ISPM 15), which calls for all wooden imported and exported packaging materials, such as standard wooden pallets, to be treated against infestation prior to export for better international control of plant pests and diseases (more information about ISPM 15 can be found at [www.ippc.int](http://www.ippc.int)).

The regulations require that all timber packaging be specially fumigated or heat-treated to kill infestation, which will increase the cost of conventional wooden pallets for export applications, says Gary Sharon, vice president of LITCO International (330-539-5433, [www.litco.com](http://www.litco.com)).

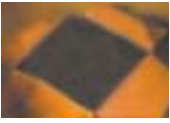
Treated pallets must be marked to indicate their status. If the wood packaging does not pass inspection, the load can be quarantined at the foreign port, resulting in high costs to the shipper.

More expensive hardwood pallets are exempt from these regulations, as are presswood pallets, explains Sharon, because of the high levels of heat and pressure used in the manufacturing process.

### LABELING SYSTEMS

As with product handling, product labeling is also moving toward more automation and less manual handling, with many companies looking to automatic application to save time, cut costs, and manage the variety of products packaged within.

"Companies are trying to move processes like identification further



back into the manufacturing process. This is an effort to either identify once for the whole process, or at least make the identification more automated, in order to better manage product flow and to avoid idle time in the movement of products," notes Ann Marie Phaneuf, marketing director of Weber Marking Systems, Inc. (800-843-4242; [www.webermarking.com](http://www.webermarking.com)). "The equipment itself continues to develop in order increase throughput, as well as offer more versatility because of the increase in shorter runs and/or mixed item runs".

As for the labels, many companies used pre-printed information on secondary packaging, such as poly-bundles or corrugated cases, but now they're looking to change to reduce costs. "They're either moving to a two label approach, or putting more information on the labels while making the packaging more generic," says Phaneuf.

There has also been an increase by retailers in the enforcement of bar coding standards, says David Allen, business unit manager for Videojet Technologies Inc. (800-843-3610; [www.videojet.com](http://www.videojet.com)). Until recently, retailers required bar codes on all received shipments, but very few were actually using those bar codes to run their automated warehouses.

"In the past 18 months, retailers' DCs have implemented more automation and more crossdocking, and they need those bar codes to be readable," Allen observes. "The more automation you have, the more you rely on automated information to tell that automated materials handling equipment what to do."

If the DC's bar code scanner can't read the bar code on the box, then the shipment is either declined, or the shipper is fined. Consequently, manufacturers are now being forced to move from low-resolution coding (similar to dot matrix printing) imprinted directly on the side of a box to high-resolution printers capable of printing up to 600 dots per inch on labels.

Additionally, with many manufac-

turers and DCs anticipating that radio frequency identification (RFID) implementation is in the near future, automatic labeling systems are popular because of their scalability.

"Nobody's been able to ink jet an RFID tag-companies still need a label

to put the antenna for RFID, so they're looking toward labeling because it either gives them the flexibility to print the label like they normally would," he says. "They're basically buying ahead so they won't have to start over when RFID does come into play." ■

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