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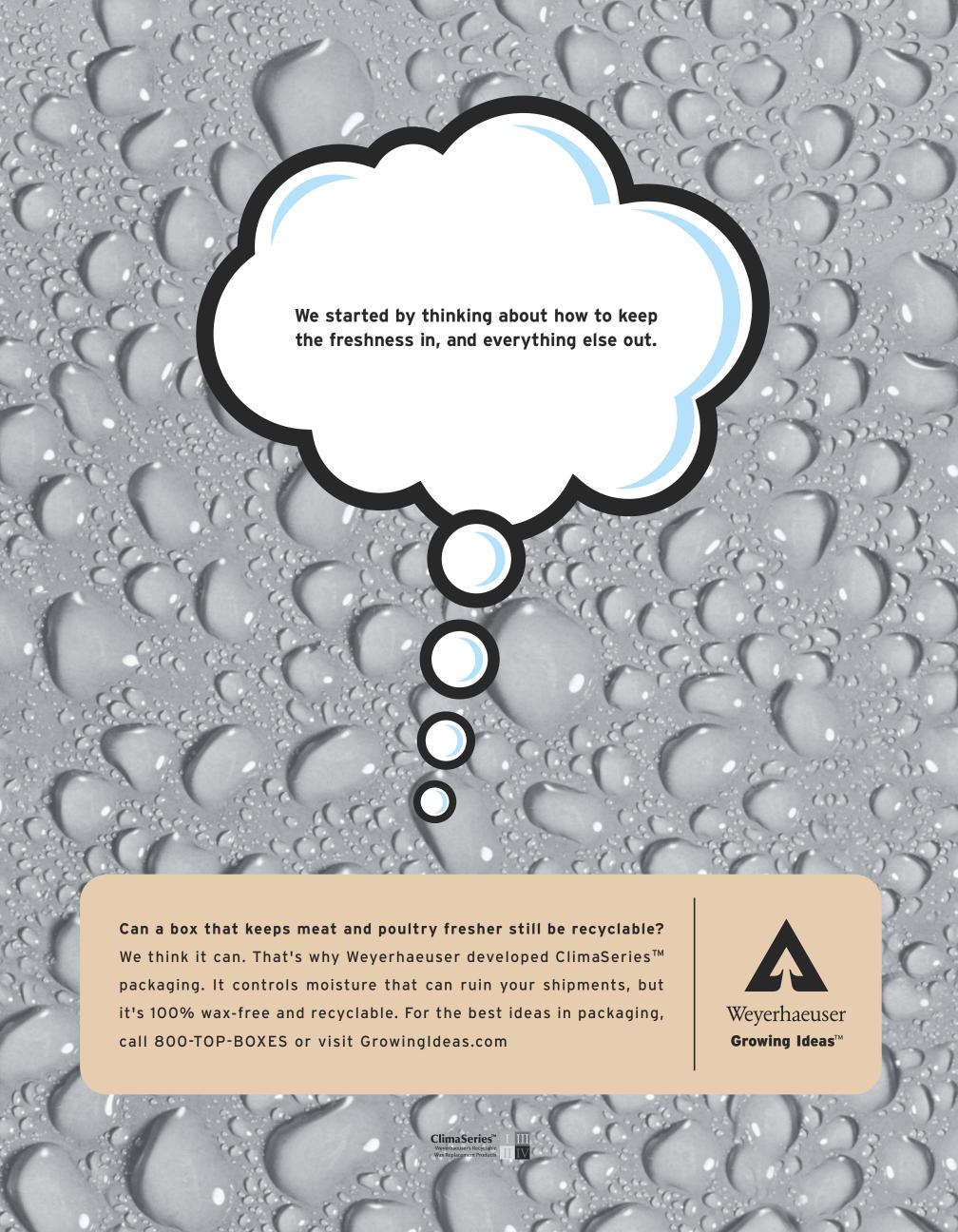
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> Trends tracked in RFID software

See the results if the Open Source Software RFID survey conducted by Pramari and the University of Arkansas at the RFID Live 2007 conference in Orlando, at

www.packagingdigest/info/pramari

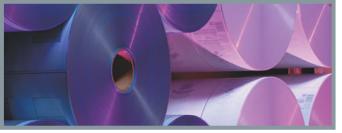
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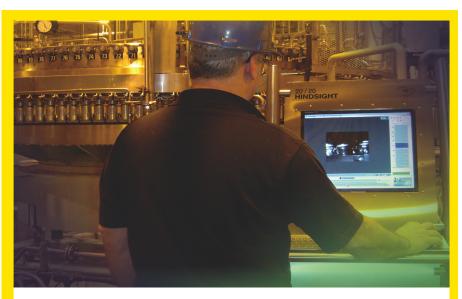
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trends

Cubed container takes top award

Taking top honors in the National Assn. of Container Distributors' (www.nacd. org) 2007 Packaging Awards Competition, EcoLab, Inc.'s ProForce® all-in-one cleaning products packaging was designed with sustainability in mind. The 1.5-gal high-density polyethylene container—used for the company's Multipurpose and Bath

& Bowl cleaners, sold at Sam's Club-was

designed with load-locking nubs at the top that

fit into corresponding indents on the package below, eliminating the need for shipping cases. The package's six components, which include a 16-oz spray bottle and spigot nested into the container's side, were supplied by TricorBraun (www.tricorbruan.com). To learn about the rest of the NACD winners, go to www.packagingdigest.com/ info/NACD2007.



Office-paper suppliers have found a new way to keep their film-wrapped reams easy for consumers to manage after opening, while ensuring their branding message survives. The CleanStrip™ ream wrap package from converter Coating Excellence Intl., LLC (CEI [www.coating-excellence.com]) incorporates a tear strip about 0.25 in. from the top of the package that allows consumers to easily open the ream and store

"CleanStrip allows easy opening of film-wrapped reams while not tearing the wrapper, leaving it intact to contain and protect the paper if only some of the 500 sheets are put into the printer or copier," explains CEI president Michael Nowak. "In addition, CleanStrip leaves the paper supplier with a billboard telling the consumer what brand to buy to replace the used-up ream."

Introduced early last year at Office Max, CleanStrip packaging is now being used for all film-wrapped office papers from Office Max, Staples and Wausau Papers (Astrobrights® line), as well as for some select products from Xerox and Office Depot. CEI converts the film wrappers at its plant in Wrightstown, WI, using a

Windmoeller & Hoelscher (www.whcorp.com) 10-color Astraflex® flexo press and a Nordmeccanica (www.nordmeccanica.com) laminator. Using the OfficeMax® Multipurpose paper package as an example, Nowak says the wrap is constructed of 120-ga biaxially oriented polypropylene/print/adhesive/120-ga BOPP. The tear strip is added to the film during rewinding using a proprietary applicator system.

Unilever 's 'superphood' aims to lower cholesterol

To grow sales and cement future development, food companies are launching more functional, "pharmaceutical" foods or "superphoods" with healthful claims. One example is a new yogurt-based product from Unilever, which hopes that Promise activ™ SuperShot™, with a "shot" of yogurt, will captivate health-conscious consumers with its assertion to lower cholesterol. Packaged in a petite, 3-oz container, the product has a June introduction date. Like Unilever's Smart Balance Omega Plus Buttery Spread, which contains Omega-3 fatty acids that also claim to reduce cholersterol, the mini yogurt drink was also formulated with special ingredients. SuperShot's 2 g of natural plant sterols are said to be clinically

proven to help actively remove cholesterol as part of a diet low in saturated fat and cholesterol. The product's mini-package format comprises a foil-sealed plastic bottle available in a fourbottle pack that's unitized by an artfully printed paperboard sleeve. The drinks come in three flavors—strawberry, peach and raspberry—and are retail-priced at about \$3.99.

"Plant sterols can help reduce LDL cholesterol for most people, when used daily as part of a diet low in saturated fat and cholesterol," says Douglas Balentine, Unilever North America's director of nutrition and health. "This product innovation is an example of our commitment to help people maintain a healthy heart."



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Shapes are changing in glass

The winners of the Glass Packaging Institute's (www.gpi. org) 2007 Clear Choice Awards favor curvy new structures, sparkling clarity and bold graphic statements for maximum sales impact. Announced May 7, during the Food Marketing

Institute show in Chicago, the winners recognize 11 brands with expanding the frontiers of glass packaging design and honor a national restaurant chain with a recognition for Outstanding Sustainable Practices. The winners, by category, include: an amber, pub-style



bottle for Anheuser-Busch's Michelob AmberBock from O-I (www.o-i.com)

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and Saint-Gobain Containers (www. sgcontainers.com) and an intriguing and elegant 24-oz "bullet-style" bottle for Michelob Celebrate beer from Saint-Gobain; approachable but sophisticated bottles with twist-off closures from Vitro Packaging (www. vitro.com) for Sonoma Vineyards wines from Rodney Strong; for food, a new jar shape with an elongated neck from Saint-Gobain for La Familia DelGrosso pasta sauce, with an embossed metallic label from Gamse Litho (www.gamse.com) and an elegantly designed cap from Crown Closures (www.crowncork.com); in carbonated beverages, Hank's Beverage Co.'s Hank's Gourmet in a craft beer-style bottle from Saint-Gobain; a retro 1930s-style, green bottle design from Vitro for Mountain Valley Spring Co.'s spring water in the noncarbonated beverages category; a sculpted, crown-shaped decanter with a fire-polished crystalline finish from Vitro for Diageo's Crown Royal XR, in distilled spirits; an upscale jar from Saint-Gobain showcasing Unilever's Bertolli organic pasta sauce in the organic food category; for flavored alcoholic beverages, Diageo's Captain Morgan Parrot Bay drinks in O-I's stepped-shouldered bottle design, wearing a cleverly decorated, clear label from Spear (www.spearsystem. com); in the organic beverages group, Frutzzo organic pomegranate Acai juice in Vitro's custom, eye-catching. pinch-waist, contoured bottles with closures from Crown; in cosmetics and fragrances, the sleek, round OS Signature bottle from Vitro for Procter & Gamble's new OS Old Spice fragrance, topped with a large, flushfitting sprayer button in silver; and winning for overall package design, Brown-Forman's Gentleman Jack Rare Tennessee Whiskey in a premium, showcase bottle from O-I with a curved shoulder and an embossed decoration reminiscent of the Jack Daniels heritage.

The final winner, honoring Outstanding Sustainable Practices, is Ted's Montana Grill restaurants, owned by Ted Turner and business partner George McKerrow. The chain uses sustainable food containers and recyclable drinking glasses and is committed to creating an environmentally friendly enterprise.

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design trendsfood packaging

Shaped canister is a 'sweet' package

Consumers in Canada who want to reduce their caloric intake won't have to look far. Tate & Lyle Canada, Ltd. has launched Redpath Half, a new sweetener product that has half of the calories and all of the taste of sugar. Tate & Lyle Canada has selected the Linearpak® can, a distinctively shaped rigid paperboard

canister from **Sonoco (www.sonoco.com)**, to reinforce the uniqueness of Redpath Half from other traditional sugar brands as well as nonsugar sweeteners. Sonoco supplies Tate & Lyle Canada with two sizes of Linearpak cans, a 401×407 that holds 210 g and a 502×514 that holds 400 g. The nonround cans are made of 100-percent-recycled

paperboard with a barrier foil liner that helps lock out moisture and oxygen and keep the granular sweetener free of clumps, so it's quick to dissolve. A tabbed, peelable membrane adhered to the rim of the can and a red plastic overcap, both of which are also supplied by Sonoco, complete the Redpath Half package.

According to Tate & Lyle Canada, the selection of the Linearpak can was based on its differentiation in the supermarket sweetener section and its ability to enhance the consumer's experience with Redpath Half. Tate & Lyle wanted something completely different from anything currently used in the sugar category and wanted a package that would stand out on the grocery shelf. Most importantly, it desired a package that was consumer friendly, easy to use and reclosable. The company says that the shapely canister from Sonoco easily met all of Tate & Lyle's requirements.

The can continues to please consumers once they get it home. The membrane top serves as a freshness barrier and a security feature, providing tamper-evidence, and it's easy to store. The sweetener is available in eastern Canada.

Aseptic milk heads to the baseball park

Organic Valley launches milk in a shelf-stable, single-serve Prisma Aseptic® package from Tetra Pak (www. tetrapak.com) to fans of the Wisconsin Timber Rattlers, available inside Fox Cities Stadium. located in Appleton, WI. The 8-oz pack's ambient features were recognized by the ball club as an innovative way to store and distribute milk while preventing spoilage. The Organic Valley Prisma holds 1-percent, lowfat

chocolate milk—the same milk the company packs in refrigerated cartons and sells at grocery stores. However, it's shelf-stable for up to one year. The single-serve Prisma is made of a multilayer laminate incorporating polyethylene, adhesive, foil, paperboard, metallized polypropylene, flexo printing in four-color process and PE. It has an easy-open pull-tab and Its grab-'n-go format is also kid-friendly.

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sales to stabilize

The U.S. domestic demand for packaging machinery is projected to level off this year to an estimated value of \$6.27 billion, according to the U.S. Packaging Machinery Purchasing Plans Study, published

by the Packaging Machinery

Manufacturers Institute

(www.pmmi.org).

Except for the economic downturn that started in 2001, North American machinery manufacturers have experienced strong growth over the past five consecutive years. This

year's forecast of 1-percent growth represents a cautious reaction to the uncertainty of the U.S. economy, rather than decisions based on financial imperatives, PMMI reports. However, certain market segments will do somewhat better than the aggregate average, most notably the pharmaceutical/medical sector, which should see machinery sales increase 2 percent to 4 percent, and food growing at 1 percent to 3 percent.

The 468 packagers who responded to the PMMI survey indicated

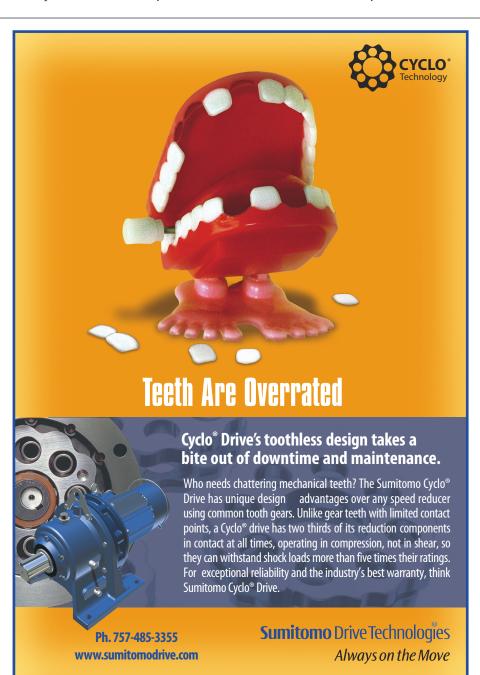
that some market trends could lead to machinery orders. One is the increased focus on improving packaging-line efficiency and productivity. Another is the need for increased flexibility to handle more package types and quicker changeovers. Also noted are escalating concerns about product security and tracking, the use of packaging as a retail competitive differentiator and the still-growing emphasis upon convenience packaging.

Dampening the prospect of

increased machinery sales are endusers' strategic cost-cutting initiatives, such as plant closings to improve profits and packagers' plans to expand into emerging markets. The shift of production to lower-cost overseas markets is expected to continue through 2007, also impacting the need for capital spending on packaging machinery.

Mary ann Falkman























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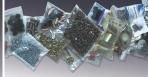




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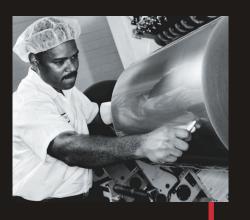




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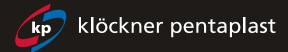


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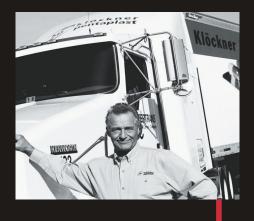
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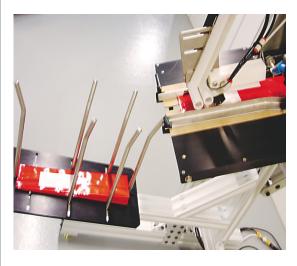
Labeler Introduced as the Uni-300VA, a compact, wraparound p-s labeler is said to handle up to 120 containers/min. Reportedly built with a slide-out control cabinet for easy access, a stainless-steel GMP construction and a sanitary, raised-bed conveyor, the labeler is offered as easy to use, clean and maintain. With an Allen-Bradley intelligent servo drive that automatically synchronizes the label dispenser with the drum drive, the labeler is aimed at pharmaceutical, nutraceutical, cosmetic and personal-care applications, and handles round containers from ½- to 4 in. dia and from -1 to 8 in. H without changeparts.

NJM/CLI, 603/448-0300. www.njmcli.com



Shrink-sleeve labelers A pair of heat-shrinkable sleeve-labeling systems, the EZ-Seal 200SL and 400SL, is introduced for a variety of industries. Reportedly capable of processing TE bands and full-body sleeves at speeds exceeding 200 and 400 units/min respectively, the systems' capabilities to accept labels with 1½- to 4¾-in. dia include containers of all shapes and sizes. With Allen-Bradley controls, a corrosion-resistant construction and stepper/servo film feeding/cutting, the systems also are said to enable tool-less changeovers. The 200SL is specifically cited for contract packaging and blow-molding facilities because of its economical price and versatility. Axon, 800/598-8601.

www.axoncorp.com



Bag feeder/labeler Said to be directed specifically at coffee roasters is a new system for feeding and filling premade bags. The co. says bags are stacked and fed through the feeder, are labeled and are restacked, ready for use by this fully automatic system, with labels applied accurately every time, to provide cost savings to the manufacturer.

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new products

Case packer The new SW side-loading case packer can erect, load and seal RSC and/or wraparound cases within an 8½×6½-ft area and includes an optional labeling system. Features include a stainless-steel frame, an ergonomic, 34-in. infeed level, a corrugated magazine, collating systems adapted to the nature, shape and rigidity of the user's product and up to an 18-case/min output, depending on the product. The SW can either tape or glueseal RSC cases and is said to offer performance, flexibility and smoothness due to its servo-driven technologies. An Allen-Bradley

CompactLogix controller and a PV 1000+ color touchscreen are standard, with capabilities to interface with plant management systems and online tech support.

Cermex, Inc., 678/221-3570.

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Inspection sensors Checker® 200 Series next-generation inspection sensor line makes it easy for manufacturers to increase quality and productivity through inspection, according to the co. It adds that the new models are as simple to set up as its Checker 101 line, but are much more capable and are small enough to fit nearly anywhere. Checker 200 is small, smart, simple and powerful enough to solve challenging sensing applications, delivering reliable inspection results, the co. notes. The line is applicable to food, beverage and consumer product package inspection and automotive and electronics part inspection. It offers built-in lighting, a variable working distance and high-speed inspection capability at rates faster than 6,000 parts/min. Checker 200 can also inspect multiple part features and deliver reliable, precisely timed, pass/fail results on even the fastest production lines, according to the co. Unlike conventional photoelectric sensors, the system can detect parts by finding an actual feature, such as a product graphic; checks features such as a

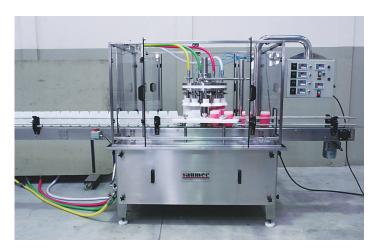
code printed on a label; and inspects multiple part features simultaneously, such as candies in a blister-pack. Cognex Corp., 508/650-3140.

www.cognex.com

Flexible filler The SAR 10MIX4 is introduced as a rotary pressure filler designed to handle viscous products. The co. claims that the machine can fill up to four different products into one container. Reportedly built with quick changeparts for easy changes and CIP attachments, the machine, depending on container stability and product viscosity, is said to reach a 100container/min rate of output.

Amazon Packaging Machinery, L.L.C., 269/552-9138.

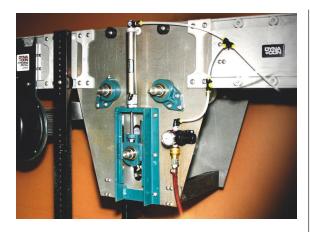
www.apmachinery.com



High-temperature coating Duraslik™ debuts as a patented, high-temperature coating for cartridge heaters that facilitates easy removal from precision drilled holes. The co. says the coating is bonded directly to the heater sheath for handling ease, acting as a solid lubricant once the heater is energized in service, eliminating the need for additional release agents for the sheath before insertion. The co. says all cartridge heaters are high-density swaged units made to the customer's specs.

Durex Industries, 847/639-5600. www.durexindustries.com





Modular conveyors A maker of reconfigurable conveyors introduces flexible modularity to the extent that it claims purchasing replacement conveyors for light- to medium-weight conveying needs may never be necessary again. Debuting are a vertical takeup module with the ability to double the conveyors' previous longest length to 100 ft, with pneumatic cylinders properly tensioning the belt. The co. also says the conveyors now are capable of expanding to 72-in. W and are powered by 115-v motors and controls.

Dynamic Conveyor, 800/640-6850. www.DynamicConveyor.com

Metal detector The Phantom BSH metal detector with stainless-steel construction is now officially certified with an IP69K rating, representing the highest level of water-resistance to a highpressure jet wash and a complete seal against dust, the co. says, citing testing in accordance with Ingress Protection standards by an independent, European test house. The detector also achieves vibration immunity and ultimate stability in wet product applications with its unique, heavy-duty construction, the co. adds.

Fortress Technology, Inc., 888/220-8737. www.fortresstechnology.com





introduced using HP technology to provide dependability, flexibility and speed in printing on corrugated boxes. Side Stall printers are said to print on the sides of boxes down to

1 in. from the box bottom and are available in 1- to 4-pen versions with a print height of ½ in./pen. Top Mount printers reportedly are available in 1- to 6-pen versions, also with a print height of ½ in./pen. The co. says both versions offer resolutions of 600 dpi depending on output, speeds exceeding 1,000 fpm depending on resolution, a rugged, stainless-steel construction and heavy-duty mounting hardware.

HSA USA, 732/324-0800.

www.hsausa.com

Sensor guide An

updated user's guide to its photoelectric sensors, fiberoptic light guides and controls is offered by the co. and reportedly includes a variety of newly introduced products. The catalog is said

to provide easy-to-use product selection guidelines, detailed sensor application drawings, comprehensive product descriptions, specs and installation data and fundamentals of photoelectric sensing. Available at no cost.

Tri-Tronics Co., Inc. 800/237-0946. www.ttco.com



Dryers The Secotec[™] refrigerated dryer series is now expanded, the co. says, with the line available for flows from 20 to 885 scfm in pressures up to 230 psig. The co. adds that the cycling dryers provide maximum efficiency by using a solid thermal mass medium for storage and for operating the refrigerant compressor only when necessary.

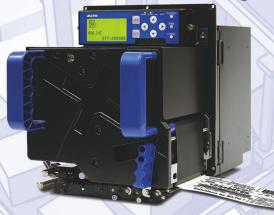
Kaeser Compressors, Inc., 800/777-7873. www.kaeser.com/cleanair

Cornering labeler Created to close the gap between automatic and compliance systems, the CD-160 is introduced for cornering label applications on cartons with, the co. claims, 100percent accuracy and readability. With a structure that stops the carton on the conveyor and pushes it to the edge to allow proper label placement, the device is reportedly rated to 20 cartons/min. The co. says the labeler also handles randomsize boxes, also solving the problem of handling skewed containers.

Cornerstone Automation Systems, Inc., 800/401-0304.

www.cornerstoneautosys.com

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new productsmaterials

Bottles & Closures

Short-height neck finish The SuperShorty PCO 1881 is a 28-mm closure designed for a short-height PET neck finish. The co. describes the development as providing weight savings in the PET preform and the closure as well as offering an attractive closure design for single-serve bottles. The closure fits on the new short-height neck standard PCO 1881, which has been recently agreed upon within the International Society of Beverage Technologists (ISBT). SuperShorty is available with



two different external designs: a crown look; and a softdrink look. The crown design targets PET beer bottles and soft-drink bottles in smaller package sizes. Both closure variants can be equipped with an in-shell, molded oxygenscavenging liner for oxygen-sensitive products like beer or juices. The SuperShorty incorporates the co.'s DoubleSeal system, which has proven its superior sealing performance over the last years. The shorter-height neck PCO 1881 generates weight savings of 1.3 gm compared to the PCO 1810 or the PCO28. The co. adds that the closure can offer weight savings of 0.4 gm for the crown design and 0.6 gm for soft-drink design. The co. began supplying the SuperShorty closure in early 2007. The co. says that it offers capper adaptation and settings as well as technical support from its factory and its own hysteresis capping head for easy and constant application.

Bericap Holding GmbH, 909/390-5518. www.bericap.com

Dispensing closures Four dispensing closures include the Grinder NR, the LiquiFlapper®, the FlapMate and the NutraGen II closures. The Grinder NR is a North American-supplied packaging system with a grinder that's unremovable and a PET container that is nonrefillable. Offers consumers a fresh grind of product each time it's used. The PET container is clear and lightweight, and it resists shattering. The LiquiFlapper deposts liquid condiments, marinades, sauces, dressings, syrups and liquid OTC healthcare products. The 1-pc design controls dispensing of pourable products. The teardrop-shaped, sealed orifice is drip-resistant and has a cutoff feature that eliminates mess and waste. The LiquiFlapper in 33- and 38-mm sizes has a 0.400-in. neck finish. The new sift-resistant FlapMate closure has a contemporary look for shelf impact and a 1-pc design for production-line efficiency. The sift-resistant feature eliminates mess and the frustration of liner removal. No unscrewing of the cap is necessary. A light flip of the thumb demonstrates ease of opening and closing. It's available in a 43-mm size with a standard 0.485-in. neck finish and comes with a choice of three hole sizes.

Weatherchem Corp., 330/425-4206. www.weatherchem.com



In the beginning, there was water. This applies in particular to the soft drink industry where it is a matter of meeting new trends time and again with new bottle formats and materials. As one of the leading machine manufacturers in the beverage sector, KHS offers economical and highly flexible complete solutions from filling and labeling right down to the packaging.

BEVERAGE FOOD NONFOOD





TE containers A variety of TE containers and pails in several sizes offers the co.'s unique TE system and are HACCP-certified. The wide range of injection-molded plastic packaging features pails from 8 oz to 6 gal that are suitable for retail use, foodservice operations, wholesale markets, restaurant operations and consumer applications for products including glazes, prepared salads and dairy and deli products. The TE system provides a visible indication that the user is the first to open the container/ pail. This feature helps to ensure that the products are safe from tampering before purchase, yet affords easyopen packaging after purchase. IPL Packaging, 418/789-3651. www.ipl-packaging.com



Mascara brushes A set of plastic mascara brushes takes 15 days to produce from design to the first makeup tests. A functional mockup of the injection-molded brushes is available, thanks to a unique process, the co. says. The process varies the brush shape and is flexible, quick and easy to use, so different concepts can be tested to achieve the desired effects. Various shapes, colors and other visuals can be produced at will through elastomers with different flexibilities, the co. says. A wide range of stock plastic brushes is available to choose from, designed to help customers develop custom creations. **Alcan Packaging Beauty, Alcan** Group, 33 1 4968 6185.

www.alcan.com



Nucleating agent Hyperform HPN-20E nucleating agent delivers optical improvements, enhanced moisture barriers and improved mechanical properties for PE resins, the co. says. It also offers expanded functionality in films and packaging. A recent food-contact notification for HPN-20E covers Conditions A-H, allowing broad usage across a range of food-contact applications. Hyperform HPN-20E successfully nucleates PE, bringing improved clarity and seal performance.

Milliken Chemical, 864/503-2200. www.millikenchemical.com



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A new, 50-percent post-consumer-recycled PET brings clarity to **STREETS & TRIPS** with GPS Locator.



and encourage consumers to recycle their bottles. Those who do will be lessening the need for new petrochemical feedstocks."

This education begins with marking all packages with the SmartCycle logo on the petaloid base found on the bottom of most PET bottles. With a unique identifying mark, SmartCycle packages encourage PET bottle recycling rates to continue to grow. Concludes Gianniny, "We at Klöckner-Pentaplast want to provide a material option to consumer product companies and retailers for their thermoformed plastic packaging while building long-term value by helping them move toward their sustainable packaging goals."

o produce the Streets & Trips packaging,
Microsoft turned to Transparent Container
Co., Inc. (www.transparentcontainer.
com), a resource for visual packaging solutions,
including custom thermoformed packaging, clear
folding cartons and blister-packs for consumer
package goods companies. By remaining materialneutral with an emphasis toward environmental
consciousness and a commitment to sustainability,
Transparent Container has helped its clients
succeed in the marketplace. In business for more

than 45 years, the company creates clear packaging that grabs

consumers' attention. Dan

and the dongle, which is the adaptor and the connector for a PC to the GPS) and software, with the added strategic benefit of having the product displayed in two locations in the store.

Previous packaging for Streets & Trips consisted of a typical paperboard box with a die-cut square to display the GPS device contained within a snap-together plastic tray that would be torn away and thrown out. At the outset of the 2007 project, Microsoft determined the need for a unique package that would address numerous design issues and help set Streets & Trips GPS apart from the competition at-shelf. Ahern says, "The footprint for the 2007 package is the same, but the hardware components changed size. The GPS and the adapter are smaller, and even though we started out with six inches of cable, it grew closer to six feet before we were done."

One of the major objectives was keeping all of the electronic components organized. "We presented roughly eleven different structural ideas that addressed this challenge," explains Ahern. "All of the ideas incorporated a carry case to hold all of the components. The carry case was to be something that could be used again and again, not treated as a disposable package."

As the final design developed, it was decided that the packaging materials used should emphasize sustainable concepts. SmartCycle 150 PETE was the choice. Says Microsoft's packaging project manager, Scott Ballantine, "We wanted to raise consumer



Creating a package that uses sustainable films, Microsoft has mapped a course for all-around success. Sales of the company's number-one best-selling travel and map software, Streets & Trips 2007 with GPS Locator, doubled the projected launch number. The Microsoft packaging illustrates how it's possible to honor a real commitment to sustainability with packaging that delivers high shelf impact.

The introduction of SmartCycle™ 150 PETE polyethylene terephthalate from Klöckner-Pentaplast (www.kpfilms.com) in October 2006 coincided with the packaging market's emphasis on sustainability. Made from a minimum of 50percent post-consumer-recycled polyester bottles, SmartCycle films surpass U.S. Food & Drug Administration regulations for direct food contact and are certified to meet domestic packaging regulations. In addition, the films exceed California and Oregon rigid plastic packaging container regulations. It is the brainchild of Michael Brown, brand founder and managing partner of Packaging **2.0 LLC (www.packaging2.com),** which holds the SmartCycle license. He has joined with Klöckner-Pentaplast as the exclusive global supplier of SmartCycle packaging films. The company's business manager for thermoforming films, Pete Gianniny, elaborates, "SmartCycle is a wonderful opportunity to increase public awareness about plastic package

One of the major objectives was keeping all of the electronic components organized.

Ahern, Transparent Container's vp of marketing, explains, "We offer solutions that focus on product visability within the package. Microsoft had the idea of creating a reusable carry case for the product's hardware components that would also allow the consumer to see the product inside of the package. So we were able to employ two of our technologies: thermoforming and folding cartons." This met Microsoft's objective to emphasize both hardware (the actual GPS device

awareness about how to use recycled materials in new ways. We also wanted a carry case that people could use to store the GPS and its components. The finished package fits in the glove compartment or CD slot of a car. It is based on a compact, sunglass-case design, and for that reason, is value-added because it is reusable. And consumers can take pride knowing their bottle-recycling efforts have had direct impact in creating this extended-use package."

Microsoft's Ballantine, couldn't be happier.
Continued on page 24



"Microsoft is a member of the Sustainable Packaging Coalition. Recycling of more post-consumer waste is one of the many next steps toward greater sustainability in plastic packaging, and Microsoft and Transparent Container are behind this all the way," he says.

The end result is packaging so appealing that Microsoft increased its

The whole project took six months, the same as a typical launch, even though we had never done a plastic insert like this before.

order size with Transparent Container in anticipation of hyperactive sales. With the assistance of Microsoft's graphic design team, packaging for Streets & Trips GPS created a 3D effect that gives one the feeling of speed and movement.

The 3D effect was achieved by

taking advantage of PET's excellent printing properties, the likes of which have never really been seen on retail shelves before. All together, the package consists of three plastic insert layers and one DVD case:

- 1. The outer folding carton/box
- 2. The interior support device
- 3. The inside thermoformed clamshell, or SmartCycle carry case
- 4. The ultra-thin media (disk) case The outer box is made using 25-percent post-industrial-recycled PET. The interior support device acts as a tray and holds the carry case on top of the media (disk) case. A die-cut square in both the outer box and the tray allows the GPS device to be seen (encased in its SmartCycle clamshell). The clamshell is molded, folded and hinged and features cavities for the GPS device, the dongle/adaptor and approximately 6 ft of cable that wraps around the perimeter and ends on either side above the dongle/adaptor.

back of that.

Explains Microsoft's Kris
Rinenbach, "The inserts are printed directly onto the plastic substrates.
You can look through the first two layers and see 3D clouds. You get the illusion of movement and speed because our graphic design team helped create the plastic inserts to look slightly blurred. Our graphic design team gets a lot of credit for the slick appearance of the package.

The top of the clamshell is embossed with the Microsoft logo, as well as the

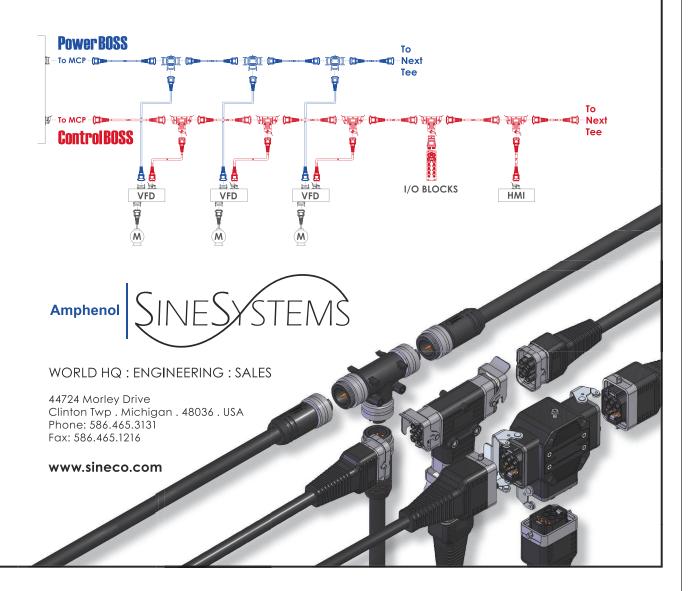
SmartCycle logo. The media case is in

"The three layers that comprise the packaging are positioned to achieve the 3D effect. There is no paperboard box as with the 2006 version. If the graphics were printed on paper, you could not see through to the next layer—an advantage that plastic provides. The carry case is actually designed to tip back at a forty-five-degree angle, with the bottom touching the front edge of the outer carton in order to get the 3D effect. Microsoft has never done a plastic layer before."

Ahern at Transparent Container summarizes it this way: "The ability to achieve this 3D effect is obtained through the use of clear and translucent printing effects on a clear PET substrate. This is the first package of this type in the product category. The 3D is possible because of the clarity of Klöckner-Pentaplast films, in this case SmartCycle 150 PETE. We used a **Sencorp [www.sencorp.com]** 2500 in-line thermoformer to make the clamshell, and the performance characteristics of SmartCycle film is as



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good as any of their other rigid films."

here is even more to the assembly story, as Microsoft's packaging project manager tells it. "What is really unusual about the assembly process is that we designed and manufactured the clamshell carry case in the U.S. and then provided it to our hardware manufacturing partner in China," Ballantine says. "Typically, a clamshell would be produced in Asia or where the manufacturer is located. But because Asia does not yet produce rigid films made from fifty-percent post-consumerrecycled polyester bottles, we decided to send the SmartCycle clamshell over to China from the U.S.

"Previously, the hardware components would have to be individually wrapped and shipped by the GPS provider, Pharos, to our manual packing service, Sonopress USA [www.sonopress.com]. Parts then would be unpacked and repacked into the clamshells. We changed that by moving the carry case up the supply stream and eliminating all of the unnecessary secondary packaging and the associated packing and unpacking labor. The cost of sending the clamshell to China is balanced by the fact that now, the components are already placed in the clamshell when they arrive at Sonopress in the U.S. for final assembly of all the pieces. Otherwise, if we didn't send the clamshell to China, at Sonopress the individual components would then have to be unwrapped and placed in the clamshell there." Ballantine explains that the savings comes from the reduction in 1) touch costs (wrapping and unwrapping individual components), 2) packaging supply costs (i.e., the wrapping material), and 3) time costs. "Having the Chinese place the components directly into the finished clamshell eliminates much of these costs," he says.

e have great communication with Microsoft," Ahern says, referring to the timeline for the entire packaging project. "During the project, we were in constant contact," he says. Ballantine elaborates: "The whole project took six months, the same as a typical launch, even though we had never done a plastic insert like this before." The project was begun on Feb. 15, 2006, and the components were placed in the clamshell in China in June. In late July 2006, Streets & Trips GPS hit the retail shelf at places such as computer stores, Wal-Mart, Costco, Best Buy, Target and online retailers. The product was also displayed at PACK EXPO International by the Sustainable

Packaging Coalition.

"The SmartCycle mark is designed to increase public awareness and enhance the recycling of PET bottles," states Brown of Packaging 2.0. According to the Report on Post Consumer PET Container Recycling Activity from the National Assn. for PET Container Resources (NAPCOR), 5.075 billion lb of PET bottles and jars entered the U.S. market in 2005, and a record 1.17 billion lb of post-consumer PET bottles were collected for recycling, of which only 71 million lb went to the film and sheet market. "A key goal of the SmartCycle program is to help people feel smart about their packaging choice by conveying the story of recycling and sustainable packaging to the entire packaging value chain: consumers, retailers, OEMs, converters and resource-recovery plants," Brown says. "As people become more aware of the results of their recycling efforts, it will drive an increase in the recycling of their plastic bottles, and the availability of PET feedstock will increase. That's why it's called SmartCycle. We want to create a cycle of reusing PET over again, such as with the Streets & Trips GPS clamshell."

Ahern sees the results of the efforts. "Each channel that stocks Streets & Trips GPS increased their initial order," he says. "Not only can customers feel good about purchasing products packaged with SmartCycle film, but the high-quality appearance of the package also leads consumers to gravitate toward it when they see the product on the shelf. Promoting a positive bottle-recycling message while purchasing a visually attractive product makes a consumer's choice easy. Klöckner-Pentaplast is doing a real service to both the community and the earth. And SmartCycle film is just a great-looking material. It has great clarity designed to raise consumer consciousness and excellent performance characteristics. We're working on similar interior packages for future devices that Microsoft will be releasing in the near future."

More information is available:

Klöckner-Pentaplast, 540/832-3600. www.kpfilms.com.

Packaging 2.0 LLC, 401/225-0190.

www.packaging 2.com.

 $\textbf{Sencorp,}\ 508/771\text{-}9400.\ \textbf{www.sencorp.com.}$

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NICE-PAK PRODUCTS, INC.,

the world's leading producer of premoistened wipes, has installed vision-inspection systems on many of its production lines to ensure product quality and no missing components.



Vision inspection is looking good

Jack Mans, Plant Operations Editor

No matter whose brand of premoistened wipes you use, whether to clean germs off your countertops or barbeque sauce from your fingertips, odds are high that Nice-Pak Products, Inc., Orangeburg, NY, the world's leading producer of premoistened wipes, made and packaged those wipes. In addition to its own line of consumer products, Nice-Pak manufactures and packages virtually all wipes sold under store names. The 50-year-old international company also has a commercial product line and a line for the healthcare industry that focuses on infectiousdisease control.

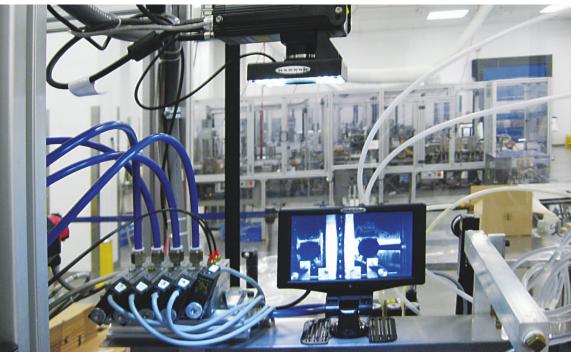
To keep its leadership position in the marketplace, Nice-Pak continuously invests in consumer research, product development and packaging innovations. Among those packaging innovations is Nice-Pak's use of lowcost vision sensors from Banner Eng. Corp. (www.bannerengineering.com) for a number of automated inspections. The newest installations are on horizontal form/fill/seal machines that package swab sticks containing a chlorhexidine gluconate and isopropyl alcohol solution for its Professional Disposables International Div., Nice-Pak's healthcare division. The swabs are used to prepare

patients' skin prior to surgery or injection. Nice-Pak uses vision sensors to inspect product-identification codes on the web of packaging material in which the swabs are packaged and to inspect individual pouches to ensure each pouch contains a swab and solution. "We're accountable for ensuring the product is 100-percent compliant," says Dan Brady, electrical engineering manager. "We have to comply with Federal Drug Administation regulations, so there can be no mistakes."

Nice-Pak produces small swabs containing 0.054 g of liquid and large swabs containing 0.172 g, each of which are packaged in an individual pouch on the same machines. Pouch material is pulled into the hf/f/s machine from a roll and is folded at the bottom to begin creating the pouch. The web then passes a *Presence*PLUS® P4 GEO camera from Banner that is mounted on the machine and inspects the product code. Each product ID code is about ½×1/16 in. in size, and the vision sensor checks up to 200 packages/min. The web passes through a series of machine operations that seal the sides and bottoms of the pouches, followed by a station that cuts the web into groupings of four small swabs or two large swabs. Next, the pouches pass stations where the swabs are inserted into the pouches with the swab end up, followed by the filling operation, where the antiseptic solution is

The pouches then pass beneath a second Banner inspection system that incorporates a *Presence*Plus

dispensed. P4 COLOR OMNI sensor that looks down at A sensor looks down at the tops of the pouches passing below to ensure that each pouch contains a swab, which shows up on the screen as a white dot.



the tops of the pouches to ensure that each pouch contains a swab. The operator can observe this operation by viewing a monitor on which the swabs show up as white dots in the open tops of the pouch. The system can also detect whether solution has been dispensed onto a swab by observing the colors of the dots. "I really didn't think the camera would be able to pick out those tiny white dots that are the tops of the swabs, but it did it with no problems," says Brady. "I hadn't even thought about detecting the solution in the pouch, so that was a bonus."

f a product ID code fails the inspection or a pouch is missing a swab or antiseptic solution, the system triggers a programmable-logic controller that shuts down the machine, and a manual inspection of the situation is needed before the machine can be restarted. "Using a vision sensor has eliminated the need for manual paperwork for product verification," Brady says.

Brady, who joined Nice-Pak in 1991, uses another Banner vision sensor, a PresencePLUS P4 AREA, to make sure a robot has correctly packed cartons of Nice 'N Clean baby wipes. In addition to detecting that each carton has eight of the 12×13-in. wipes, it also ensures that each unit is placed correctly in the carton. Nice-Pak uses Banner's newest vision sensor, a PresencePLUS P4 COLOR OMNI, to peek into the tiny opening on packets of individual towelettes, which is $2\times\frac{1}{4}$ in., to make sure the towelette is present at the moment the packet is being filled with liquid. "These OMNI color cameras are so versatile, they do anything—and for a good price. We originally rented a different brand of vision sensor that costs \$8,000 to inspect the inside of packets. The OMNI does the same thing for \$2,000," says Brady.

Brady was introduced to the Banner technology by Banner distributor **MacPherson Control Products, Inc. (www.macphersoncontrol.com)**.

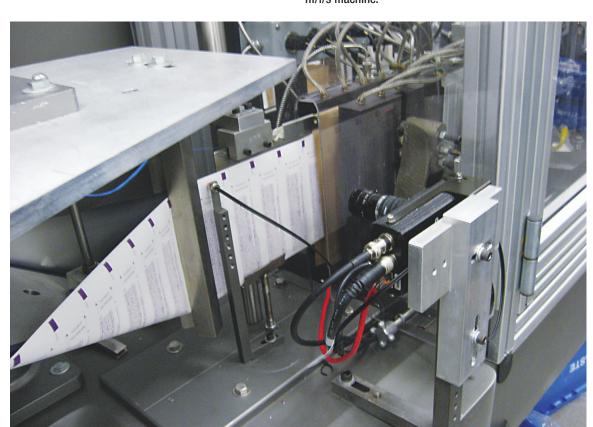
"They know that we're always looking for the latest technology to ensure quality, so they brought in the P4 systems for us to try," says Brady. "We startedby Continued on page 28

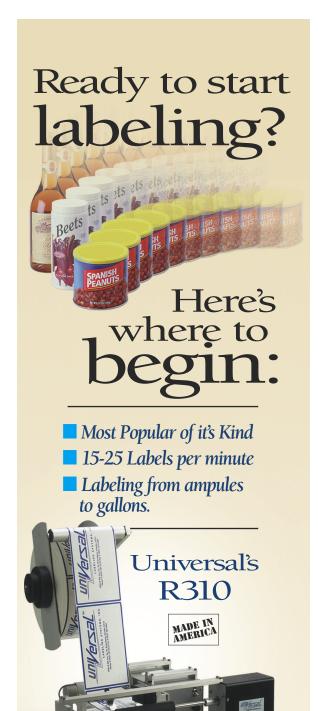


Dan Brady, Nice-Pak's electrical engineering manager, demonstrates an inspection system in his office. The camera is looking at the top of a wipes container, and the image is displayed on the computer screen on his desk.



A web of pouch material passes the camera, below, which is inspecting the product code, circled above. The code is only $\frac{1}{2} \times \frac{1}{16}$ in. in size. If the code is missing or absent, the system triggers a plc that shuts down the hf/f/s machine





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Did you know?

Almost 50 years ago, the company that became Nice-Pak invented the wet wipe and partnered with Kentucky Fried Chicken to give customers a quick way to clean up after their meals. Today, Nice-Pak dominates the wet-wipe market. Source: the manufacturer.com.

checking lot codes, and then progressed to the product inspection. MacPherson has been fantastic to work with."

anner's *Presence*PLUS
P4 GEO vision sensors
are easy-to-use, singlefunction, low-cost units that
can handle 360-deg inspections.
The complete *Presence*PLUS

vision sensor family features a common user interface with intuitive interaction that allows anyone with even basic personal-computer abilities to easily set up an inspection. A remote-teach feature allows the sensor to learn the new features it will need to inspect for, without connecting to a pc or shutting down the line. The

These color cameras are so versatile, they do anything—and for a good price.

system can be easily and accurately reprogrammed for new product inspection after its initial setup, by simply pushing a button. The new inspections are learned in real time, while production is running. The units feature three bicolor lightemitting diode indicators to clearly show unit status during setup and operation. Hundreds of specialized lighting and lensing options are available to solve even the most challenging applications, Banner says.

The PresencePLUS P4 GEO performs like a vision sensor, yet facilitates changeover as easily as a standard photoelectric sensor, according to Banner. The built-in, live video-image output allows users to view the sensor's inspections in real time and to also view failed inspection images without the use of a PC. The self-contained vision sensor requires no external controller. The sensor can interface to machines and factory networks via a built-in 10/100 Ethernet connection, RS-232 or discrete input/outputs. "I can look at the images on the computer in my office," says Brady.

rady has found the vision sensors easy to use. "I plug them in, it takes a picture, and it goes," he says. Nice-Pak used to rely on manual spot checks, but Brady now is sold on the advantages of vision inspections. "It's comforting to know we're running the right stuff all the time. It decreases waste, saves time, saves money and, most importantly, ensures the correct product is going to our customers. The vision systems were easy to install and operate, and they run forever. And Banner and MacPherson have been great. Any time I need anything, I

More information is available:

Banner Eng. Corp., 763/544-3164. www.bannerengineering.com. MacPherson Control Products, Inc., 908/757-5110. www.macphersoncontrol.com.

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for the packaging industry.

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A new bottling line at DRINKMORE CUSTOM WATER includes a shrink wrapper that bundles a range of sizes of bottled water in plastic film without requiring paperboard pads or trays.

Wrapping up success

Jack Mans, Plant Operations Editor

DrinkMore Custom Water (DCW), Gaithersburg, MD, produces and sells polyethylene terephthalate bottles of water ranging in size from 12 oz to 1.5 L under its DrinkMore brand, but the majority of its business is the design, production and delivery of custom-labeled bottles of water to a wide range of clients nationwide. It produces orders both large and small, with the majority of the customers being commercial businesses, but it has produced custom-label water for weddings, birthdays, bar mitzvahs, retirement parties and many other events, as well as for retailers looking to gain new business via label promotion. "We may run fifty different labels in one day, so the key to this operation is that we designed our labeling operation so that we can run as little as one case [24 bottles] for a customer, we can switch between different labels quickly, and we can print the labels for those short runs in-house," says DCW president John Walsh.

Clients that have purchased custom-labeled bottles include the U.S. Senate, the Robert Trent Jones Golf Club in Prince William County, VA, for sale at the Presidents Cup golf tournament, Microsoft Corp. and Best Buy.

DCW's in-house design staff works closely with its clients to develop unique label designs. In addition to a standard, pressure-sensitive label, it also offers a patented coupon label, which has a coupon area that is easily and neatly removed from the bottle. Clients can also use its labels to conduct contests, through the use of scratch-off areas directly on the bottle. Its labels are printed on state-of-the-art printing presses, and the company can reproduce photographic images or match PMS colors with no problem. DCW also can print its labels such that there are two different labels in



Wrapped bottles, top photo, enter the shrink tunnel. PET bottles are washed in the first module of the monobloc rinser/filler/capper, above. Next, ultra-pure water is filled by a gravity filler, after which the bottles are capped.

sequence on each roll, so that they appear A-B/A-B. Printing labels in a sequential manner allows for half of the bottles in a case to have one label and half with another.

CW's sister company, Drinkmore Water, opened its first water store in Rockville, MD, in 1993 to produce ultra-purified water for its customers to transport home for consumption. In 1996, DrinkMore Water began delivering its ultra-purified water to homes and offices in the Greater Washington and Baltimore region, and now it has more than 12,000 customers. In 2006, the company moved to a 40,000 sq-ft facility in Gaithersburg, where it moved its 3- and 5-gal water line (information about this line will follow in a later issue) and added the new PET bottling line owned by DCW. It also installed a new, state-of-the-art water purification facility in the plant.

Packaging the filled bottles was a major concern for DCW, so it installed a Series IL Model PH32HL intermittent-motion shrink wrapper with a custom-built infeed from Polypack, Inc. (www.polypack.com). "We wanted to eliminate paperboard from our packages, and this machine can run most of our bottles, even in twent-fourpacks, without trays or pads," says Walsh. "I've worked with Polypack for a number of years, and they've always done an excellent job for me. Their service is great. One morning, my old shrink wrapper's main driveshaft broke, and Polypack machined a new shaft that day and shipped it to me overnight, and we were up and running the next day. In this business, you have to have confidence in your suppliers, so I never even thought about anyone but Polypack."

DCW runs three pack configurations—a 2×3 , a 3×4 and a 4×6 . During PD's visit, the machine was running a 4×6 24-pack of 0.5-L PET bottles,



A magnetic clutch system in the eight-head capper tightens the caps to the set torque level as the bottles travel around the machine.

which were supplied by **Plastipak Packaging**, **Inc.** (www.plastipak.com). The bottles enter the PH32HL wrapper through four lane dividers, and when sensors above the lanes detect that the lanes are full, a gate releases six rows of bottles for packaging. A sensor triggers a motorized pusher assembly to push the bottles through the wrapping section of the machine, and the bottle-feeding process is repeated. A paperboard-pad dispenser from **MGS Machine Corp.** (www.mgsmachine.com) is mounted in front of the film curtain and will place a pad on a popup plate before each group of bottles enters the plate, if the plant is running a pack that requires the ppaperboard pad.

Two rolls of film are mounted on the end of the machine and enter the machine perpendicular to the direction of infeed-bottle travel. The 3-mil, high-clarity PE film is supplied by **Film Source Intl.** (www.filmsourceinternational. com), a Polypack affiliate. Each layer of film passes over a series of dancer bars that feed it into the wrapper. The bottles are pushed through the film curtain and travel on top of the bottom layer through the wrapping section, while the top layer travels concurrently above the bottles. The leading edges of the two pieces are heat-sealed together as the group leaves the wrapper. This simultaneously seals the back edges of the two layers of film on the leading group of bottles and Continued on page 32

Producing labels for short runs

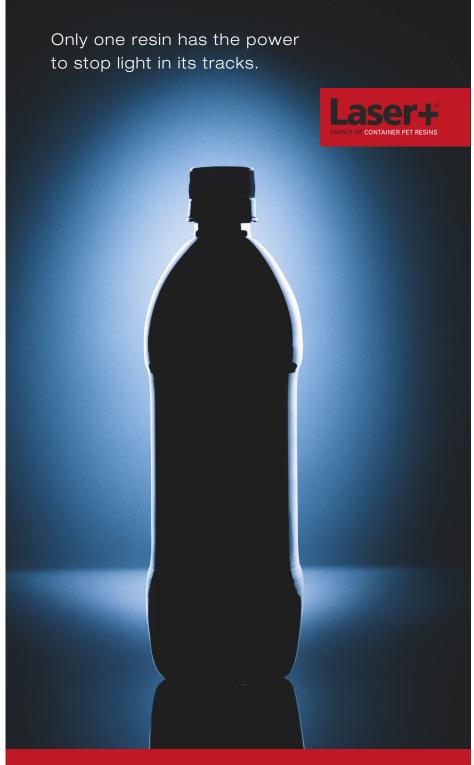
DrinkMore Custom Water has a booming business supplying custom-labeled bottles to its customers. But with a minimum order of a single case (24 bottles), it had to find a way to produce just the number of labels it needs for these short runs. "A minimum order from our regular label supplier is at least 1,000 labels, so it would be cost-prohibitive to order labels for these short runs from them," says president John Walsh. "Plus, we can produce the labels within a few hours if necessary, while the delivery time from our regular supplier is typically a week."

To meet this need, DCW installed equipment to produce its own labels. It started by buying two Stylus Pro 4000 ink-jet printers from **Epson America**, **Inc. (www.epson.com)** that use seven-color Epson UltraChrome ink with eight-channel printhead technology that switches between photo black and matte black automatically. The printers offer a maximum resolution of 2880×1440 dpi. DCW's in-house design staff works closely with its clients to develop unique label designs, and it then transmits these designs to the printers over the Internet.

DCW finishes the rolls of labels on a DFS digital finishing system from Allen Datagraph Systems, Inc. (www.allendatagraph.com) that laminates, contour cuts, strips the waste and slits and rewinds the finished labels onto individual rolls. The digital contour cutting done by this system eliminates cost, inventory hassles and leadtime of dies used in traditional die-cutting methods. In-line, pressure-sensitive (cold) lamination is easy with independently adjustable web tension drives for laminate tension and release-liner takeup. The cutter mode can be set up very quickly and economically, making it ideal for short-run productions.

The DFS features SmartMarkTM automatic electro-optical registration-mark recognition, which eliminates manual registration mark sighting. The SmartMark recognition system uses a simple, 0.25 in.-sq contrasting mark placed anywhere in the lower left quadrant of the print job. The user simply moves the light-emitting-diode marker close to the printed registration mark, and the system does the rest. Cutting is digitally controlled and registers optically in both the X and Y directions. More information is available:

Allen Datagraph Systems, Inc., 603/216-6344. www.allendatagraph.com. Epson America, Inc., 800/463-7766. www.epson.com.



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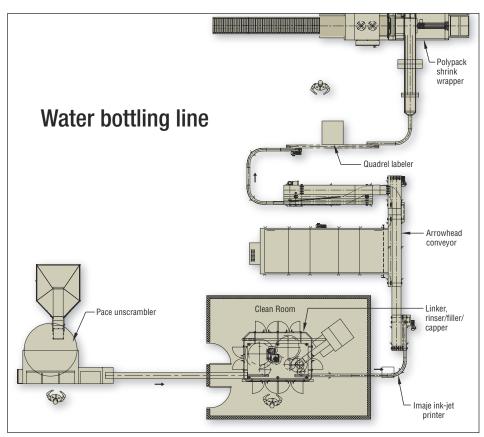
the leading edges of the film on the following group. The seal bar also cuts the film apart between groups of bottles. Multiple sensors throughout the wrapper monitor the operation and shut down the machine and trigger an alarm if any problems occur. For example, if the bottle pusher takes too long to travel through the wrapping section, it will initiate the shutdown and alarm. The bottles then enter the shrink tunnel, which tightly shrinks the film around the bottles and creates a very tight bundle.

The wrapper incorporates a programmable-logic controller from **Telemecanique (www. telemecanique.com)**, as well as a color-touchscreen operator interface with message display and self diagnostics. The unit includes preprogrammed settings for conveyor speeds, timing and temper

conveyor speeds, timing and temperature settings for fast, accurate setup when changing products.

bottles, which are delivered on pallets, are dumped into the floor hopper of an M-500 unscrambler from Pace Packaging Corp. (www.pacepkg.com). An elevator lifts the bottles into a rotating disc that discharges them into the standup unit in a horizontal position. If the bottles are oriented with the bottom end leading, they discharge in an upright position onto the next conveyor. If the bottles are oriented with the top, open end leading, a hook flips them over so the closed end is leading, and they are then stood up on the takeaway conveyor.

The bottles are delivered to a monobloc RFC24-24-8 rinser/filler/capper from **Linker Equipment**



Corp. (www.linkercorp.com) that is installed inside a Class 100,000 clean room manufactured by Clean Air Products (www.cleanairproducts. **com**). The room includes five overhead, highefficiency particulate air-filter units, which maintain a positive pressure in the room, and there is also controlled entry to optimize sanitation. The 24-24-8 designation means the rinser has 24 heads, the filler has 24 heads, and the capper has eight heads. The system incorporates Linker's neck-handling system, which includes a 20-ft infeed section of air conveyor and modifications to the rinser/filler/capper to handle PET bottles by the neck. This eliminates most change requirements for different bottle sizes, because the system only requires bottle-diameter changeparts for large variations in diameter. DCW takes advantage of this feature by being able to run 12-, 16.9- 20- and 24-oz bottles with the same set of changeparts in the machine.

Bottles enter the rotating rinser through a starwheel and, after they are inverted, water is sprayed up into them. The water drains, and the bottles are returned to an upright position as they enter the starwheel that transfers them to the gravity filler. An electronic control maintains the level in the filler bowl to ensure a proper fill level in the bottles. The filled bottles then travel through a starwheel to the cap-in-head capper. Caps, which are supplied by Alcoa Closure Systems Intl. (www.alcoacsi.com), travel down a chute from an overhead hopper and are released from the chute as the bottles enter the capper. A magnetic clutch system tightens the caps to the set torque level as the bottles travel around the capper.

Sensors on the infeed air conveyor change the speed of the

system to accommodate the bottles entering the unit. If a bottle is missing on the conveyor, a shift register tracks the empty position through the system, stops product from dispensing and prevents the release of a cap at the relevant position. A sensor in the cap chute rejects an upside down cap in the chute. The system is equipped with a PLC and an operator panel from **Rockwell Automation (www.rockwellautomation.com)**.

Bottles leaving the cleanroom have their lot code and production date imprinted on their shoulders by an ink-jet printer from **Imaje** (www.imaje.com) and travel past an accumulation table from **Arrowhead Conveyor Corp.** (www.arrowheadsystems. com), which also supplied the tabletop conveyors throughout the line. The bottles pass through a single-filing section and travel to the labeling area. Continued on page 34





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HP C8842A Versatile Black





This custom-built labeler incorporates two labeling heads that can operate alternately to facilitate running short runs of bottles with different labels with minimium downtime.

As mentioned previously, the key to this operation is the ability to run bottles with as many as 50 different labels during a day's production. To accomplish this, DCW installed a custom-built labeler with two side-by-side labeling heads from **Quadrel Labeling Systems** (www.quadrel.com). The labeler has been constructed so that the label heads can be swung out away from the product stream to rethread one labeling head, while the other head is labeling, and then can be easily swung

back into the labeling position. Thus, while one labeler is applying labels, the other labeler is being set up with the next batch of labels. The line is only stopped for a few seconds to switch from one labeler to the other. In this operation, a roll of labels is mounted horizontally on each labeler, and labels are pulled through the unit by a drive mounted just beyond the peel plate. A sensor detects a bottle entering the labeler and starts a stepper motor on the label drive. Another sensor detects the gap between labels and stops the motor after the label is dispensed. A continuous belt holds the label against the bottle and rotates the bottle as the label is applied. In this operation, one motor drives the infeed screw, the conveyor and the vertical rollers so that the entire system is synchronized. The stepper motors on the label drives are separate.

Immediately before the bottles enter the labeler, there is a photoeye counter and pneumatic gate. The operator enters the exact number of bottles required for an order into the counter, and the gate actuates and admits the set number of bottles. It stops the bottle flow once the desired count is reached. Once the gate closes, the operator switches labeling heads, resets the counter and resumes labeling operations with the new label in less than a minute. The labels are supplied by **Discount Labels (www.discountlabels.com)**.

Bottles leaving the labeler are conveyed to the shrink wrapper as described previously, and the finished packs are manually palletized.

More information is available:

Polypack, Inc., 727/578-5000. www.polypack.com. Alcoa Closure Systems Intl., 317/390-5000. www.alcoacsi.com. Arrowhead Conveyor Corp.. 920/235-5562. www.arrowheadsystems.com. Clean Air Products, 763/425-9122. www.cleanairproducts.com. **Discount Labels**, 800/995-9500. www.discountlabels.com. Film Source Intl., 727/578-3003. www.filmsourceinternational.com. Imaje, 800/462-5334. www.imaje.com. **Linker Equipment Corp.,** 908/353-0700. www.linkercorp.com. MGS Machine Corp., 763/425-8808. www.mgsmachine.com. Pace Packaging Corp., 973/227-1040. www.pacepkg.com. Plastipak Packaging, Inc., 734/455-3600. www.plastipak.com. **Quadrel Labeling Systems,** 440/602-4700. www.quadrel.com. Rockwell Automation, 414/382-2000. www.rockwellautomation.com. **Telemecanique**, 888/778-2733.

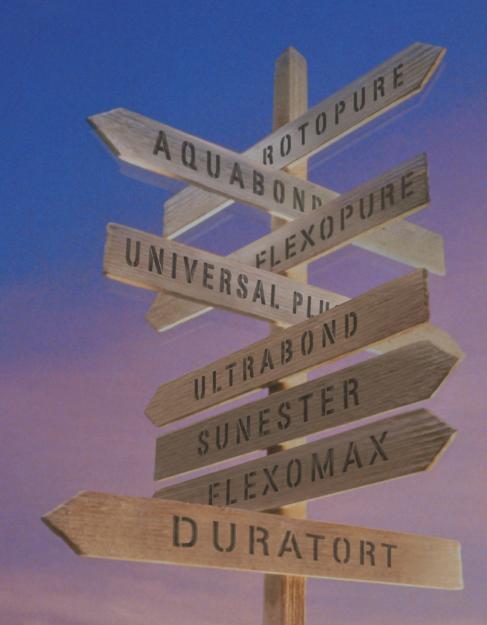
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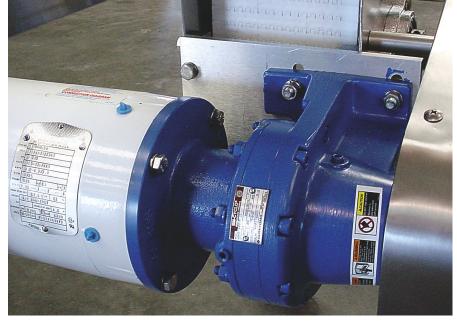
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Gear reducers move conveyors efficiently

Jack Mans, Plant Operations Editor

Within the fast-paced and demanding world of the commercial baking industry, Woods
Fabrication, Inc. (www.woodsfab.com),
Taylorsville, GA, is recognized for its quality, craftsmanship and reliability. The company supplies innovative solutions to many unique challenges in the baking market. The Woods Fabrication reputation for excellence results from more than 18 years of supplying reliable, custom conveyors and cooling tunnels to leading manufacturers of baked goods, including Flowers Snack, Kraft Foods, Nabisco, Kellogg and many others.

More than 10 years ago, Woods Fabrication began to specify speed reducers and gear motors from **Sumitomo Drive Technologies (www. sumitomodrive.com)** to drive its products, and it currently installs more than 200 reducers per year on its equipment, according to Woods' chief

They give us great service and their gear reducers seem to run forever, so there is no reason to consider anyone else.

engineer Nevin Harne. Woods needed a drive that would enhance its product quality and reliability, explains Harne, and Sumitomo was initially chosen by owner Ricky Woods based on the excellent quality and performance of its Cyclo® concentric product. "The Sumitomo gear reducers are very efficient and require practically no maintenance," says Harne. "We supply them as standard on all of our conveyors and tunnels unless a customer specifically requests a gear motor from someone else." As Woods expanded into new applications,

it began to use Sumitomo Hyponic® right-angle, shaft-mounted drives. Sumitomo supplies both Cyclo and Hyponic products in a C-face design to give Woods ultimate flexibility in applying special motors to match its customer's requirements.

"Sumitomo gives us great service," says Harne. "We get a lot of quick- turnaround orders, and on a few occasions, Sumitomo has been able to get reducers on their way to us within a day. And their gear reducers seem to run forever. We include a list of replacement parts with every conveyor we deliver, in case a customer needs spare parts, and I seldom remember when anyone ordered a replacement reducer due to failure."

More information is available:

Sumitomo Drive Technolgies, 757/485-3355. www.sumitomodrive.com.

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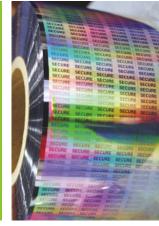




















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The word "sustainability" in any discussion about packaging almost universally brings to mind images of new, recyclable and compostable materials, including polyethylene terephthalate glycol (PETG) and polylactic acid or polylactide (PLA) plastics, pulp paper protection replacing expanded polystyrene (EPS) and new, environmentally acceptable coated paper trays and cartons replacing the indestructible ones of the past.

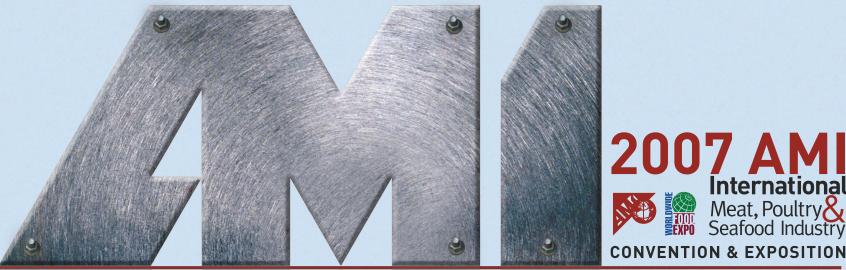
But packaging machinery will also play a significant role in the growing green revolution. As the means of turning emerging innovative materials into finished packages, machines and their controls will be the engines that drive widespread sustainability.

From the discriminating use of vision systems and "smart" robots to developing more energy-efficient production equipment, machinery designers and builders are responding to the industry-wide call for greater sustainability. Some simple solutions to controlling waste, such as printing cases on-demand rather than maintaining preprinted inventory, are coming into their own as cost-effective means to achieving sustainability.

Many of those responses will be on display at **PACK EXPO Las Vegas 2007 (www.packexpo. com),** being held Oct. 15 to 17 at the Las Vegas Convention Center. Here are just a few examples of what visitors will be able to see up close at the upcoming show:

he Lomax NB (Neck and Bottle inspection) system developed by CIVision (Booth S-5202) is designed to help bottle makers assess their product output. The system inspects blown bottles for defects that would make them unsuitable for use and identifies them for rejection. The Lomax NB employs up to nine separate cameras to detect a wide variety of defects. They also discriminate between bottles that are physically malformed or otherwise not suitable for use and those that are defective because the plastic is contaminated with foreign material such as metals or carbon.

Those containers exhibiting contaminants are Continued on page 40



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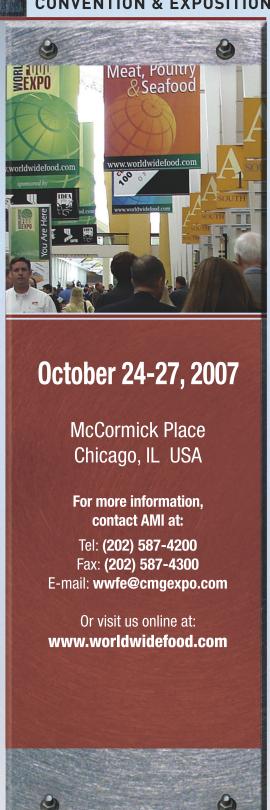
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WARNER ELECTRIC

CBC-300

Kiwi's case printers, top, help reduce preprinted inventory and reduce material waste costs. Warner Electric's new Smooth-Start UniModule clutch/brake, above, aids sustainability by preventing sudden starting and stopping of production lines.

identified first and are ejected into one bin, to be discarded as unusable and not recyclable. Those bottles that are malformed, or that exhibit bubbles or other weak areas that might cause filling, labeling or shipping problems are rejected into another bin for regrinding and reuse in making new containers. Bottles that have passed both inspections go into another bin for delivery to customers.

Not separating out the contaminated

bottles, which is what happens in the course of most inspections, not only returns dangerous contaminates to the bottle-making process, but it also may exacerbate the problem by scattering them throughout several "new" bottles.

Lighting plays a critical role in these inspections, and the Lomax NB utilizes a single-spot white LED to illuminate the inside of each container as it passes along the production line. As the inside of the containers is illuminated, the sidewalls of the containers fluoresce, highlighting any black particles present.

The first four cameras are positioned around the production line. The field of view of each camera is greater than 90 deg, and the four cameras obtain a full surface profile of the bottles being inspected.

Each camera is triggered by a photoelectric sensor, and digital images are then transferred to a host PC for processing. As each image is captured, a specific region to be searched for defects is found, and the camera looks for any black particles larger than a set threshold within this image. Subsequent cameras inspect the bottle's neck and top, while an overhead camera verifies the dimension of the bottle neck from above.

All of this takes place at speeds of more than 350 bottles/min.

dept Technology, Inc. (Booth A-5364), a global provider of intelligent, vision-guided robotics and robotics services, recently introduced the Adept QuattroTM s650 robot, said to be the world's fastest light-payload packaging and handling robot. The new robot is targeted at the food, consumer goods, cosmetics and pharmaceutical industries.

The Quattro s650 robot utilizes a patented four-link parallel drive and a carbon-fiber construction to provide packaging cycle times twice as fast as conventional packaging robots, at up to 240 pick-and-place cycles/min. The Quattro s650 robot integrates its controls inside the robot, virtually

Machines and their controls will be the engines that drive widespread sustainability.

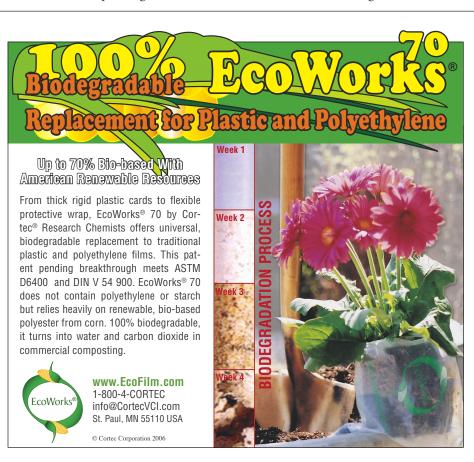
eliminating external control cabinets, saving factory floorspace and simplifying installation.

The new robot is controlled by Adept's SmartControllerTM platform, which provides fully integrated vision and conveyor tracking for up to six conveyors, making the Quattro an ideal solution for high-speed packaging applications in which products are randomly located on moving conveyor belts. The Adept Quattro features over-the-belt mounting, a 1,300-mm work envelope and a 250-mm Z-stroke. Adept also offers a washdown option for use in sensitive manufacturing environments that require frequent washing to prevent product contamination.

"What makes the s650 unique is the intelligence and simplicity that comes from its embedded, fully integrated controls and vision platform," says Seema Gupta, packaging product manager of Adept. "The combination of Quattro's speed and the elimination of the complexity and expense of large, external control cabinets found in traditional packaging robots brings a new level of throughput and flexibility to high-speed packaging applications."

The speed of the s650, combined with its ability to pick and place items scattered randomly on a conveyor, increases line productivity and thereby reduces the amount of energy needed to pack an equivalent quantity of product compared to that packed by a standard, "blind" robot.

he ability to print shipping cases on an asneeded basis eliminates the need for costly preprinted case inventory, cutting costs in material waste, warehouse space and inventory handling. **Kiwi Coders, Inc. (Booth C-2823)** Continued on page 42





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makes a variety of such printers, including its Heavy Duty Flat-Case Printers. These machines deliver commercial-quality printed cases as needed, with clear, sharp bar codes, logos, printed instructions and handling information.

The Kiwi Model 2482, for instance, prints cases at up to 50/min. The press is designed for quick

changes of imprint information, minimizing downtime and making just-in-time printing even more practical. A typical changeover takes minutes, including a complete type change and cleanup.

The Model 2482-2C is a two-color version of the printer, designed with the second printing stand mounted on casters for easy removal for type



IndraDrive with Safety-On-Board by Bosch Rexroth can help reduce potential waste and limit the energy needed to shut down and restart a line by maintaining constant operation.



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AC Variable Frequency Drives | Servo Drives & Motors Electro-Mechanical Drives & Gearmotors Clutches & Brakes | Machine Automation changes, cleanup and maintenance. Both printer models handle cases up to 26×44 in., with imprint areas of 22×44 in. Kiwi's larger one- and two-color case printers can handle cases up to 36×44 in. with imprint areas of 32×44 in.

The printers feature several type-mounting systems. A magnetic printing cylinder using curved metal plates carrying either permanently mounted metal dies or changeable Channelok mounting enables frequent text changes. A Flexback printing cylinder with flexible plastic plates is recommended when printing large amounts of copy. Kiwi says the Magflex cylinder uses dies with a flexible magnetic backing—convenient when numerous small blocks of copy or graphics must be changed frequently.

he new Smooth-StartTM UniModule clutch/brake from Warner Electric, Inc. (www. warnerelectric.com) is designed to deliver smooth, consistent starting and stopping performance at lower torque ranges from 0 to 50 percent of maximum-rated torque, the range that usually proves most challenging.

How does this aid sustainability? Sudden starting and stopping of any moving production line not only can cause waste as products spill or can cause damage as containers slide, but it also reduces the efficiency of the line and wastes energy.

"Conveyor applications have evolved into requiring new levels of start-stop precision," reports Warner Electric product manager Scott Fuller. "For instance, conveyors today handle a much wider variety of shapes, sizes and weights, and torque needs have to adapt to those variables."

As a result, Warner Electric engineers and product designers developed the Smooth-Start UniModule. The new clutch/brake can deliver both faster starts and stops at maximum torque and smoother starts and stops at less torque as needed. For even greater control, the clutch and brake torque levels, when linked with





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Warner Electric's CBC-300 controller, can even be set independently of each other. At the same time, the controller supplies constant voltage to the clutch/brake even when supply voltage varies.

Smooth-Start Unimodule clutch/brakes automatically adjust for wear, so they require no maintenance throughout their working life, eliminating the need for maintenance downtime for greater productivity—another sustainability benefit.

afety concerns lead many companies to install protective systems that can shut down machines quickly and completely when an unsafe condition is detected. While this protects personnel from injury and the company from liability, it can also interfere with productivity by shutting down the line, possibly damaging product as well as consuming valuable time.

Safety no longer requires a complete shutdown. A new way of handling safety challenges supports sustainable operations by reducing potential waste and limiting the energy needed to shut down and restart a line by maintaining operation.

IndraDrive with Safety-On-Board by **Bosch Rexroth** (**Booth S5032**) features Safe MotionTM technology, a safety solution housed directly in the equipment drive that incorporates integrated safety functions and meets with the latest standards for safe stopping and safe motion, the company says. Safe Motion is considered an important type of safety system because it directly affects machine movement and operator safety.

Equipment incorporating the safety-on-board feature offers packagers not only operator safety, but also efficient equipment performance. Bosch Rexroth says one of the main benefits of this drive system is its ability to safely reduce line speed rather than shutting down the line when a safety-related

incident is detected. Operators can set up the machine or clear jams without risk, even while the machine is operating.

Safe Motion technology achieves a quick response to incidents through monitoring contained in the drive itself. The IndraDrive with Safety-On-Board is said to offer reaction times up to 400 times faster than conventional solutions that use contactors to produce a safe stop. This reaction time is necessary, Bosch Rexroth says, in order to provide adequate operator protection around the highly dynamic servo drives of today's high-speed equipment.

More information is available:

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Packaging IBCs

Friendly Ice Cream Corp. improves safety and sanitation and decreases labor for its ice-cream topping products by switching to 330-gal, 'hands-free' INTERMEDIATE BULK CONTAINERS.

Friendly Ice Cream Corp. (Friendly's for short), Wilbraham, MA, says it has found the cherry on the banana split as far as its warehousing and packaging operation is concerned. The company makes fudge and pineapple toppings in 600-gal kettles.

Recently, it was able to improve safety and sanitation and decrease manual labor, as a result of converting to the Air-Evac® intermediate bulk container (IBC) system from A.R. Arena Products (www. arenaproducts.com) from stainlesssteel tanks. At its production plant in Wilbraham, Friendly's has been successfully using the bulk containers to handle its high-viscosity ice-cream toppings for a bit more than a year.

Friendly's is a vertically integrated restaurant company serving the East Coast with signature sandwiches, entrées and ice cream desserts in a family environment in more than 515 company and franchised restaurants throughout the Northeast. The company also manufactures ice cream distributed through more than 4,500 supermarkets and other retail locations. With a 71-year operating history, Friendly's enjoys strong brand recognition and is currently revitalizing its restaurants and introducing new products to grow its customer base.

reviously, Friendly's pumped the toppings from the kettles into 250-gal stainless-steel tanks. Once filled, the tanks were placed in storage and then moved out

Lauren Hartman, Senior Editor to various work centers when needed to incorporate additional, thick ingredients into the toppings.

The stainless-steel tanks were large and took up a lot of storage space," admits Jim Perry, business unit supervisor at the plant. The tanks had to be moved manually out to the work centers. "Their wheels would occasionally get stuck in floor drains, and they were difficult to move. Safety is a very important issue for Friendly's," he adds

In addition, considerable manual labor was required to scrape out and offload the viscous contents into the finished-product containers. Cleaning the tanks was also a labor-intensive process, Perry says, as the tanks had to be washed and sanitized properly to prevent contamination. Once they were emptied and cleaned, the tanks were stored until needed again but they had to be cleaned a second time before filling.

riendly's says it made attempts to try other IBCs, but that it couldn't find any that were able to evacuate as much product as Friendly's would have liked. Most produced higher residual levels.

Then, members of the company's manufacturing team saw the Air-Evac System at a trade show and noticed that the patented system, teamed with Arena's 330 ShipperTM, which holds up to 330 gal, is hands-free and is quite different from many conventional methods of emptying liquid from bag-in-box liners. The system works by replacing the volume Continued on page X

We've also improved sanitation and decreased our manual labor. We are very pleased with the new IBC system.





Easier to maintain, fill and empty, the patented, 330-gal IBCs are pratically hands-free. The system works by replacing the volume of liquid pumped out of an inner chamber of the bag liner with shop air introduced to chambers on the outside of the bag. This forces the liquid in the bag to the bag's outlet.



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For more information about A.R. ARENA'S IBCS and Air-Evac system, visit www.packagingdigest.com/info/arena

of liquid pumped out of an inner chamber of the bag liner with shop air introduced to chambers on the outside of the bag. This forces the viscous liquid in the bag to the bag's outlet. Air volume is increased as the liquid content decreases. As the product pools around the drain opening, it can easily be pumped out, enabling the Air-Evac to achieve low residual levels. The inflating Air Evac liner alerts operators when the contents of the bag are nearly emptied,



Friendly's new containers help eliminate solid waste and its environmental impact.

as the bag begins to expand above the top of the shipper.

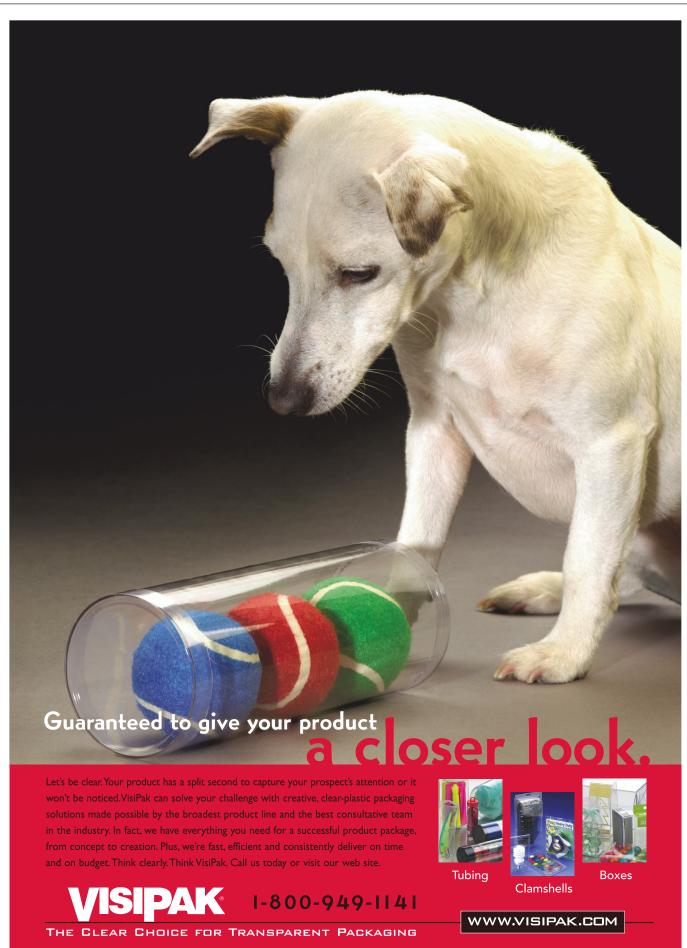
According to Arena, residual levels can be reduced by more than half, as the Air-Evac eliminates the need to wring out the bag liner or scrape out residual contents, like Friendly's previously did with the former tanks, while reducing the environmental impact of solid waste.

ith a snap-on cover, replaceable skid pads, a 2- or 3-in. bottom discharge and four-way forklift entry, the outer reusable container (IBC) is made of what Arena says is a proprietary, all-plastic construction of advanced, structural plastic resins and composites. The container collapses for return shipping and storage. Since the system doesn't require operator intervention or monitoring, Friendly's finds it can dramatically reduce waste and increase product yield.

The flexible but sturdy polyethylene film bag liner can be furnished with one to three plies in a range of thicknesses, depending on the application, with or without product barriers to accommodate many different products. Equipped with one valve centered on its top and another in a bottom corner, the three-ply version Friendly's uses is designed to fit a variety of IBCs.

se of the IBC begins at each of Friendly's work centers where the company currently uses the BlowFish Air-Evac liner—designed for bottom-discharge applications—and the 330 Shipper, one of Arena's newest liquid storage/shipper combinations. Friendly's pumps the toppings from the kettles into the Air-Evac liner bags, which hold a net capacity of about 300 gal each (net capacity varies slightly, based on the bag configuration and other factors).

The drop-in Blowfish liner bag cassette, nestled in the outer shipper, is then stored in an anteroom. When needed, the Arena shippers are easily



Did you know?

The demand in the U.S. for bulk packaging will reach \$6.6 billion in 2011, according to a recent study from The Freedonia Group,

Inc. www.freedoniagroup.com). The report says advances will be aided by growth in manufacturing activity, along with a shift in the product mix toward larger, highervalue containers offering enhanced performance and cost economies. Demand will be tempered by declines in the manufacturing sector as a component of total U.S. economic activity, as basic manufacturing in many industries shifts to developing countries that offer lower-cost production. Rigid intermediate bulk containers (RIBCs) will log the fastest growth, the report points out, fueled by cost and performance advantages compared with smaller, single-trip or shorter-life alternatives.

Material handling container demand will rise favorably, spurred by expanded use of returnable and reusable containers. Advances will benefit from greater use of plastic crates in the agricultural sector for the storage and handling of seeds and grain. Drum demand will drop, the result of maturity of steel and fiber drums and competition from rigid and flexible IBCs. The entire study is available for \$,4,500 from Freedonia at 440/684-9600.

and safely delivered to the work company's centers using a pallet jack.

At the work center, an operator removes the shipper's cover and connects the Blowfish bag to a pump. A central air supply is introduced to the bag chambers on the outside lining of the bag through an air regulator.

The operator connects the air-delivery system to an inflation tube and turns on the integrated air valve. As the product pumps out, the automatic air-delivery system replaces product volume with regulated air, inflating the air chamber in the Air-Evac bag.

The bag pops out of the shipping tote when the product is nearly empty. When the Air Evac bag is fully inflated, the air-delivery system shuts off automatically. At this point, the amount of product left in the bag is at a minimum, Friendly's explains. After the inflation tube is removed from the air-delivery system, the Air-Evac air chamber

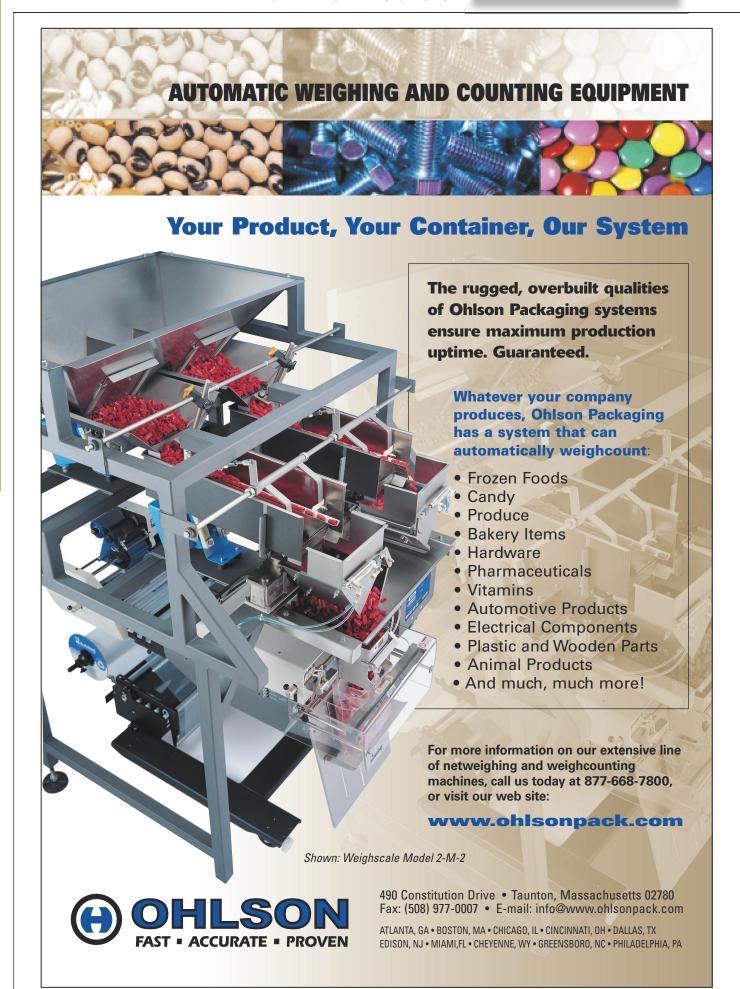
can be pierced to speed deflation, and the liner can be removed from the outer container and discarded. The 330 Shipper can then be collapsed for return shipment

When the bag is emptied, it is thrown away. The shipper can be easily collapsed, stacked and stored until needed again. The shippers are cleaned and sanitized before each use. "Safety is number-one at Friendly's ,and the Arena system has eliminated the potential safety hazards," summarizes Perry. "We've also improved sanitation and decreased our manual labor. We are very pleased with the system."

Friendly's is also testing the Arena Starfish® Air-Evac system, which incorporates a top-discharge pumping system to further enhance safety and sanitation and reduce residual levels. Even sweeter, the company is introducing new products to grow its customer base.

More information is available:

A.R. Arena Products, 800/836-2528. www.arenaproducts.com.





Using radio-frequency identification to track packaging and work in process may not be as flashy as end-to-end supply-chain visibility, but companies are generating REAL RETURNS with assetmanagement solutions and are getting a return on their investment in RFID.

Pinpointing the **ROI** in **RFID**

In February, several newspapers, including *The Wall Street Journal*, as well as magazines, online publications and others, ran a rather bleak assessment of Wal-Mart's radio-frequency identification (RFID) mandate [see Rollin Ford's presentation comments in our sidebar to this article]. While the world's largest retailer reports that it has reduced out-of-stocks and increased the efficiency of order replenishment,

suppliers complain that the cost of serving Wal-Mart has done nothing but go up:

- They've absorbed the cost of RFID hardware and software solutions to meet the mandate.
- Applying tags has increased labor costs, and
- They still haven't seen the reduction in tag costs that was supposed to come with scale.

Despite those hurdles, the market

for asset tracking and real-time locating systems using RFID is going nowhere but up, according to Mike Liard, research director for RFID and contactless for **ABI Research (www. abiresearch.com).** Liard projects the market for asset management solutions will grow from \$233 million in 2006 to \$874 million by 2011. Add in solutions for cargo tracking and security, and the market will grow to \$1.4 billion by 2011, he estimates.

Wal-Mart emphasizes sustainability and RFID

Following reports in February that presented a somewhat dreary assessment of Wal-Mart's radiofrequency identification (RFID) rollout and its value for the company's suppliers, Wal-Mart's Rollin Ford, executive vp and chief information officer, discussed and countered the issue in his opening keynote speech at May's RFIDJournal Live! 2007 conference in Orlando. "Nothing could be further from the truth," he said in reference to the reports, as he showcased RFID's potential to improve the environment and the financial health of the retail giant and its suppliers as well as benefits to its customers. Ford, who assumed his role in 2006, succeeding Linda Dillman, told the audience that the company's goal is to deploy RFID at another 400 of its stores this year, along with the 1,000 stores already utilizing RFID to track cases and pallets of products. "We're not backing off or slowing down," he said. Rather, "Wal-Mart is continuing to roll out RFID to our stores at the same rate as we have in the last two years," he said, adding that Wal-Mart intends to use RFID technology to help increase store efficiency by about 20 percent within

seven years

Ford also talked about the company's focus on using RFID in a broader sense, to cope with issues of improving healthcare in the U.S., to address business improvements and to concentrate on sustainability. "Wal-Mart has been very public about its focus on sustainability," he

WAL*MART

told conference attendees. "But you have to understand RFID in a broader context than just in tracking [shipping] cases. Before we started this journey of sustainability within our company, we had no idea where we'd begin or certainly how we would end. We knew that technology such as RFID could be leveraged to have an even bigger and broader role than just what we were thinking about in today's terms. When you think about RFID enabling innovation, in a number of areas, by focusing on customer's profitability and supporting a healthy planet, we feel like we have a strong business model. For our

customers, RFID can improve both the in-stocks and the quality and safety of the products we have. RFID enables efficiencies in the supply chain as well as other business processes. Our suppliers have reported sales lifts in the execution of promotions. But this is only the tip of the iceberg."

The company, he said, is also hoping to bring these approaches, as well as speed-to-shelf to the stores and to its Sam's Club business as well.

Ford also referenced greater supply-chain efficiencies and data accuracy as a result of the use of RFID technology and sustainability. "Certainly there are places within the supply chain where inventory becomes inaccurate," he said. "We can automatically and efficiently use RFID to locate errors, get down to the root cause and achieve accurate forecasts, and this goes back to our sustainability efforts." He explained that Wal-Mart uses RFID to help to track inventory more accurately, reduce unnecessary truck deliveries and eliminate customer trips to the store for items that were out of stock during Continued on next page

The value propositions are stronger in asset management. There is definitely an ROL.

Why are companies that are skeptical of case- and pallet-tracking solutions so interested in tracking assets like lift trucks and work-in-process in plants?

"The value propositions are stronger in asset management," Liard explains. "There is definitely an ROI [return on investment]."

In fact, end users implementing an asset-management solution are demanding an ROI. "Our customers won't consider a solution without a six- to nine-month ROI," says Gary Latham, director of industry solutions for **WhereNet** (www.wherenet.com).

Why is there a quick payback in asset management when suppliers for Wal-Mart don't see a return for years to come? One answer: Tracking assets in a closed-loop environment, like a factory, a distribution center or the yard,

is easier to control than tracking a case or a pallet across an open environment like the retail supply chain. "If you're implementing RFID across a supply chain, all of your trading partners need to put in the infrastructure to get visibility," Liard says. "In a closed loop, you only care about what's happening in your facility or in your yard."

This article was written by Bob Trebilcock, Editor at Large, for Modern Materials Handling.

More information is available:

ABI Research, 516/624-2500. www.abireserach.com. WhereNet, a Zebra Technologies co., 800/490-2261.

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Wal-Mart (cont.)

their initial visit. "This not only leads to the product being on the shelves when the customer wants it, but also to more accurate forecasts," he said. "Accuracy leads to efficiency, and that leads to sustainability by ultimately reducing inventory and costs within the supply chain."

For Wal-Mart, out-of-stocks cost the company and its suppliers lost sales of about 2 percent of the retailer's entire sales, he said—about half of which is the result of inventory inaccuracies. "Assume RFID, in a very conservative way, could resolve about ten percent of that inaccuracy," Ford predicted. "We and our suppliers could gain over \$250 million annually. That's real value right now, but so much more can be done inside the business. We're only scratching the surface."

Ford also shared with the audience RFID projects Wal-Mart suppliers are working on and cited examples from Kimberly-Clark, which is successfully using RFID data in monitoring promotional display execution, and taking corrective action regarding out-of-stocks in real time; Procter & Gamble's

RFID efforts, which include electronic product codes (EPC), product tracking to improve in-stocks and RFID tagging of displays; and Hanna's Candle Co., which uses RFID with its promotional pallet displays to track products from distribution centers to the sales floor, increasing its sell-through.

"The bottom line is that we're going to continue to invest and innovate, and be sure that RFID is affordable and available to suppliers," he added. "We will continue to collaborate with our partners, providing value and education and sharing best practices, as well as providing improved visibility of data. We've been very open with what our efforts have been and will be."

He also said more than 24 million people shop Wal-Mart stores daily. "If only 100,000 extra trips to the stores could be avoided by having stock people need, the gas savings that could occur and the emissions saved would be a key benefit to the environment. With RFID, we can meet customer needs in a world that's changing fast, and do that in a sustainable way."

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Beauty at 60 bpm

Nailcare products company **ART OF BEAUTY, INC.** evolves from manual to fully automatic nail-polish filling, adding components in stages to ensure flexibility, speed and minimal operator intervention.

Anne Marie Mohan, Senior Editor

From its beginning, Art of Beauty, Inc., Cleveland, has embraced science as a way to bring innovative, natural nailcare and cosmetic products to professional salons and spas internationally. The company was formed in 1986 by husbandand-wife team Michael and Zoya Reyzis, who employed their respective knowledge of advanced chemistry and cosmetology to grow from a small nail salon in Cleveland into a developer and marketer of toxic-free solutions for the nails, skin and lips.

According to Art of Beauty president Michael Reyzis, the company's first product, a nail-coating preparation treatment called Zoom Dry, created "a totally new segment in the category of fast-drying products." From there, the company grew its offerings to include the Zoya® line of professional nail lacquers, Zoya Hot Lips glossy lip balms, QticaTM hand, body and lip treatments, Qtica® Smart Spa manicure and pedicure products, and the nocti® nail-color collection.

Over the years, as Art of Beauty's product selection grew, so too did its need for more facility space and for increased productivity and flexibility in its packaging plant. Seven years ago, the company moved from a 12,000-sq-ft facility to its present, 20,000-sq-ft location, which is now in

the process of being expanded even further.

For the packaging of many of its nail products, Art of Beauty has likewise seized upon technology to evolve from an almost completely manual system to a fully automated nail-polish filling line from **TurboFil Packaging Machines**, **LLC (www.turbofil.com).** "Automation has been the answer to increasing our output without increasing the number of employees," Reyzis told PD during a recent plant tour. "Automation is easy to control as far as production, and it's much more efficient and profitable from the standpoint of allowing us to offer product at a competitive price in the marketplace."

t was in 1997 that Art of Beauty first recognized the need to move to automated systems for the filling of its nailcare products, including nail lacquers and polishes and nailpolish base products. These products were being filled manually in containers measuring ½, ½ and 1 oz in a range of shapes, including oval, rectangular, square and tapered in different angles. Assembly, filling and capping of the containers at that time required up to eight operators whose only automated tools were a bench-top filler and a hand-held cap torquer.

From the beginning, the challenge was to find packaging equipment versatile enough to handle

From the beginning, the challenge was to find packaging equipment versatile enough to handle Art of Beauty's array of bottle shapes and sizes.



An automatic bottle feeder was specifically engineered to handle Art of Beauty's range of package styles. It features eight trays that—once loaded with bottles—operate elevator-style to deliver bottles to the line's infeed conveyor, as needed.



The first machine to be installed on the line, the filling and assembly monobloc, adds ball bearings to the bottles, fills product through piston or vacuum filling, or a combination of both technologies, and places the brush.

Art of Beauty's array of bottle shapes and sizes and short production runs, but simple enough to change over and maintain that it did not require in-house engineering expertise, relates Reyzis. "We experienced a drastic increase in the number of items we had to package, but at the same time, we did not grow to the point where we could bring in engineering or technical staff to support this piece of machinery," he says. Several attempts were made to automate the line with different equipment vendors, but the results were unsuccessful.

In 2004, Art of Beauty began working with TurboFil, which approached the manufacturer's flexibility and ease-of-use requirements by bringing the company "up to speed" gradually, automating the line in stages as production volumes increased. "It gave us an opportunity to grow and slowly add those components to the line that make it almost automatic so we can reduce the number of operators on the line," Reyzis says. The process began with the installation of a monobloc filler and assembly system and culminated last year with the addition of an automatic bottle feeder, a bottom labeler and an automatic capping system.

Recalls Eli Uriel, general manager of TurboFil, "We built this line in stages for Art of Beauty. The company initially purchased the filling monobloc to move away from manual filling. They then requested a fully automated system to be able to further reduce operating costs while simultaneously increase production volumes."

he first machine to be installed on the line, the filling and assembly monobloc, is based on a standard machine from TurboFil, the NPF-50, which was customized for Art of Beauty's flexibility requirements. The machine is engineered to handle the company's range of bottle sizes and shapes, and can fill product using

piston- or vacuum-filling technology, or a combination of the two, depending upon the item's viscosity. Before filling, the system places two metal ball bearings into each bottle. These ball bearings are later "activated" by the consumer when the bottle is shaken to agitate the nail polish after a period of nonuse, so that it flows freely.

After filling, the monobloc system drops a brush with a screw cap into the bottle. Art of Beauty's packaging is unique in that it uses two types of brush/cap options. With the first, a brush with a screw cap is added to the bottle, which then receives a second, tamp-on cap in a separate operation on the line. The second option Continued on page 52



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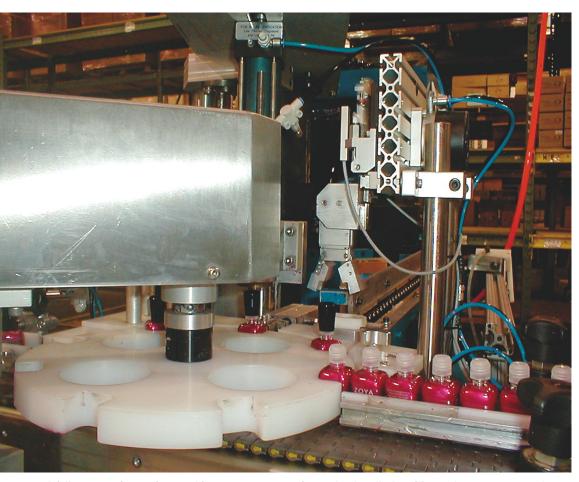
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A fully automatic capping machine was custom-engineered to handle Art of Beauty's custom, tapered cap, which comes in tamp-on and screw-cap varieties.



To watch a video of **ART OF BEAUTY'S** automated filling line, go to www.packagingdigest.com/info/turbofil

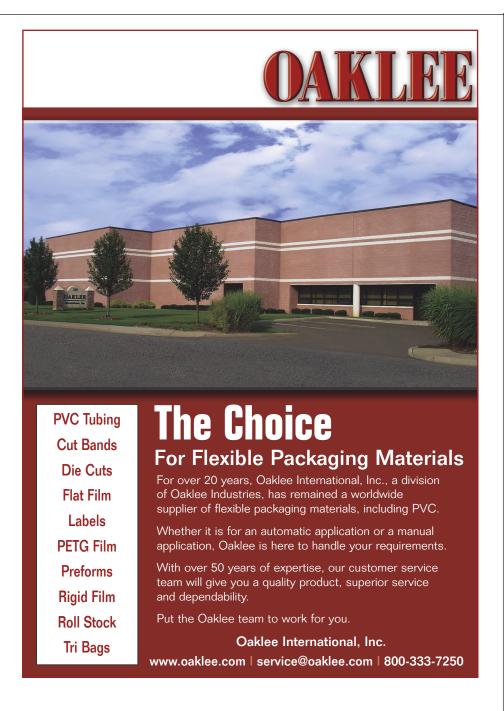
comprises a screw-on cap. The monobloc accommodates the former, placing the brush and tightening its cap.

The monobloc was designed to facilitate fast changeovers, with minimal changeparts required to ready the machine for a new bottle shape or size. "Changeover involves changing the starwheels to accommodate the different profile of containers," explains Reyzis. "If we also have to change the type of brush and the style of cap, that amounts to three changeovers in all, which take a maximum of forty-five minutes to an hour to complete."

Color changes are accomplished in a matter of minutes by flushing the system's pumps, notes Uriel.

A year after installing the monobloc system, TurboFil further automated Art of Beauty's nail-polish packaging line with the addition of a custom-designed, elevator-style bottle feeder, a capping system and a modified label applicator. The automatic bottle feeder was specifically engineered to handle Art of Beauty's range of package styles and features eight trays that—once loaded with bottles—operate elevator-style to deliver bottles to the line's infeed conveyor, as needed. The system has virtually eliminated one operator from the line, who was formerly needed to feed bottles to the line.

A fully automatic capping machine positioned after the monobloc system includes







Filled, capped and labeled bottles are fed to an accumulator where they are gathered for manual placement into secondary packaging. Art of Beauty hopes to automate this end-of line function, as well.

a vibratory bowl feeder that sorts the caps and feeds them to a linear track, from which a pick-and-place mechanism places the caps onto the bottles. A magnetic clutch then torques the caps using CAM movement. According to TurboFil, because Art of Beauty uses a custom, tapered cap in two varieties—tamp-on and screw—the pick-and-place mechanism had to be custom-engineered.

The final system added to the line is an in-line labeler from **Quadrel (www.quadrel.com)** that was adapted by TurboFil to accurately place pressure-sensitive labels on the bottom of the bottles. To accomplish this function, TurboFil designed a dual-belt conveyor that exposes the bottom of the bottles to the applicator. After being labeled, the bottles are fed to an accumulator where they are gathered for manual placement into secondary packaging—an operation

Automation is much more efficient and profitable in allowing us to offer product at a competitive price in the marketplace.

that Reyzis says Art of Beauty is also considering automating.

hrough the systematic automation of its nail-polish filling line, Art of Beauty can now package up to 60 ½-oz bottles/min, which Uriel estimates is three times faster than its previous

manual-filling process, with far fewer operators and increased efficiency.

Concludes Reyzis, "This has turned out to be a very economical system that has rapidly paid off for us in terms of increasing our output with fewer operators. TurboFil delivered a system that has exceeded our expectations."

More information is available:

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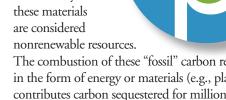
Since the advent of the industrial revolution, human activity has significantly altered the chemical equilibrium of the earth in a period of 200 years—a timeframe that hardly registers on the earth's geologic timescale. Sustainability for humanity is measured in generations. Thus, the rate at which society creates, uses and disposes of materials and the time it takes to cycle renewable materials are tremendously important. Why?

Materials that are considered renewable are

carbon cycle, or carbon equilibrium, that currently defines our planet. Thus, they have the potential to be carbon-"neutral." The carbon equilibrium of earth has varied over the past 650,000 years and over numerous ice ages within a band between approximately 180 and 280 parts/million of CO₂. But that is changing quickly. There is currently 385 ppm of CO, in earth's atmosphere, and it is rising by about 2 ppm per year. As it has become clear that CO₂ is building up, there is an increasing focus of humanity, these materials are considered

The combustion of these "fossil" carbon resources in the form of energy or materials (e.g., plastics) contributes carbon sequestered for millions of years in the form of oil or coal to the earth's atmosphere. This net addition of carbon is considered the predominant, anthropogenic mechanism for the buildup of CO₂ in our atmosphere.

At the recent Ceres conference in Boston, author Bill McKibben cited that 450 ppm is the most significant number to humanity. It is the level of CO₂ in the atmosphere associated with a 2-deg-C increase in global temperature beyond which point scientists believe we enter the realm of "dangerous" climatic consequences. At the current rate of annual increase, that's only 32 years away—not considering a more industrialized China or India. No doubt, carbon will be regulated in some form, probably soon. For related links, go to www.packagingdigest. com/info/green7.



There is no doubt that carbon will be regulated in some form and probably pretty soon.

incorporate carbon that is currently cycling within the biosphere—that portion of the planet that supports life. During the growing season, biological systems take up carbon dioxide (CO₂), and through photosynthesis produce renewable resources like plants and trees that can be used to produce materials. When these plants or materials biodegrade under aerobic conditions, they release carbon in the form of CO₂, and there is no net CO, contribution to the atmosphere. These "current" carbon materials are part of the

by governments, regulators, investors, corporations and societies on those processes and materials that result in the net addition of carbon or CO₂ to our atmosphere beyond that associated with the natural cycling of "current" carbon.

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system integration



So exactly what do automation system integrators do, anyway? Most would say they can provide any service necessary to automate a client's facility, though in truth, every integration firm has its specialties. There are robotic system integrators, information integrators, automated machine builders, material handling system integrators, control system integrators and so on; each is focused on different industries and applications.

But all system integrators offer design, implementation and follow-up services in one form or another. No single integrator is likely to be an expert in all of these areas, but here are some examples of specific tasks that a system integrator might be expected to perform:

Design: The best system integrators can walk their clients through the entire design process, starting with a blank piece of paper and ending with a detailed set of drawings and design documents. From their past experience and knowledge of the available automation technology, integrators already

Services by integrators: design, implementation, follow-up

know what can be done. They can also determine what needs to be done by interviewing the facility's owners and operators.

A system integrator's engineers can also take into account the facility's functional and economic objectives as well as the constraints imposed by the company's budget and its existing equipment. If the facility is already automated to some degree, the integrator can recommend the most costeffective upgrade or replacement strategy.

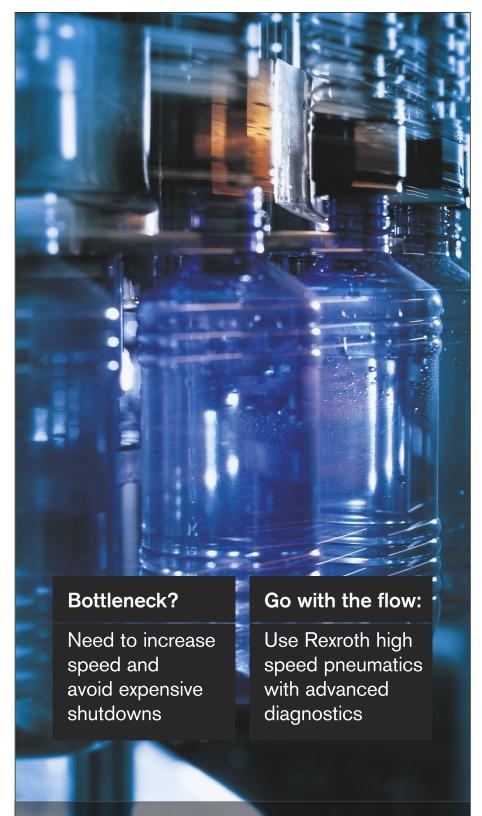
Implementation: The bulk of a system integrator's work comes when it's time to put the pieces together. Either with their own engineers or with outside contractors, they can turn the bolts and pull the wires necessary to install all of the instruments, actuators, controllers and panels required.

There are integrators that specialize in vision systems, valves, motors, robots, programmable logic controllers (PLCs), distributed control systems, human-machine interfaces (HMIs), control panels and a wide variety of other high- and low-tech automation equipment. Obviously, some will have more experience with certain technologies and brands than others, but all system integrators are willing to learn what they need to know to successfully complete the project. The one implementation skill that all integrators share is programming and software configuration. More than half of the companies listed in the Automation Integrator Guide (www. integratorguide.com) claim expertise in programming PLCs and HMIs. Many more have experience configuring such diverse computer-based devices as communication networks, loop controllers and data processors.

Managing a project is also within the scope of a typical integrator's services. The client is ultimately in charge, but the integrator's project manager can coordinate equipment procurement, work done by the integrator's own engineers and outside contractors and the customer's oversight of the project.

Follow-up: An integrator's job extends beyond a successful installation. Systems must be tested to guarantee they're going to work. Simulation studies involving the real automation system working with a virtual plant can help isolate unforeseen flaws in sequencing and control functions. Then comes the training and ongoing maintenance. If operators don't know how to run a system, or if the system degrades over time, the client's investment will be wasted. Many integrators will stick with a project after it's running in hopes of expanding the system or starting a new project.

Consulting Editor Vance J. VanDoren, Ph.D., P.E., contributes articles on process control, advanced control and system integration. Dr. VanDoren also edits Control Engineering's and Packaging Digest's annual Automation Integrator Guide. Dr. VanDoren previously served the industrial automation industry as an applications engineer for General Electric and as a product marketing and development engineer for Texas Instruments' Industrial Automation Division. He currently manages a firm of consulting engineers in Lafayette, IN, where he develops custom control strategies for advanced process-control applications.



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Custom packaging redefines **skincare**

A structural packaging makeover of specialty **PHARMACEUTICAL COMPANY SKINMEDICA, INC.'S** line of cosmeceutical skincare products conveys the science-based benefits of the products while providing a uniform and upscale brand identity.

Dermatologist Dr. Richard E. Fitzpatrick founded specialty pharmaceutical company SkinMedica®, Inc. of Carlsbad, CA, in 1999, to develop and commercialize premium products for treating various skin conditions and diseases and for improving the skin's appearance. Sold primarily through physicians, SkinMedica's products

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physicians, SkinMedica's products include prescription pharmaceuticals and physician-dispensed, nonprescription skincare products, or cosmeceuticals, that have been formulated with the belief that "you do not have to irritate the skin to get the results you want," relates Josie Norine, manager, Cosmeceuticals, for SkinMedica.

"We are most
well known for our
products with
NouriCelMD®," she says.
"NouriCel-MD is a
patented ingredient
that comes from

more than a decade of wound-healing research and is a cocktail of growth factors that help to improve the signs of aging."

Over the years, as SkinMedica rapidly grew, so did its take-home product line to one that now includes 23 items, including lotions, creams, toners and a chemical peel. Two years ago, the company surveyed the myriad of stock packaging components it was employing to market its products and realized that a new, more cohesive branding message was necessary to convey the company's leadership position and its products' unique formulations. But could it afford custom packaging?

o determine whether custom packaging was a viable option for its skincare line, SkinMedica selected **4sight inc.**(www.4sightinc.com), a structural packaging firm in New York City. 4sight president Stuart Leslie tells PD that 4sight began the project by analyzing and categorizing the functional requirements, viscosity and volume of each of SkinMedica's products to determine the number of custom packaging components that would be required.

Leslie recalls, "Our first challenge was to conduct an in-depth examination and analysis of their complete line of products, package components and





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info/4sight1

associated costs to find solutions that would streamline the manufacturing of the new packaging."

Until that time, SkinMedica had selected the packaging for its products from stock components as each new formulation was launched, looking to the leading, high-end prestige markets for guidance on color trends, shapes and function, according to Norine. By the time 4sight was called in, SkinMedica was sourcing more than 40 stock components for just 26 stockkeeping units.

Based on 4sight's assessment, Leslie relates, the firm came up with eight package "needs," requiring 16 components and three main types of packages: airless pumps, bottles and tottles. "After this extensive evaluation, we found enough commonality in size and functional requirements to dramatically minimize the required number of package components," he says. "This gave SkinMedica the ability to develop custom packaging within their budgetary constraints."

Beginning with the company's flagship NuriCel-MD-containing TNS-branded products, which include varieties such as TNS Recovery Complex® and TNS Body Mist®, 4sight selected an airless pump package with a sophisticated, cylindrical shape—referred to by 4sight as the "form language"—that was then repeated throughout the rest of the line. "What we were trying to do was find some way of communicating what's unique about this brand," says Leslie. "This brand is steeped in medicine; it's all about research and the laboratory, and it's all about the medicinal and clinical value of the product.

"The cylindrical form of the

You can afford custom packaging by optimizing your line and by having the right size package for each product.

packaging, with the flaring of the top and the bottom, is really meant to hint at lab equipment, but at the same time, it represents high style. That was the form language that we were trying to achieve—a blend of very high-style cosmetic, yet reminiscent of some type of a lab, so that we understand that it's

the science behind this product that differentiates it from its competitors."

nother blend that proved highly successful and cost-efficient in the redesign of SkinMedica's packaging was the combination of some stock components with custom packaging.

For example, for many of the TNS products, 4sight specified a stock, airless pump dispenser bottle from Airlesssystems (+33 23 2684000), fitted with a stock pump dispenser from Valois (www.valois.com) and a custom polypropylene closure from TricorBraun (www.tricorbraun. Continued on page 60

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com) that was molded to include the flaring effect.

For tottles and bottles, 4sight specified custom-molded polyethylene bottles from TricorBraun that use complex, stock closures from suppliers including TricorBraun and **Seaquist Closures (www.seaquistclosures.com).** "We knew that we couldn't really justify tooling for the more

complex closures," says Leslie, "so we selected closures that best fit with the brand and with the form language that we had identified, and then we used custom tooling on the bottles and the tottles to really achieve the brand look."

For flip-top caps from Seaquist Closures, 4sight also added a custom touch through the use of a thermoplastic elastomer ring placed over the bottle before the cap is applied. Explains Leslie, "It just gives the package a little bit of a special feeling in the hand, it provides an extra grip, and it creates a little break between the bottle and the cap—a feature that is sometimes used on higher-end cosmetic products." A custom PP disk molded with the

SkinMedica logo is also adhered to the top of the flip-top cap to convey the solidity of a high-end package and to reinforce the brand identity.

Eliminating SkinMedica's existing color palette of gold and blue, 4sight worked with various pearlescent and metallic silver and grey pigments to provide a sophisticated, elegant sheen to the bottles and caps. The

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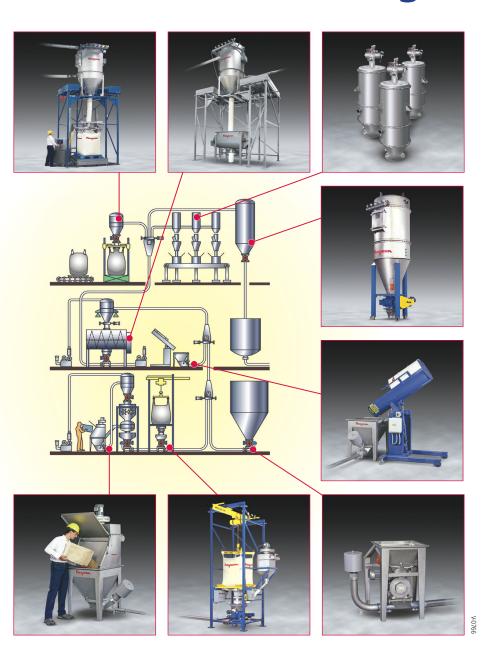
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Single-dose applicator system debuts

A first for prescription benzoylperoxide formulas, SkinMedica launched a single-dose version of its NeoBenz® Micro acne treatment last January in the DelPouch™ drug-delivery package from Cardinal Health's Pharmaceutical Technologies and Services (www.cardinalhealth.com/pts/) segment. The DelPouch comprises a proprietary foil pouch topped with a 1-in.-dia, 110-ppi foam pad that is used to apply the acne cream, once a frangible seal beneath the foam pad is broken by the consumer.

"Patients simply squeeze the single-dose [SD] pouch until the medication appears on the foam pad, apply and throw away—eliminating the need for their fingers to touch the medication or their faces," explains Michelle Saunders, vp, pharmaceutical marketing for SkinMedica.

SkinMedica offers 3.5-percent and 5.5-percent prescriptionstrength versions of the benzoylperoxide product, both in a portable, 0.5-g pack size, but the DelPouch can also be constructed in a 1-g format, relates Bruce Hepke, director of business development for Cardinal PTS. The pouches are filled at Cardinal's PTS facility in Philadelphia.

More information is available: Cardinal PTS, 732/537-6200. www.cardinalhealth.com/pts/.



six product categories within the line—Nouri-Cel MD, Hydrate, Cleanse, Acne Care, Solar Care, Age Defense and Vitalize—are identified on the packaging by different color icons, making it easier for customers to distinguish the products.

nother goal of SkinMedica's in redesigning its packaging was to increase the functionality of the products—an objective that 4sight accomplished through the selection of grippable shapes, complex closures and inverted formats, to name a few.

"For example," says Sara Sweeney, senior product manager, Cosmeceutical, for SkinMedica, "4sight designed our facial cleanser and replenishing lotion in an inverted position so the bottles stand on the cap, allowing the product to flow out more quickly. Many of the bottles also incorporate ovalshaped, airless pumps that allow easy dispensing of the recommended dosage, prevent oxidation and deliver the entire volume of product to the patient, and for both bottles and tottles, the flip-up caps can be easily opened with one hand."

rom a manufacturing standpoint, Leslie relates that the consolidation of components has resulted in more efficient filling and packaging speeds. "SkinMedica is filling many products on the same line, so this has reduced changeover times and has made it much easier for them to change a formulation without having to change the package.

"As far as we are aware, the new design has actually resulted in a cost savings. Even though there was a slight upcharge for the custom components, reducing inventory among all of the products has really offset that tremendously.

"So our response to SkinMedica was, 'Yes, you can afford custom packaging by optimizing your line,

The cylindrical form of the packaging is really meant to hint at lab equipment, but it also represents high style.

having the right size package for each product and finding some consistencies.' Custom packaging can be just as cost-effective as buying stock packaging, but you have that huge benefit to the consumer that it's a premium product and it's your own."

And just how have consumers

responded to the new packaging?

Launched to the market in spring 2006, the repackaged SkinMedica line has met with an "overwhelming response," relates Norine. "Doctors and patients love the innovative, new look as well as the improved functionality."

More information is available:

4sight inc., 212/253-0525. www.4sightinc.com.
with Airlesssystems, +33 23 2684000.
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SAN JOAQUIN FIGS, a Fresno, CA-based, dried-fig processor and packer, jumpstarts output by 30 percent with a new, automatic side-seal shrink-wrapping system and tunnel that have curbed wrap defects and holdover work and have upgraded pack appearance.

Shrink wrapping figs proves fruitful

Lauren R. Hartman, Senior Editor

JUNE 2007 PACKAGING DIGEST www.packagingdigest.com

San Joaquin Figs, Inc., a dried-fig processing and packing company located in Fresno, CA, recently implemented an equipment upgrade that got its fig-packing throughput moving swiftly. Marketing and packing a comprehensive line of California figs in consumer, bulk and industrial package sizes under the Nutra Fig label, San Joaquin is the only independently owned fig-processing company in the U.S. with its own source of supply. Selling internationally through brokers, in clubstores and in grocery chains, the vertically integrated company produces major commercially grown fig varieties under the Nutra Fig brand: Calimyrna; Mission; Conadria; and Kadota. In the early 1990s, it solidified its supply base by planting more than 600 acres of figs in eastern Madera County, about 35 miles north of its processing plant.

oy Jura and his son Keith, both life-long members of the California fig industry, have extensive backgrounds in farming and processing, and founded San Joaquin Figs in 1989. Utilizing a "customer-first" philosophy, the company quickly established itself as an industry leader by consistently producing top-quality fig



San Joaquin's new shrink-wrapping system, above, is a side-seal machine that operates at low temperatures and doesn't trim film with heat, which eliminates melted film, a problem the company experienced previously.

products. Today, the second-generation business is also the largest of its kind in the U.S., with more than 1,000 acres of fig-farming land, 320 of which it farms organically.

The company's equipment upgrade helped enhance the launch of its new fig-based energy-bar line named Cheetah. The company says that the energy bar has caught on well with cycling racers and other endurance athletes. It says that racers have expressed interest in having the figs in the form of a convenient and functional high-energy food in a familiar form. While the certified organic Cheetah energy bars themselves aren't shrink-wrapped, they got a welcome boost from the solid growth in volume





of the company's shrink-wrapped crown-packs and "finger" trays of figs. Says president Keith Jura, "We needed the new machinery before introducing the Cheetah bar. Our Nutra Fig crown-pack business continues to grow, and we knew that we needed to improve production of this line and the quality of its package."

Driven by health-conscious consumers helping to create a renaissance for dried figs, the company is coping with its burgeoning fig-packing operation by opting to purchase a new Lantech (www. lantech.com) SW-1000 shrinkwrapping system. The system has not only increased the packaging output of its main line of fig product by 30 percent, but it's addressing an issue with dog earsan unsightly blemish—occasionally associated with the former film wraps of the crown-shaped packages. It's also eliminating what San Joaquin calls holdover work that began to build up from day to day.

According to Jura, the new, automatic side-seal wrapper and an accompanying Model ST-700 shrink tunnel have been key to dealing with the surge in output for the fig products. Jura says that while the rectangular "finger" packs of figs can be wrapped easily, the SW-1000 facilitates multipacking of the crown-shaped tray-packs, and that has been a big help in fulfilling the requirements of a major clubstore chain—something the company says it had a difficult time achieving before it discovered the new wrapping method.

San Joaquin wanted equipment that could produce a quality wrap at a higher output and that has versatility. Says Jura, "The former sealing machine was like a single-shot rifle that had to be manually loaded for every shot. And the shrinking method we used before left hard dog ears of film on our round crown-packs."

The most popular of San Joaquin's retail packages, the crown-pack displays the figs in a circular fashion. Measuring 5 in. dia, the clear, shallow package comprises a polypropylene base tray that San Joaquin tops with a layer of 75-ga clear, heat-shrinkable film and an adhesive label (the company did not identify material suppliers).

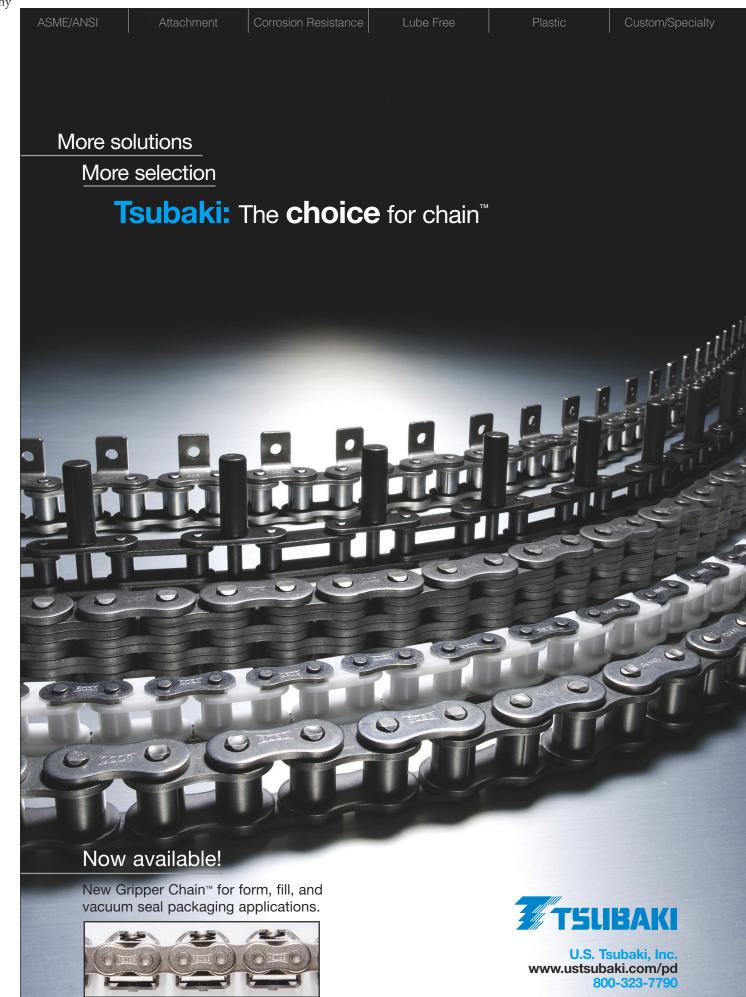
he company's plant in Fresno runs about 4,000 to 5,000 cycles a day most of

The test-packs looked noticeably better. This is important to us as a premium packer and factors into the brand image we want to project to consumers."

the year, so holdover work would pile up, in some instances. "That holdover could compound if we experienced any other problems," Jura admits. "And it was difficult for our previous machinery to stack two-packs of the crown trays, a request made by the national warehouse customer."

Working through local equipment distributor **Xpedex (www.xpedx. com)**, San Joaquin sent some of its 9-oz crown packs to Lantech for test wrapping while it was evaluating the SW-1000 wrapper and ST-700 shrink tunnel

The round pack would be a challenge for most wrapping systems to handle, according to Continued on page 64



Bruce Campbell, Lantech's product manager for shrink systems. "San Joaquin is trying to make a square or rectangular bag of film shrink into a tight, round form, so naturally, there's a lot of excess film at the corners," Campbell explains. "When the crown package enters a typical forced-air [heat] tunnel, the airstream causes the film bubble to contact the package prematurely, which in a sense, freezes the film and causes dog ears and wrinkles," he says. "Nonuniform

shrinking is the cause of the dog ears, as the center of the film bubble starts to shrink first and quickly. The dog-ear areas lag behind and thicken so rapidly that they never shrink completely but instead form hard tags of film."

With an innovative side-seal process designed to eliminate changes in seal quality that can be caused by film buildup on traditional hot wires, the shrink wrapper has what Lantech describes as an extra large operating sweet spot for time, speed and temperature control.

"The test-packs looked noticeably better," Jura says. "This is important to us as a premium packer. It factors into the brand image we project to consumers."

Campbell points out that the ST-700 tunnel



The soft-convection shrink tunnel, above, transfers heat so that it operates around 280 deg F for most polyolefins, about 70-deg less than many other tunnels.

uses convection heat to overcome the hard-tag problem because it uses a minimal amount of gentle air circulation. There are no inlets or discharge ports that can cause air turbulence. The tunnel's heating elements are located inside the shrink chamber, exposed beneath a transport belt, with low-speed propeller fans situated below them. The side-seal-wrapped fig packs are exposed to direct radiant heat, as well as the gentle circulation of hot air, which transfers heat evenly to the film bubble without exerting force or pushing on it. The tunnel's heating elements respond quickly to temperature changes, so the convection tunnel holds its setpoint temperature within ±2 deg F. Campbell adds that the efficient transfer of heat allows the convection tunnel to operate at around

280 deg F with polyolefin films—about 70-deg less than many forced-air tunnels that shrink the same type of film.

Setup for the convection tunnel is easy, Jura notes. An operator sets the conveyor speed slightly faster than the shrink-wrapper speed (the line usually runs 30 to 38 packs/min, depending on package configuration, Jura notes) and then determines the optimum temperature by observing the behavior of the film bubble through a viewing window in the tunnel.

The operator then sets the temperature to a point that causes the film bubble to peak and start shrinking as a fig package passes through and over a riser bar in the tunnel.

"We can change the machine over from one package size to another in ten minutes," observes Jura. "And there's no holdover work at the end of a shift [San Joaquin runs one shift a day]. The side-seal system operates at fairly low temperatures [316 deg F] and doesn't trim the film with heat, which has eliminated problems of melted film." The "figtastic" upgrade makes for a sweet ending, Jura says.

More information is available:

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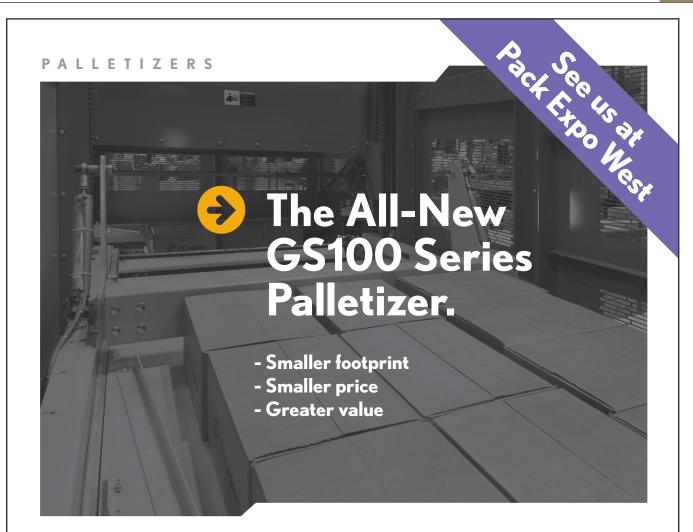
Mexico's total market value to packaging machinery reached (U.S.) \$442 million in 2005, with parts sales adding another (U.S.)\$60 million to \$65 million, according to the Packaging Machinery Manufacturers Institute (www. **pmmi.org),** producers of the EXPO PACK México and PROCESSA shows. Imports represent 85 percent of the Mexican packaging market.

The Mexican food industry comprises 19 percent of the country's manufacturing GDP, with the beverage segment close behind. In fact, the food industry accounts for 40 percent of all packaging machinery sold into Mexico. The pharmaceutical industry, however, is another significant machinery buyer in Mexico, representing about 10 percent of all packaging equipment sold. That market has been growing rapidly, as it has elsewhere in the world, registering about 7-percent-per-year increases. The personal care market is on par with pharmaceuticals. The food and beverage segments are growing at 3.7 percent per year.

The two shows are expected to attract 745 exhibitors from 22 countries and 32,000 packaging professionals from 24 countries. The shows will occupy about 150,000 sq ft of space at Centro Banamex in Mexico City.

A conference program is organized by the Mexican Packaging Assn. (AMEE) during EXPO PACK México 2007. The conference features topics about security in packaging, new packaging materials for the pharmaceutical industry, printing systems, flexography advantages, trends and innovation in packaging design, developing integral systems for packaging production lines and technological developments for packaging machinery.

Show hours are 1 p.m. to 8 p.m. For information on the show, visit www.expopack.com.mx or call PMMI at 703/243-8555. Registration is available online, at the show website.





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lead screw, linear rail, spline shaft, slide, guide and actuator assemblies with its exclusive, Kerkote® TFE coating. The co. claims the coating, a dry lubricant, performs like none other in the industry, reducing friction and extending the life of its products.

Kerk Motion Products, Inc., 603/465-7227. www.kerkmotion.com

Torque meters An agreement is made to distribute French manufacturer AT2E's torque meters and leak-testing systems for beverage, pharmaceutical, food, cosmetic applications and more, the capping machinery co. states. Integration of the systems should enable monitoring of cappingmachine performance and of capping heads. Fowler Products Co., 706/549-3300.

Weigh buckets Expected to significantly improve production output on the co.'s line of affordable, multihead weighers is the inclusion of clamshell weigh buckets. The new buckets are now available on all of the CS 2.5-L (0.7-gal) units and on the XL-16 high-speed model, the co. reports, adding that the new buckets open wider, are able to discharge product faster for higher output and reduce product waste through an overlapping closure design.

CombiScale, Inc., 847/806-0606. www.combiscale.com

Adhesive melters M-series hot-melt adhesive melters, said to be built to deliver flexibility, performance and durability, are also claimed to be market-standard-compatible. The co. says the units are available with 15-, 30-, 65-, 120- or 170-L-capacity tank sizes and include PLC-based technology with full communication options, a touchscreen control panel and positive-displacement gear pumps for continuous output requirements.

expohotels.eu

Shure-Glue/Melton Systems, Inc., 513/874-6550. www.shure-glue.com



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full dexterity to clean room assembly, handling, testing and packaging functions. Both run on the co.'s SmartController™ CX controls and software, said to provide superior path following, faster cycle times, better repeatability, integrated vision and embedded networking.

Adept Technology, Inc., 925/245-3400. www.adept.com



Vision sensors Designed to detect an infinite number of color variations accurately, even in the most challenging color-inspection applications are PresencePLUS® color vision sensors. They're available in two formats: the 2-pc PresencePLUS Pro COLOR with DINmountable controller; and the unitary PresencePLUS P4 COLOR OMNI. The co. says the sensors are available starting at \$3,495.

Banner Eng. Corp., 888/373-6767. www.bannerengineering.com

Software The rollout of Software Suite 7 is described by the co. as a complete update of its design and pre-production software tools, offering significant improvements in features, productivity and compatibility with third-party software. Said to be fully compatible with Adobe's latest PDF standards and Creative Suite application versions, Software Suite 7 is scheduled for release on July 7. **Esko.** 937/454-1721.

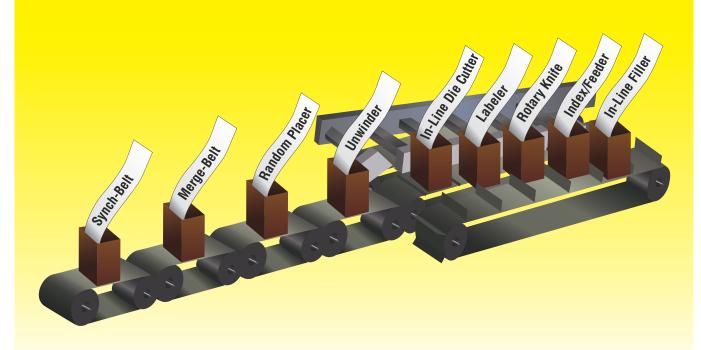
www.esko.com

Palletizer The Model 72AE makes its bow as a mid-range palletizer designed to make short work of large, bulky shrink-wrapped bundles, including paper products. The machine reportedly orients, stages and palletizes gently at increased speeds while offering convenient, floor-level operation and an economical price tag, with smooth product movement assured by a low-friction, layer-forming table and low-friction rollers on the transfer table. **A-B-C Packaging Machine Corp.**, 800/237-5975. **www.abcpackaging.com**



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new productsequipment

Motor controllers The RSH Series of soft start/stop motor controllers is said to be available in two sizes with basic rotary or advanced pushbutton controls. The co. says motor control capacity ranges from 1½ hp at 220VAC to 40 hp at 600VAC, adding that soft start/stop enables starting and stopping of 3-phase asynchronous with a simple 3-wire connection. Improved starting conditions reportedly result by suppressing inrush currents during motor starting by gradually increasing torque from a user-preset point to a 100-percent level.

Carlo Gavazzi, 847/465-6100. www.GavazziOnline.com

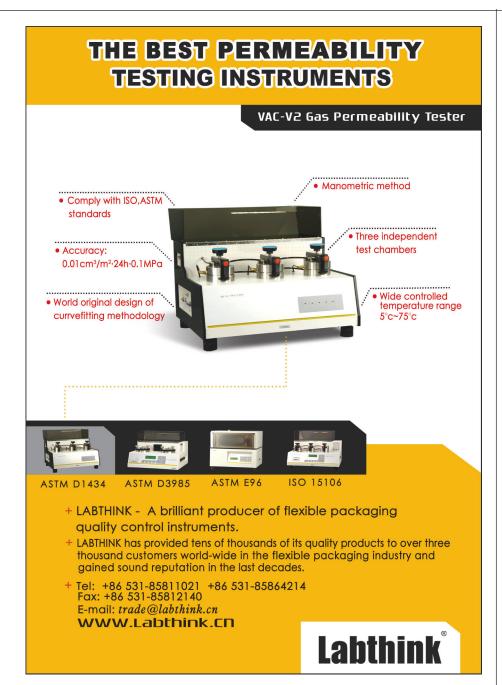


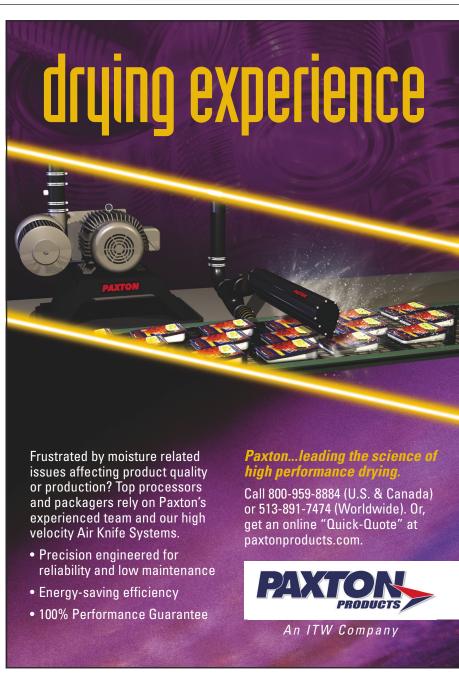
Terminal blocks A range of IEC terminal blocks is reportedly designed, manufactured and tested to meet the specs and strict requirements of applicable UL, CSA and IEC standards and are rated for Code 1, factory wiring only, and Code 2, both factory and field wiring. The co. says the screw clamp is available from 20A to 232 amp, and the spring clamp from 20A to 50 amp, with a miniature panel mount from 20A to 35A in both spring and screw clamp. **c3controls**, 724/775-7926.

www.c3controls.com

Panel PCs The CP72xx line of Intel® M-Class panel PCs provides industrial applications and integrated controllers with robust high-tech displays, the co. says. The PCs are said to be designed for simple mounting-arm installation and integrate all features required for HMI hardware and advanced, PC-based machine control, all in an ultra-compact slimline housing designed for optimum user-friendliness. Available in screen sizes of 12, 15 and 19 in., the panels are IP 65-protected and are water- and dust-proof. Beckhoff Automation LLC, 952/890-0000.









Checkweigher The KWE

4040 electronic checkweigher is introduced to weigh large food and pharmaceutical packages in a gross weighing range up to 30 kg, the co. says, and is built in compliance with GMP guidelines. Special features cited for the new machine include the Smart File card system for paperless production control, flexibility through an extensive modular system and a fully integrated metal detector that helps eliminate contaminated product.

Bosch Packaging Technology, 49 (711) 811-5733. www.bosch.com/pa



Bottle handling The promise of profitable small-batch filling and capping for high-value ophthalmics and topical creams, ointments and gels depends on the flexibility, agility and fast changeover of the FF30 bottle-handling system, the co. says. A simple attachment of the appropriate dispensing pump handles product changeovers for the co.'s PF6 peristaltic filler when paired with its FF30 tabletop filling and capping machine and its DF32 positivedisplacement pump, with bottle/cap size changes in 2 min and complete product changeoversaccomplished in about 15 min, the co. adds.

Flexicon America, Inc., 802/657-3232.

www.flexiconamerica.com

Film feeder For its Continuum line of wrappers and tray/shrink systems, the co. introduces a film-feed module. Reportedly engineered with high-speed servos, the module incorporates a direct drive to ensure efficient operation and durability as it consistently feeds, cuts and delivers clear or printed film to the wrapper wand. With reported speeds to 100 trays/min, the module is suggested for food and beverage industry applications.

Standard-Knapp, 860/342-1100. www.standard-knapp.com





Packaging outside the box

Esko has the most complete suite of innovative packaging pre-production tools for graphics, structural design and project management. Fast and error-free production from design to delivery to simplify the package design life-cycle. Integration with MIS and ERP systems. Leading digital flexo imaging solutions. Customer support from experienced professionals.

When packaging innovation requires you to 'think outside the box', think Esko.



new productsmaterials

Color masterbatch/HDPE A line of molded containers for personal care, cosmetics, food and other sectors has a gloss associated



with injection- or blow-molded PET at a lower cost, according to the co. The containers are made using a proprietary combination of a specialty HDPE and POP™ high-gloss colors, a new color masterbatch, developed to

enhance the inherent gloss of the resin. Said to boost gloss by more than 200 percent, the HDPE/POP combination also gives the packaging improved mechanical properties. Also provides stiffness and good melt strength. Can be used in both monolayer bottles and as the skin in multilayer bottles.

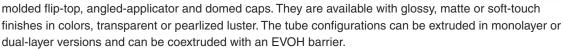
Ampacet Corp., 513/247-5412. www.ampacet.com

Expanded jar line The co. says its expanded line of jars offers injection-molded quality at price points lower than that of comparable blow-molded packages. With applications in personal care, pharmaceutical, food, petcare and powdered supplements, the line makes use of a patented technology created by the co.'s Delta Div. The production method is said to be faster and more efficient than many blow-molding methods and yields jars with a quality look and feel. The injection-molding process is precise and offers tight-fitting closures, consistent wall thicknesses, great sheen and sharp lines. The jar walls are expanded outward, so that the caps fit flush against them. When made using clarified PP, the contact clarity rivals that of PET jars, according to the co. The expanded line will be available in seven sizes and dias of 71 mm and 87 mm. Customization can be provided for mass-market applications.

Rexam Delta Plastics, Inc., 501/760-3000.

www.rexam.com

Oval tubes A large family of one- and two-piece oval tubes is available, courtesy of four proprietary technologies, the co. says. The patented one-piece tube design is said to eliminate online filling problems associated with cap backoff in conventional tubes while ensuring the correct in-hand orientation of packaging graphics. The tube caps also resist leakage and overflow, as well as residue contamination and other contamination between the tube and the cap. The tubes are custom-made with injection-



World Wide Packaging, 800/950-0390.

www.wwpinc.com





e-mail us at info@piab.com www.piab.com



PET container and preform A new 3-L PET griphandle container intended for warehouse store sales of food, household and automotive products has been introduced. The container stands 11.05 in. tall, is 5 in. wide and is 5.475-in. deep. It has a 38/400 neck and is stretch/blow-molded from a 93-g, injection-molded preform also being marketed by the co. The new container is proportional in shape to the co.'s 2-L grip-handle container intended for the same applications.

Novapak Corp., 800/975-2784. www.pvcc.com



Pull-pack for flowrapped

foods The co. says its new Pull Pack concept offers a new level of convenience for flowrapped foods, including chocolate bars and cereal bars. Flowrapping helps increase output and reduces material and labor costs, extends shelf life to retailers and offers a quality presentation and ease of use, the co. states. Quick, clean and simple to open in a controlled manner, the Pull Pack-wrapped product is held in one hand. A simple tug on the seal fin of the shorter end opens the pack. Hygiene is preserved, as the product does not have to be touched, and half of the package remains wrapped. The controlled opening and defined pull-off section of the packaging can open up a raft of marketing possibilities. The wrap section that's removed could be used as a token for promotions and competitions. Can be run on existing flowrapping equipment that necessitates an additional module.

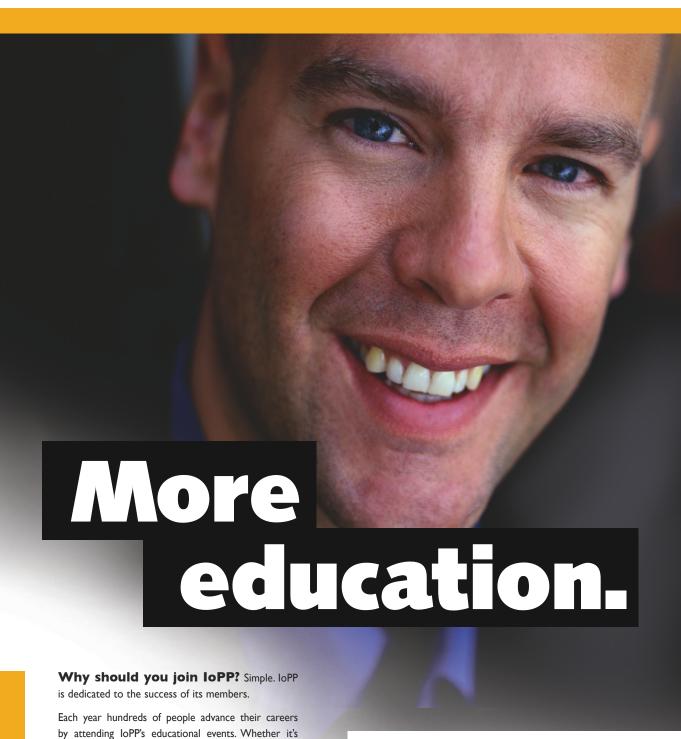
Sigpack Systems AG, a Bosch Packaging Technology co., 41(52) 674 7456.

www.sigpacksystems.com

PE caps and plugs New PE caps and plugs, including tapers, center-pull tapers, flanged and unflanged nonthreaded caps, finishing plugs and more, are stocked in the co.'s U.S. facility in Farmington, MO. The company reports that it also produces components in a new, wholly owned plant in Zhongshan, China, with in-house moldmaking and production capabilities.

MOCAP, Inc., 314/543-4000. www.mocap.com





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MOVERS & SHAKERS

Dorner Mfg. Corp. appoints Kim Stoll as industrial products marketing



Kim Stoll Dorner Mfg. Corp

Steve McElweenie

manager. **Exact** Packaging Inc. adds Randy Cotteleer as general manager. FKI Logistex®

expands its Canadian operations: promotes Steve McElweenie to vp and general manager of **FKI** Logistex Canada, Ltd., which brings together three existing

FKI Logistex

Canadian

divisions-

Airport, Post & Parcel, Warehouse & Distribution, and Manufacturing Systems—to create a single, go-tomarket entity in Canada.

HayssenSandiacre hires John Staruch for the newly created position of vp market development.



Amy R. Defayette Bosch Rexroth Corp.

Bosch Rexroth Corp. hires Amy R. Defayette in product marketing for its Linear Motion and Assembly Technologies group for its VarioFlow™ conveyor line.

Evergreen Packaging hires Paul Knoerl as the North American equipment specialist for bottle- and cup-filling systems on its sales team. Herrmann Ultrasonics, Inc., the North American headquarters of the Herrmann Group, announces that Thomas Herrmann, formerly

general manager of Herrmann Ultrasonics, Inc., returns to Herrmann Ultraschalltechnik GmbH & Co. KG to assume the position of CEO sales and finances. He remains president & CEO of Herrmann Ultrasonics, Inc. Uwe Peregi assumes the position of executive vp and general manager at Herrmann Ultrasonics.

R.A. Jones & Co., Inc. opens Mexican sales office that will be managed by José Edmundo Romo.

Siemens Energy and Automation, Inc. appoints Dennis Sadlowski as president and CEO. He succeeds



ns Energy and

Aubert Martin, who is retiring after 40 years with Siemens. Laminations. part of Great Northern Corp.'s

Specialty Group, promotes Todd Hainer

to manager of new business development.

Datamax Corp. and O'Neil Product Development, Inc., both part of Dover Corp's. Product Identification Group, appoint Michael A. Allocco as vp of sales for the Americas.

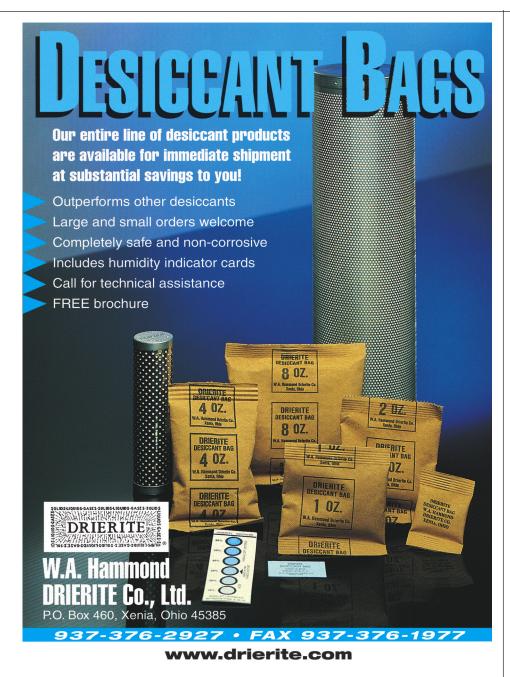
Logotech promotes long-time VP Leslie Gurland to president.

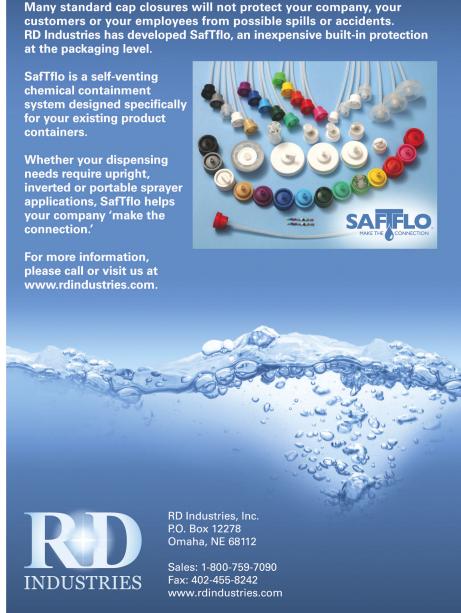
Padtech AS names Matthew Grimaldi as president of North American Operations.

Pro Mach's Ossid Div. promotes operations manager Mike White to vp and general manager.

SleeveCo, Inc. promotes Martin Wilson to president. David Johnson, company owner, will remain as CEO and chairman of the board.

Sumitomo Drive Technologies appoints Shinii Nishimura as the general manager of Sumitomo Drive Technologies' (Power Transmission and Controls Group of Sumitomo Heavy Industries, Ltd.) global organization, headquartered in Tokyo.





Literature and other multimedia, product announcements and websites for packaging machinery, materials, containers, supplies, and services. Contact supplier directly or respond online for information.

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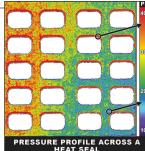
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"Soup's On" at PakTechPakTech has just developed QuadPak and 6Pak handles for soups and other canned food products. In addition to other design evolutions, about a year ago PakTech developed handles for canned beverages, from 'slim' cans (such as energy drinks) to standard soda and beer cans. In the past month, PakTech released prototypes of handles for larger, cylindrical containers such as soup, canned fruits and vegetables, and even pet food. Several sizes and styles are available for production, and high-speed automated application has been developed. **PakTech** 541-461-5000, Fax: 541-461-5005, www.paktech-opi.com





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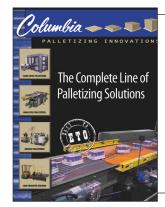
Automated Packaging Systems has recently added more features to its Systems Advantage™ Program, and is offering a new brochure that defines these new member benefits. "Systems Advantage" is a customer rewards program that combines machines, materials and services in a comprehensive packaging solution designed for maximum performance and value.

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info showcase



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(323) 225-4248, Fax: (323) 225-7316, www.bivans.com



into showcase



Model 400 Print & Apply Labeler

NJM/CLI specifically designed for versatility and reliability the Model 400 Print and Apply labeler to achieve vertical and horizontal labeling of cases and cartons at speeds up to 50 per minute. With optional application tools, the Model 400 can also achieve side labeling, corner wrap labeling and two-panel labeling at speeds up to 20 per minute. The Model 400 Labeler can even be customized to support

RFID tagging.

NJM/CLI Packaging Systems Int'l 603-448-0300

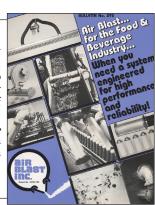
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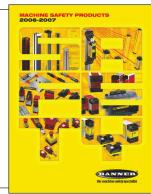
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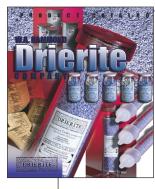
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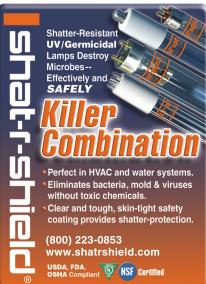
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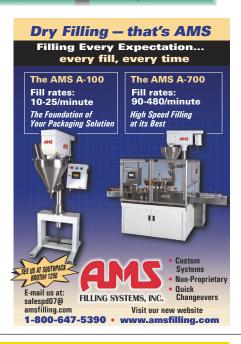
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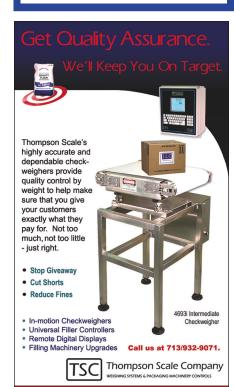
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newsmakers

Yupo Corp. announces several promotions: Paul Mitcham to director of marketing and sales, Dave Ofstein to director of quality assurance, Angelita Millendez to finishing manager and Cathy Rock to accounting manager.

GROWING & GOING

Transparent Container Co., Inc.

announces major manufacturing facility expansions at three locations. It opens a manufacturing facility in Ontario, CA, that is an extension of its Bensenville facility. It doubles the size of its Conyers, GA, facility. It acquires a larger facility in Berkeley, IL.

Eastman Chemical Co. opens its new Columbia, SC, IntegRex



manufacturing facility, which produces the co.'s ParaStar PET resin.

Alcan, Inc. opens its new \$42.6 million packaging plant in Reidsville, NC, which produces printed packaging including folding cartons and labels, for key customers in Alcan Packaging's global tobacco business.

James Alexander Corp. expands its facility from 20,000 to more than 30,000 sq. ft.

Phoenix Contact opens its new 15,000-sq-ft Customer Technology Center in Houston.

Greif, Inc. established its regional headquarters for the Asia-Pacific region in Shanghai, China, in conjunction with the opening of its new steel drum plant in Shanghai. Vp and strategic business unit manager Eugene Wu leads the region. Greif also establishes Greif (China) Trading Co. LTD, based in Shanghai.

BUYING AND ALLYING

Linx Printing Technologies announces that Diagraph, An ITW

Co., takes responsibility for Linx distribution in the U.S.

The Blackstone Group (London, U.K.) acquires the Klöckner Pentaplast Group (Luxembourg) for \$1.8 billion. It also acquires the Pharmaceutical Technologies and Services segment from Cardinal Health for approximately \$3.3 billion.

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European market best in years for manufacturers Economic recovery in Europe is driving demand for major manufacturers in the U.S., the Reuters news service reports.

The trend is helping to offset slower demand domestically as the automotive and housing markets decline.

Nestlé to buy Gerber for \$5.5 billion, expand in U.S.

Nestlé agreed to pay \$5.5 billion in cash for Gerber Products Co., which has 80 percent of the U.S. baby food market. Gerber is a unit of Novartis, another Swiss giant, which focuses on healthcare and pharmaceuticals.

Passive RFID tag market to hit \$486 million in 2013

The North American market for passive RFID tags should be worth nearly half a billion dollars by 2013, up from \$124.6 million in 2006, according to a recent report by Frost & Sullivan Inc. The report also notes, however, that demand hasn't been as great as the RFID vendors had anticipated.

Smurfit-Stone Corrugated Container plants earn Sustainable Forestry Initiative® Certified Sourcing designation

Smurfit-Stone Container Corp.'s corrugated container plants have earned the SFI Certified Sourcing Label from the Sustainable Forestry Initiative® Inc. (SFI).

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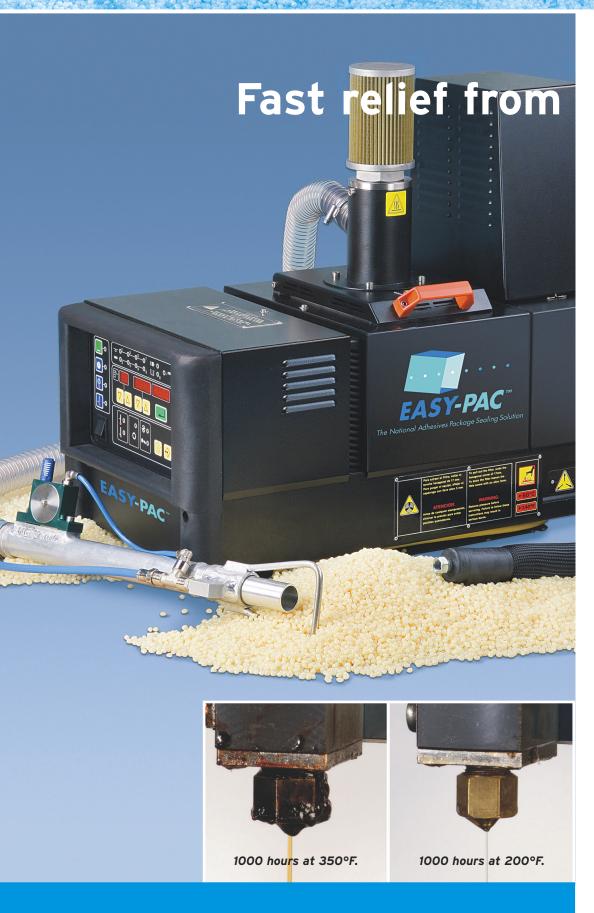
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