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January 2007

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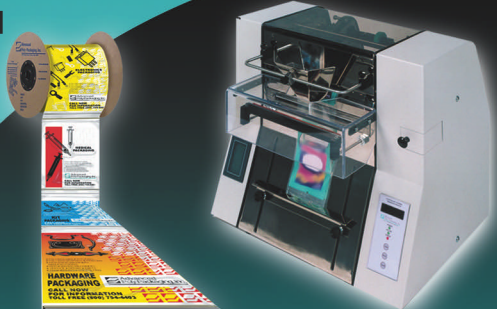


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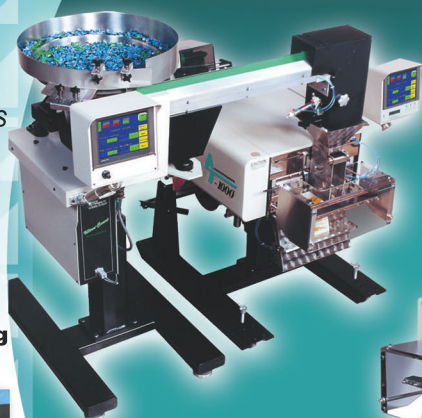
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Bananas in bunkers prove to be fruitful containment

Is the world going, well, bananas? Thanks to a creative inventor and an accommodating plastics manufacturing firm, the world might actually be a little bit safer for the fragile banana. The BananaBunker® is a new, highly practical, but unusual container that protects delicate bananas from bruising when placed in a backpack, a briefcase or other carrying case and simultaneously keeps them from squishing and endangering case contents. The brainchild of designer Paul Stremple of Cultured Containers, the package is prompting plastics molder **CY Plastics Works** (www.cypas.com), which produces the BananaBunker for Stremple, to move quickly on the new project. An inventor, artist and designer, Stremple has worked for such firms as Gucci and Polo-Ralph Lauren, recognized by international markets, which have been the first to snap up his creation. But don't be surprised to see it at better grocery chains and gift stores in the U.S. soon. From a molder's perspective, the project has been both challenging and fun, says CY Plastics' president Andy Molodetz. "Like many new products, Paul tinkered with material, design and finishing choices before he was satisfied," he says. Molodetz worked closely with Stremple as the product made its way from concept to finished product. CY Plastics chose to mold the container using Styrolux® 684 styrene butadiene copolymer from **BASF** (www.basf.com) in order to get the right combination of mechanical properties and transparency. CY Plastics molds the clear banana encasement in four colors: blue, clear, green and orange.

Dial is 'pumped' about foamy kitchen soap

Dial Corp. has again introduced a foaming handsoap product, in a 7.5-oz clear polyethylene terephthalate bottle, topped with the WRT6 Table Top foamer from **Rexam** (www.rexamairspray.com). The Dial Complete for the Kitchen antibacterial foaming handsoap, marketed for in-kitchen/food-prep use, is now available nationally and joins other Dial Complete and Dial Tone products in the company's mix since 2001. Dial chose the pump foamer's one-touch foaming technology for its elegant, upscale design that communicates Dial Complete's value-added sales proposition, which is being used for a wide variety of other home countertop products. **Graham Packaging** (www.grahampackaging.com) molds the PET bottle. The new packaging-material color scheme and label graphics coordinate to convey that the soap product helps protect against E-coli and salmonella



and promotes incremental usage before, during and

after food preparation. Such messaging is gaining momentum with many packages, encouraged by nationally renowned celebrity chefs, as well as widely read reports in the news media. Dial first launched Dial Complete as an instant antibacterial foaming hand wash in February 2001. It was the first major consumer product brand to develop, market and promote a foaming handsoap concept, which, back then, was considered the "biggest advance in liquid handsoaps" in more than a decade, according to company reports.

Liner brews up more appeal for coffee brick

Community Coffee has perked up its coffee with a new 16-oz brick-like package featuring an outer liner from **Sonoco** (www.sonoco.com) that delivers not only the shelf appeal, but also the compatibility Community wanted with the package's existing inner liner, the company says. It was another challenge to ensure that the two liners would be compatible and would fit together perfectly.



Notes Ray Cate, general manager of technical services at Community Coffee, "The outer liner needed a new look. It has to stand out on the shelf and catch the consumer's eye. Because of Sonoco's expertise in packaging at its Keating Gravure operation, we trusted they could maintain the integrity of the existing package while they developed an updated look for it."



Another hurdle was finding a material that would seal through the bag's new film/paper structure without diminishing the package esthetics.

The package also has to be tough enough to withstand distribution, yet be easy to open. The outer liner consists of a polyester laminate made at Sonoco's Waco, TX, facility. The glossy, reverse-printed polyester has an upscale appearance and is printed by gravure in conjunction with Keating's unique engraving processes. Finely detailed graphics include a black-and-white illustration of the home that Community Coffee customers easily recognize. The coffee marketer is using the liner for brands including Dark Roast, Between Roast, Medium Roast, Light Medium Roast, New Orleans blend and Community Lite. The packages are sold throughout the Southeast and at CommunityCoffee.com.

Leather-look package shines for men's fragrance

Parfums Lolita Lempicka is bringing out a limited-edition men's fragrance, Lolita Lempicka Au Masculin, with help from **Alcan Packaging Beauty-Challes** (www.alcan.com), in France.

The sophisticated, complex container design uses what Alcan says is fabric over molding, a technique tried for the first time at an Alcan Packaging Beauty site. Selected by Parfums Lolita Lempicka, the thick, dark green imitation leather fabric is cut out and placed in a mold so that it fits perfectly with the container's injection-molded plastic components. Front and rear half-shells, both in polypropylene, are made from this model. After the shells are molded, they emerge clad in "leather," which hugs their raised-leaf patterns. Three pad-printing runs on the front half of the shell give lettering and leaf edges a subtle bronze hue. A single print run is needed to achieve the effect on the rear half-shell. The "velvet gunmetal" galvanized PP top and bottom join the two half-shells together.



Inside, a blow-molded bottle containing the perfume is held by foam and is capped with a pump, a pushbutton and an actuator cover also galvanized in velvet gunmetal. The bottle is filled in Challes' full-service facility. Once filled, the bottle is assembled on-site. Alcan says a challenge in making the part lies not only in selecting and cutting out the fabric, but also in fastening it to the inside of the mold so that it adheres fully and perfectly to the plastic components. The raised pattern on the shell has no sharp angles. The fragrance made its debut in the market in the fall of 2006.

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General Mills rethinks cornbread mix packaging

When General Mills decided it was time to update and boost sales of its cornbread and muffin mix, it eschewed a pricey consumer-research and testing program in favor of asking its own African-American employees for advice, according to a recent report in the *Wall Street Journal*. The company's employees suggested adding a photo of celebrated chef B. Smith—who some consider to be the African-American Martha Stewart—to the standup pouch packaging, which not only jump-started sales by 22 percent, but also repositioned the mix to better appeal to blacks in the 12 months ending in September 2006, despite raising some eyebrows. Three years ago, General Mills called its product Golden Corn Muffin and Bread Mix, and it was a marginal part of the business. The baking-mix market has been stagnant for years, and the muffin-mix subcategory has been rapidly shrinking. But honing in on a specific segment of consumers wasn't going to be an easy proposition. Targeting certain consumers through packaging carries significant risks, General Mills reports, as it can be interpreted by some as harking back into corporate America's past, when demeaning images of black women were used to sell everything from soap to pancakes. And if repositioned as too target-specific, the packaging could possibly minimize product appeal to other consumers. While

the Betty Crocker package previously pictured muffins on the front, the updated front panel of the pouch makes cornbread baking in a skillet the centerpiece photo vignette.

The company also changed the product name from Cornbread Muffin Mix to Authentic Cornbread and Muffin Mix, and revamped the graphics with elements suggesting hot steam rising from the butter-topped cornbread and soft shading in the lettering. To give the product credibility with blacks, General Mills indeed approached B. Smith, who, after sampling the mix, agreed to let the brand use her image on the package. A General Mills spokesperson declines to identify pouch materials, suppliers or the graphic designers who revamped the packaging. But its updating strategy worked. Weeks before Thanksgiving 2005, the peak cornbread-eating season, the company promoted the brand with coupons in newspapers and the product's sales soared 50 percent from the previous year, according to General Mills.



New multipack keys rapid clubstore response for Bush's baked beans

In today's demanding retail marketplace, the ability of a food manufacturer to innovate and respond to retailers' requests is constantly being challenged. The pressure often falls to both the food manufacturer and its suppliers to rapidly develop and implement solutions. For Bush Brothers & Co., the solution identified for its clubstore multipacks of baked beans was the unique Pantry Vendor™ dispenser from **Graphic Packaging Intl.** (www.graphicpkg.com). This package provides a powerful in-store billboard, which retailers have indicated can play a critical role in their store display selections and in consumer recognition of displayed products.

"The challenge posed to us by Bush Brothers was to create a multipack that would gain more premium display space in clubstores, while stimulating both planned and impulse buying," says Andrew Johnson, senior marketing manager for Graphic Packaging Intl. "Our answer was the Pantry Vendor, which is similar to GPI's patented Fridge Vendor® package. It's a fully enclosed paperboard container that features a dispenser-style opening, permits interlocked stacking and has plenty of exterior surfaces for attractive wraparound graphics."

Bush Brothers introduced an eight-pack of cans in the Pantry Vendor dispenser in October. In this package, the cans are packed on their sides and roll to the discharge of the dispenser when it is opened. The new package replaces plastic rings in a low-wall, shrink-wrapped, corrugated tray. "The response from clubstores has been very positive," says Johnson. To accommodate the strong interest, Bush Brothers is using an integrated packaging system from Graphic Packaging Intl. that includes a Quikflex® 200 cartoning



machine, SUS® coated, unbleached kraft paperboard from the company's West Monroe, LA, paper mill and converted cartons from its Fort Smith, AR, carton plant.

"We didn't have a carton in our packaging mix, nor did we have cartoning ability in-house," says Robby Martin, process and packaging engineer for Bush Brothers, Knoxville, TN. "Graphic Packaging developed a package for us and provided us with a very efficient and affordable machine that's a much more desirable solution than copacking. Today, Graphic Packaging is our single source for board, for converting cartons and for filling those cartons. That means we benefit from clearer accountability, economies of scale and production efficiencies."

In fact, Bush Brothers is achieving 96-percent production efficiency on its first machine, and it has ordered a second Quikflex 200 unit to fully support its clubstore volume requirements. "By running GPI board on a GPI machine, our packs are tighter and our board is lighter in weight," says Martin. "We were able to reduce our startup times and operating costs, while also increasing throughput. The Quikflex 200 is very easy to operate. You basically plug it in, and it starts running product."



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Pouch lets shots 'break out of the bottle'

The ubiquitous grab-and-go package has now spilled over into the liquor aisle with the introduction of the Pocket Shot line of single-serve alcohol products, presented in a 50-mL, flexible standup pouch format. Pocket Shot founder Jarrod R. Bachmann says he got the idea for the portable spot of 80-proof varietals after he saw workers at his South African farm buy "simple, crude, twenty-five-milliliter plastic sachets of alcohol to celebrate payday."

He adds, "As someone who loves being outdoors, traveling and sports, I saw an opportunity to develop

a product to fit my lifestyle and extend across all demographics from the older golfer to the 'extreme sport generation.'"

Employing a distinctive shape that resembles a miniature bottle, complete with a bottle neck for easy pouring, the flexible pouches are made of a proprietary, three-layer, laminated film structure, gravure-printed and converted by **Amtor Flexibles Europe** (www.amcor.com) at its facilities in Switzerland



and Denmark, respectively. Graphics, produced by **PackagingARTS** (www.packagingarts.com), are designed to convey a "sophisticated simplicity that has great shelf impact," Bachmann says. The clear, flexible, "mini flasks" are decorated on the front with a bold logo and a variety designation in black and white type, along with a splash of color that emanates from the lower left-hand corner of the pouch and matches the hue of the product in each pack. While the contents of the pouch contain quite a bite, no teeth are required to open this pack, as a tear notch at the top allows for easy opening and dispensing.

Five varieties—Kentucky Straight Bourbon Whiskey; Imported Caribbean Gold Rum; Premium, Triple Distilled Vodka; London Dry Gin; and Especial Gold Tequila, imported from Mexico—are filled and distributed by Frank-Lin Spirits and Fine Wines of San Jose, CA.

The Pocket Shot line was test-marketed in California last July and is now available in New Mexico, Arizona and Wisconsin for a retail cost of \$1.59 to \$1.99. Bachmann notes that line extensions are in the works, including several new sizes, a greater variety of spirits and mixed-drink versions.

Alice White uncorks packaging update for Australian wine

Alice White, a leading Australian wine brand produced by Centerra Wine Co., debuts a new, vibrantly colored package for its popular line of varietals and is also introducing three new wines: Riesling; Pinot Noir; and Red Lexia. The labels are designed by Heather Sagoupe at **HKA** (www.hkadesign.com) in San Francisco and feature warmer, brighter, richer tones with enhanced Australian cues. **Cameo** (707/935-0202) provides the 60# cold-glue Chromolux labels for the 750-mL and 1.5-L bottles, and **LSK** (www.lsklabel.com) provides the labels for the 187-mL size. Label graphics, Continued on page 10



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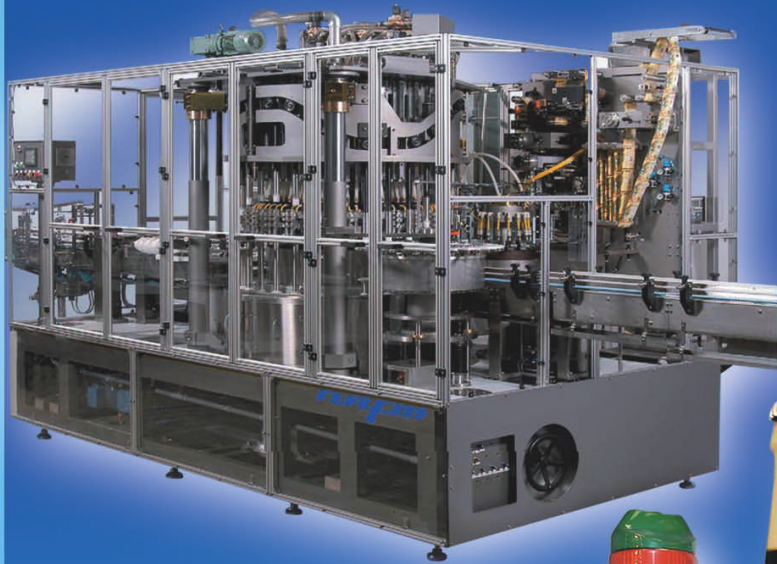
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Single-serve Shuttle teams wine bottle and glass in one

Australia's Hardy Wine Co. hopes its new Shuttle, a single-serve acrylic wine bottle kept securely sealed by its own upturned acrylic wine glass, will soar off the launching pad. The package is made tamper-evident until it's opened with a twist-top device. This releases the glass into which the wine is poured. Hardy believes the packaging technique, the specifics for which remain undisclosed,

is a world first and is aimed at getting drinks out fast at crowded events that require quick service. Global marketing manager Miriam Leenders says Hardy had used the current Australian tour of the circus group Cirque de Soleil to test the 187-mL combo.

It looks simple and not particularly glamorous, but the Shuttle could revolutionize the way we drink wine,

according to Hardy. Leenders says the break-resistant package is technically complex to execute, however. The challenges include ensuring that the closure is tight to prevent leaks and oxidation of the wine, she says, and getting the cup to twist off, as well as developing a new production line to put the cup on the bottle. Other challenges include finding an additive to put in the

plastic to give the bottle a shelf life of 12 months or almost double that of existing, small polyethylene terephthalate bottles, she says.

Hardy launched the Shuttle for Shiraz and Chardonnay in a few retail stores in eastern Australia at \$4.95 each and says it had intended to expand the rollout gradually for other varieties and brands, which include WA's Houghtonwinery. But the Varekai™ Cirque du Soleil test proved so popular with showgoers, that the company reportedly decided to launch the bottle nationally in Australia.

Leenders adds that Shuttles are easy to store. "We are confident that the Shuttle technology will soon be applied to other world-renowned brands in the extensive Hardy Wine Company portfolio," she says. Hardy says that it's also shipping a small test-market consignment of wine in 250-mL-sized Shuttles under the Hardys Stamp of Australia label to the U.K.



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Alice Continued from page 8

featuring a "contemplative" kangaroo, are offset-printed in seven colors plus a four-color process. Retooled by **Saint Gobian Containers** (www.sgcontainers.com) with a taller shape, a deeper punt and what the company says is a handsome bar-top finish, the bottles incorporate a colorful vinyl capsule from **Maverick** (www.maverickcaps.com). The capsule color-codes the varietals to match the color scheme of each label. The results have a more captivating look, Alice White says, and convey the colorful and quirky spirit of Australia. Notes Mary Wachowicz, associate brand manager, "We're pleased to launch the varietals in such hip packaging."

Alice White's bottle colors include flint for the Riesling and Lexia wines, "deadleaf green" for Chardonnay and Semillon-Chardonnay, and antique green for Cabernet Sauvignon, Cabernet-Merlot, Cabernet-Shiraz, Merlot, Pinot Noir, Red Lexia and Shiraz. Each new flavor embodies the Alice White style of "fruit-forward, easy-to-drink" wines. Riesling is an Australian specialty fast gaining traction with American consumers, and Pinot Noir is the fastest-growing varietal in the U.S., according to data from **Information Resources, Inc. (IRI)** (www.us.infores.com). Red Lexia is aromatic with soft, red-fruit flavors.

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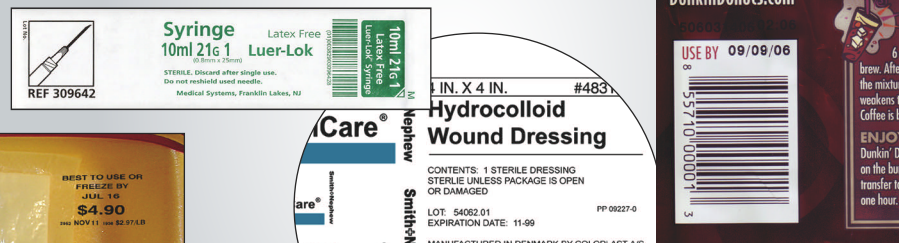


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comment

Mary Ann Falkman, Editor



Packaging machine demand grows

Global demand for packaging machinery is forecast to increase 4.9 percent per year through 2010, reaching more than \$33 billion. Developing countries will account for some of the fastest growth opportunities because of industrialization-related fixed-investment activity, rising per capita incomes and growth in packaged goods production. While Eastern Europe and Asia will drive much of that growth, China will record the largest gains of any single country, surpassing Japan to become the second largest market in the world behind the U.S. Sales are expected to be strong in India, Russia, Mexico and South Korea. Although the rate of growth will be less robust than in emerging markets, sales of packaging machinery in the U.S. and Japan will show renewed strength though 2010, according to *World Packaging Machinery*, a new study from **The Freedonia Group** (www.freedoniagroup.com).

Labeling and coding equipment will register the strongest gains of any machinery category, stimulated by the rising consumption of label-intensive, nondurable goods, as well as by the mandated use of radio frequency identification tags by suppliers to the Department of Defense and to Wal-Mart. Demand for filling and form/fill/seal equipment—the most widely used type of packaging machinery—will continue to rise at an above-average pace. New generations of such machinery, with improved efficiency and flexibility, are boosting replacement demand, as is an increased number of applications for this equipment. In terms of specific markets, pharmaceutical and personal care products represent the fastest-growing segments for packaging machinery. Sales will be spurred by increased spending for pharmaceuticals in developing countries, by the growing use of disposable medical devices and by an aging population in developed countries like the U.S.

The recent *Shipments and Outlook Study* from the **Packaging Machinery Manufacturers Institute** (www.pmmi.org) reports that U.S. packaging machinery demand grew 8.1 percent in 2005, growing to an estimated \$5.675 billion. With few exceptions, the results were favorable across the board. In particular, shipments to the U.S. domestic market were up sharply, while exports rose at a moderate pace. While much of the growth was linked to the sustained strength of the U.S. economy and improved capacity utilization—which encourages some degree of expansion—the underlying thrust of demand was based on end-users' efforts to reduce labor costs and improve productivity. In particular, companies are replacing older machinery with newer, more automated models featuring state-of-the-art technology. To see the full summary of this study, including charts outlining the fastest-growing machinery segments, go to our November online exclusive at www.packagingdigest.com/info/shipments06.

Mary Ann Falkman

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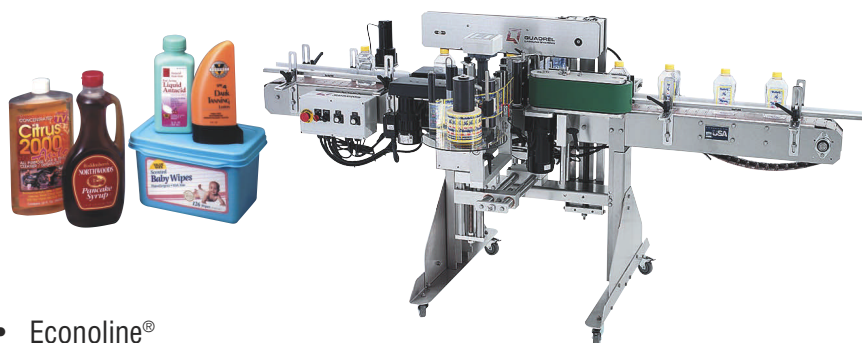
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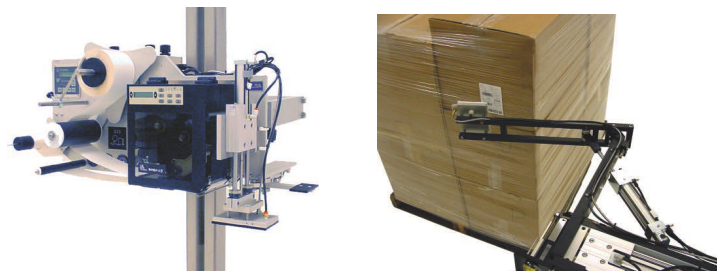
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Marking & Coding



Thermal-transfer coders Government regulations requiring manufacturers to place date and lot codes on consumer packaged goods for recall capability have focused much attention on the problem of missed codes. The co. announces that it has enhanced its SmartDate® 5 line of thermal-transfer coders with a patented feature designed to eliminate missed codes. The thermal-transfer coders are able to detect slowing and stoppage of film and eliminate codes that are missed or incomplete due to the continuous-motion thermal-transfer printing process if the packaging film stops halfway through the print. The solution is ideal for flexible packaging materials and applications within the snackfood, confectionary, pharmaceutical, cosmetics, baked food and frozen food industries, the co. states. The coders are widely used with vf/f/s machines, hf/f/s machines, flowrappers, label applicators and cartoning machines.

MARKEM Corp., 866/263-4644.
www.markem.com

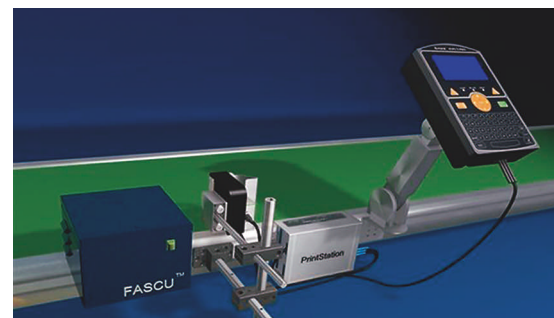
RFID printer/encoder The R110Xi arrives on the market as a high-frequency RFID tabletop printer/encoder, seen as a multi-protocol solution suitable for high-volume and on-demand smart label printing and RFID tag encoding. The printer/encoder reportedly capitalizes on key areas where HF technology "outshines" UHF, such as greater data storage and availability, the flexibility to read in proximity to materials such as liquids and metals, and faster encoding and printing of labels. The co. says the R110Xi HF encodes passive inlays using multi-protocols, such as ISO15693 and ISO18000-3 mode 1, and is the first on the market to offer Philips' MIFARE® ultralight support. It's available now in North America and EMEA and will be offered in Asia Pacific and Latin America, the co. adds.

Zebra Technologies Corp., 847/423-0442.
www.zebra.com

Ink-jet printer

The Excel® DN ink-jet printer is introduced to handle multiline variable codes and messages at speeds to 916 ft/min. The co. says the printer allows users to reliably print two lines of code at these rates for a total of eight lines of information, handling complex codes that combine text, logos and even bar codes into a single message.

Videojet Technologies, Inc., 800/843-3610.
www.videojet.com



Printing system The TechMaster-1000™ small-character printing system is said to print reliably on nonporous substrates, is fully expandable and scalable, connecting up to 64 printheads with network printing management, saving cost and time, and features plug-and-print technology that is simple, no-maintenance and affordable. And, the co. says, it comes with free, customized software.

Anser Coding USA, 877/244-5678.
www.anser-printers.us



Case marking Said to require no inks, ribbons or applicators while being virtually maintenance-free is the CASEMARK™ case-marking system. The co. says the system features an additive or coating that changes color when exposed to a low-power CO₂ laser and is designed to replace p-s thermal-transfer-printed labels and large-character ink-jet printing applied to outer cases.

DataLase, 770/817-4810.
www.datalase.com



Ink-jet coder The C-series *plus* range of ink-jet case coders rolls out with, the co. says, unrivalled print quality and revolutionary printer software for an open-system approach. The range, including C1000+, C3000+ and C6000+ variants, also offers new interface tools, new Ethernet and database connectivity capabilities and delivers standard alphanumeric coding to a full case-decorating suite for enhanced, complex, late-stage coding.

Domino Amjet, Inc., 847/244-2501.
www.dominoamjet.com

new products equipment

Blister-packaging machine The upgraded AERGO™ SL blister-packaging machine, in a straightline configuration, is said to have an advanced ergonomic design for extra safety and workspace with a maximum indexing rate of 20 cycles/min, seven open product workstations per side and a large, 14×28-in. sealing area for oversized packages.

SCA Consumer Packaging, Inc., 800/756-7639.
www.sca.com



Decontamination process Predis™ debuts as a decontamination process for packages and sensitive products distributed in refrigeration, like dairy drinks. Reportedly designed on the co.'s Combi blow/fill/cap machine, it is based on dry decontamination using H₂O₂ vapor applied to preforms by nozzles calibrated to between 248 and 284 deg F. The preforms are then oven-heated to more than 212 deg F, with bottles blown using filtered air, assuring a 3-log reduction in germs.

Sidel, Inc., 678/221-3000.

Electrostatic charging The Chargemaster® CM 30 (30-kV) and CM 60 (60-kV) are electrostatic charging systems supplying high voltage for charging bars and applicators used to temporarily bond materials. The co. describes both of the models as switch-mode, power-factor-corrected power supplies with output currents electronically restricted. The co. also says that the units protected against arcing.



SIMCO Industrial Static Control, 215/822-6401.
www.simco-static.com

RFID pucks To maintain and improve process and machine efficiency, the Smart Puck® system has been co-developed to include molded pucks with pockets holding RFID tags, a customized version of the extrusion-based Simpli-Flex® conveyor beam and an RFID reader within the beam that reads the tags as containers are conveyed. Said to reduce the need for handling and sorting, the system is also cited for line optimization and maintenance diagnostics.

Simplimatic Automation, 434/258-5017.

www.simplimaticautomation.com

Advantage Puck Technologies, Inc., 814/664-4810.
www.adv-puck.com

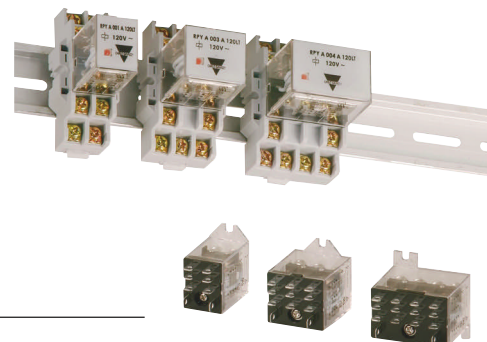
Palletizer The Model 75 is a low-level palletizer that reportedly offers the high-speed operation previously possible only with high-level machines. The co. says the machine uses electric components rather than costly hydraulics, a servo-operated orienter to automatically position bags, cases, trays or totes in the proper position and an elevated layer-positioning device that ensures high-speed production by staging each layer row while the next accumulates.

A-B-C Packaging Machine Corp., 800/237-5975.
www.abcpackaging.com



Relays New RPY industrial electromechanical relays are said to offer economical, 16- and 10-amp switching in 1- through 4-pole changeover configurations, coming standard with a test button, indicating LED and an optional free wheeling diode for DC coil versions. The co. says the relays are UL-, CSA- and TUV-approved and CE- and RoHS-compliant.

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



Filter-regulator-lubricators The Maximatic® line of filter-regulator-lubricators is offered in various sizes from #10-32 to 1-in. NPT with interchangeability. According to the co., the filter-regulator-lubricators' modular design and interconnecting brackets provide flexibility and facilitate simple field installation and modification.

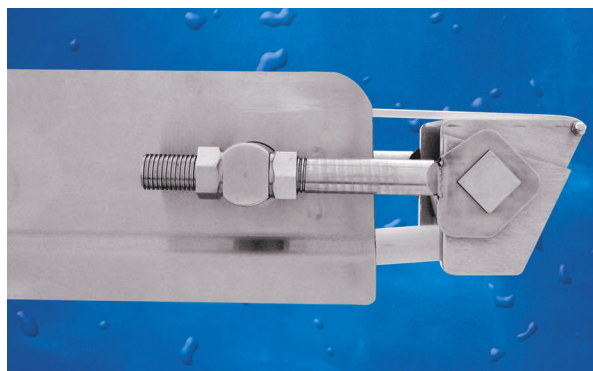
Clippard Instrument Laboratory, Inc., 877/245-6247.

www.clippard.com/maximatic-pd

Nose-bar transfers Three nose bar transfers join the co.'s 7600 series of conveyors: ½-, 1- and 1½-in. The nose bar transfers are said to enable a cleaner and more efficient transfer of packages in the food, pharmaceutical and personal products industries. All are reportedly easy to assemble and disassemble for simple daily wipedowns or washdowns.

Dorner Manufacturing, 800/397-8664.

www.dorner.com



Orienter A reported 400-container/min output for a new servo-driven orienter with a vision system holds out promise of excellent control, synchronization and throughput, according to the co. Other advantages cited include few mechanical parts, minimal floorspace requirements, ease of maintenance and quick, easy changeovers for a machine made of high-quality materials to customer specifications for each application.

Morrison Container Handling Solutions, 708/756-6660.

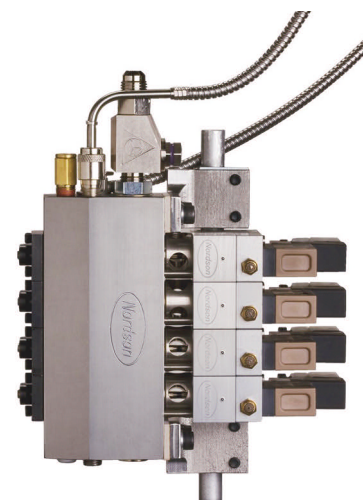
www.morrison-chs.com

Hot-melt guns

PatternJet™ hot-melt dispensing guns apply a wide variety of adhesive patterns faster, more accurately and with less material waste, the co. says. Contact slot and noncontact swirl and bead nozzles are said to enable maximum pattern flexibility, with integrated module and applicator body and snuff-back actuators supporting increased line speeds.

Nordson Corp., 800/683-2314.

www.nordson.com





Robotic case packers A new line of robotic case packers specifically designed for dairy cartons is said to include a case erector, a robotic loader and a sealer in a compact package. The co. says that gabletop cartons load into corrugated cases in various patterns, including multiple layers, using a Fanuc food-grade robot.

Sabel Eng. Corp.,
707/938-4771.
www.sabelengr.com

Encoders New DRS61 CoreTech® 60-mm-dia Incremental Encoders reportedly use a simple USB connection and programming software to empower customers to freely program the number of lines from 1 to 8,192, as well as the width of the zero pulse. The co. claims that programmability allows the use of a single type of encoder at any location for any application.

Sick Stegmann, Inc., 800/811-9110.
www.stegmann.com

Die-cutting modules A vector line of die-cutting modules can reportedly be integrated easily into existing roll-printing presses or converting machines, enabling punching, perforating or cross-cutting of patterns, each module including a servo drive, web register and a shaft encoder. Working to a 500-m/min rate in 260-mm to 1,420-m widths, the modules are used for the production of gabletop cartons, juice pouches and boxes and other packaging applications.

Schober USA, 513/489-7393.
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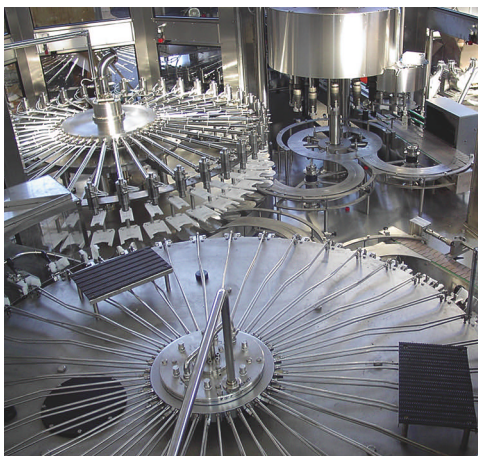
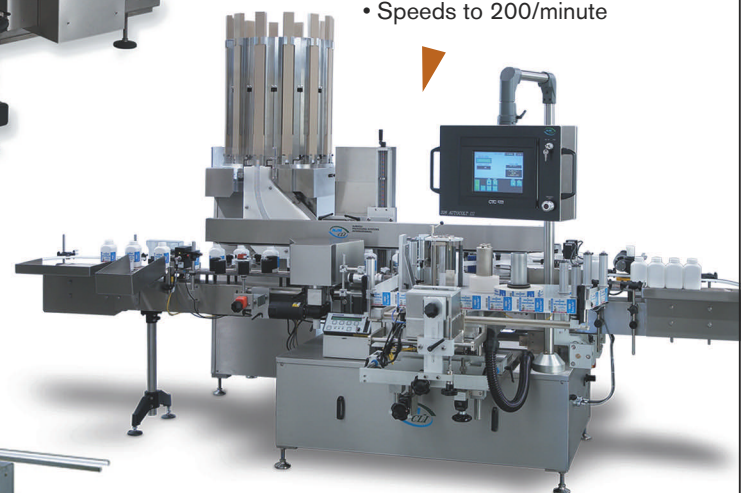
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- Speeds to 200/minute



Tribloc line A bottle sterilizer/rinser, a unique netweight filler with a tube design that requires no product tank and a fully electronic capper are introduced by the co. as a turnkey tribloc installation to handle a wide range of viscosities for a variety of sauces and salad dressings, including mayonnaise.

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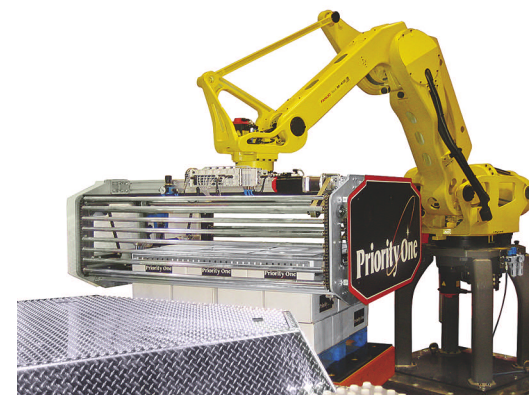
www.njmcli.com

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Shrink bundlers The BL Series of shrink bundlers reportedly handles up to 60 trays/min and is developed specifically for print-registered film requirements. The co. says the bundler's features include single-web registered film technology, a 2-pc heavy-duty integral frame construction, a tray-metering infeed with continuous-motion flight bar pacing and a servo-driven film feed.

Packaging Machines Intl., Inc., 800/871-4764.
www.pmi-intl.com



Robotic palletizer The Full Layer Robotic Palletizer is said to combine nonrobotic layer-forming technology with robotics to layer and stack a full product layer at a time using a roller curtain. Said to square each layer from all four sides with a very tight load in a 34×38-in. to 44×52-in. range, the system is integrated with a Fanuc M-410 iB450 servo-driven arm offering a 400-lb layer capacity, the co. says.

Priority One Packaging Ltd.,
800/387-9102.
www.priorityonepackaging.com

Shrink wrapper The ECO-BUNDLER is said to be the world's only shrink wrapper built for biodegradable polylactic acid (PLA) film. Developed together with Plastic Suppliers, Inc., Earthfirst and NatureWorks LLC, the automatic machine reportedly also wraps with PE, PP and PVC films for any configuration of bottles, boxes and odd shapes.

Polypack, Inc., 727/578-5000.
www.polypack.com

Vf/f/s systems The new Onpack 2075 and retrofitted 2070 are vf/f/s automated loading systems designed to create retort flexible pouches as alternatives to #10 cans. For pumpable foods with and sans particulates, such as chili with meat, stews, soups and sauces, the systems enable the structuring of the co.'s Flavour Mark™ pouches at 10 and 20 packs/min using retractable fill tubes for clean seals.

Sealed Air Cryovac, 800/845-3456.
www.cryovacretort.com



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Laser marking Aimed at preventing counterfeiting is CodeStream laser-marking technology, which the co. describes as an invisible liquid coating laydown on all substrates that receive an ultra-high-density laser mark. If tampering is attempted, the mark becomes tamper-evident. The co. says the coating can be applied via existing flexo, offset and gravure presses in-line, and is fast and clean without producing airborne particulates.

Fujifilm Hunt Chemicals U.S.A., Inc., 877/385-4486.
www.fujihuntusa.com



Static ionizers Two SUNX brand static ionizers—the ultra-compact ER-V and the ultra-thin ER-VW series—are introduced. The co. says the electrostatic charge eliminators use a high-frequency AC method for more even ion balance (± 15 v or less) and greater reduction in static charge regardless of air pressure and setup distance, with 1-sec or less charge removal time.

Panasonic Electric Works Corp. of America, 877/624-7872.

www.pewa.Panasonic.com/acsd

Enclosure A

washdown-duty, acoustical blower enclosure is designed, the co. says, for ease of maintenance and durability. A hexagonal PP shell with stainless steel is said to fully protect the co.'s blower in washdown environments and maintains sound levels well within OSHA standards, with no crevices that can hold moisture.

Paxton Products, 800/441-7475.

www.itw-air.com



Flow spirals

Reportedly based on the co.'s proven, reliable technology are new mass-flow spirals designed to handle full or empty bottles, cans, jars or other containers. Said to have a small footprint for space savings, the spirals convey in both directions in a smooth, continuous flow, the co. says.

Ryson Intl., 757/898-1530.

www.ryson.com



Case erector The new CE25 case erector is reportedly capable of speeds to 25 cases/min with tape or hot-melt options. The co. describes the series as ergonomically friendly with a powered horizontal case magazine, a compact footprint, the patent-applied Integrated Chain Guide system and a vertical presentation of cases. The case erector's design is said to be based on customer feedback.

Pearson Packaging Systems, 800/732-7766.

www.pearsonpkg.com



Gas analyzer Claimed to be the next generation in packaging headspace gas analyzers, the CheckMate II reportedly features a fast, accurate breakthrough sensor that requires only a very small headspace to sample volume to test the O₂, CO and O₂/CO₂ gas mix in shelf-stable MAP packaging to reduce sampling faults in lab R&D and end-of-line testing.

PBI-Dansensor America, Inc., 201/251-6490.

www.pbi-dansensor.us



Bus coupler Designed to allow seamless connection in Inline Modular I/O to the Mechatrolink Motion Field Network is the new IL MII BK D18 DO4-PAC bus coupler, which, when used in combination with Mechatrolink-compatible drives and controls, is said to permit easy integration of scalable I/O to provide an overall solution with single network motion and machine control, offering eight digital inputs, four digital outputs and expansion configurations.

Phoenix Contact, Inc., 800/322-3225.

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Beverage pouches A range of clear, standup pouches for water and other taste- and odor-sensitive products debuts under the PureFlex™ name. In what are called 7- to 9-layer proprietary coextrusions are an organoleptic sealant layer, nylon and an optional ethylene vinyl alcohol (EVOH) copolymer oxygen barrier, with the nylon acting as an odor penetration deterrent. Available in a variety of shapes and sizes, the pouches have a capacity ranging from 175- to 1,000+mL, the co. says.

Ampac Flexibles, 513/671-1777.
www.ampaconline.com

Air-evacuation liners Air-Evac® liners are introduced within a technology reported to dramatically boost the amount of highly viscous fluid that can be evacuated from bag-in-box structures. The liners work by replacing the volume of product pumped out of the inner chamber with shop air introduced to chambers on the bags' exteriors. Air doesn't reach the contents directly, which prevents contamination. The liners are available with the co.'s 330 shipper and can be made to fit other IBCs, the co. adds.

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



Polyolefin plastomers For hot-melt adhesive formulations and polymer modification applications, AFFINITY™ GA polyolefin plastomers come to market using the co.'s INSITE™ technology for reported high flow, low crystallinity and low molecular weight. The co. claims end-user advantages that are not achievable with EVA or SBC formulations, with new polymers that are capable of adhering to many substrates over a broad temperature range.

Dow Chemical Co.,
800/447-4369.
www.dow.com



Tote bag The ExpressTote™, with a reported 50-lb capacity, debuts as a wide-mouth, gusseted standup bag with sturdy nylon coex handles and a reclosable slider zipper. The co. says it's available in clear, white, metallic or holographic barrier and nonbarrier materials, and it can be reverse-printed via flexo or gravure.

Curwood, 800/544-4672.

www.curwood.com



Bulk bin A rectangular bulk bin with an integral 45-deg structural corner support is introduced for agricultural and other applications. The co. says the new bin provides more room for product than octagonal shapes. Four-wall flaps covering the full length of the box and a lock-bottom feature provide extra stacking support. The bin is available with a recyclable, triple-wall corrugated pallet, a wooden pallet or without a pallet. The bin accepts 4-color printing on the outside and inside walls.

International Paper, 559/587-4030.

www.internationalpaper.com



Synthetic substrates Two new synthetic substrates come to market: KIMDURA® UV for p-s label uses and KIMDURA® Multi-Task for non p-s applications. The first is said to have outstanding resistance to sun or UV light, extraordinary edge-tear-resistance and superior print fidelity; the second is a line of tagstock offering enhanced graphic and strength performance and especially unsupported hole strength, the co. says.

Neenah Paper, Inc., 800/344-5287.

www.technicalpaper.com



Disposable cups Hefty® Zoo Pals® disposable beverage cups can be used for beverages as well as cut fruits and snacks served to children. The 1-pc design includes an easy-to-use flipdown lid with a straw slot, a fill line to avert overflows and design variety with 15 animal designs, the co. says. The cups join the co.'s plate and bowl line targeted at the 3-6 age group.

Pactiv Corp., 888/828-2850.

www.pactiv.com

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Home Hardware fills its redesigned, 1-gal pails of drywall compound, above, and stucco at its plant in Burford, ON. Replacing its dry-offset-printed pails with containers decorated with IML has greatly enhanced the appearance of the company's home improvement products.

IML provides a fabulous fix for home repair product pails

Canadian home improvement products retailer Home Hardware rehabs its 1-gallon stucco and drywall-compound pails with in-mold labels from IPL Packaging and sees sales build by 27 percent.

Anne Marie Mohan, Senior Editor

Home Hardware is no stranger to renovation. Comprising more than 1,000 independently owned member stores in Canada, the St. Jacobs, ON-based home improvement products, construction materials and home furnishings retailer offers its customers more than 100,000 items for the repair and maintenance of their homes, lawns and gardens, farms, and automobiles, among other products.

Last year, the company's Paint and Home Products Division, Burford, ON, did some overhauling of its own, refreshing the package decoration for its private-label products in 1-gal pails. The division produces more than \$60 million in private-label products annually for Home Hardware stores across Canada and was eager to take advantage of its container suppliers' new decorating capabilities to enhance its products' presence on-shelf.

Last March, Home Hardware introduced the first 1-gal injection-molded pails decorated with in-mold labeling (IML) for home improvement products in Canada. Supplied by **IPL Packaging** (www.ipl-packaging.com),

the IML pails provide greatly improved graphics that have been responsible, Home Hardware says, for a 27-percent increase in sales of its stucco brand alone.

Even though the pail is the same size as the old one, people perceive it as a bigger container.

One of the fastest-growing decorative processes for plastic packaging, IML offers visibility and graphics not achievable with processes such as dry-offset or screen printing. As Jacques Carten, marketing manager for IPL, observes, for the last 25 years, IML has been a popular labeling solution in Europe, but has just started to make significant headway in North America, particularly in the home repair and food industries.

IML is a process in which a film label is added

to a plastic container during the blow-molding or injection-molding operation, so that it becomes part of the container. In contrast to other decorating techniques, such as dry-offset printing, and other labeling methods, such as shrink-sleeve or pressure-sensitive labeling, IML eliminates the need for additional printing or labeling equipment, and it condenses a two-step process—molding and labeling—into one, single operation.

During the IML/injection-molding process, a printed film label is placed into an open mold using robotic pick-and-place equipment and is held in the desired position by vacuum ports, electrostatic attraction and other means. The mold then closes, and the molten plastic resin is injected into the mold where it envelops the label, making it an integral part of the container.

For years, Home Hardware relied on dry-offset printing to decorate its 1-gal containers of E-Z Roll Stucco™ and Dry Wall Compound™. In late 2005, its container supplier, IPL, invested in the technology to provide IML for 1-, 1.3- and 4-gal containers and proposed that Home Hardware make the transition. Nancy Dingman, business manager of Specialty

Products for Home Hardware, recalls that the co.'s decision to switch was facilitated by the fact that IPL was the first company to produce IML packaging for injection-molded containers in North America.

"Our representatives from IPL approached us and asked us if we wanted to be the 'guinea pigs' for IML packaging for this type of application," Dingman says. "Once we saw the photographic quality of the labels compared to

back to 1952, when it purchased its first press to produce toothbrush handles and cases.

Today, IPL manufactures both extruded and injection-molded plastic products that include food and industrial packaging containers, material handling and waste bins, and snowmobile and automotive components. The packaging division, Carten notes, accounts for 50 percent of the company's sales.

At IPL's main manufacturing facility in

We needed a system that could put the label into the mold and exit the press in approximately one-half second.

the printing process we were currently using, there was absolutely no reason why we didn't want to move forward.

"With our dry-offset-printed pail, we were limited on our print area. There was a total of about an inch and a half on the top and bottom that was just white pail. The IML process lets us print every square inch of the front, top to bottom. Even though the pail is the same size as the old one, people perceive it as a bigger container. This gives us a better shelf presence and a stronger 'billboard effect.'"

Andy Scodras, a Home Hardware purchasing agent who oversees paint products and evaluates new packaging, says that his company's positive experience with IPL's IML packaging comes as no surprise, given the long-standing relationship between the two companies.

"IPL has been a supplier to the paint division for many years," Scodras says. "About a decade ago, IPL began supplying us with a twenty-liter plastic paint container. We were pleased with the product, the service and the value, so it wasn't long before we started talking with them about our nonpaint items.

"Given our satisfaction with IPL and the fact that we tend to give preference to an incumbent supplier to help realize economies of scale, it wasn't difficult to make the decision to use IPL containers on our stucco and drywall products."

A supplier to retail and industrial goods brand owners in Canada and the U.S., IPL is a family-owned business based in Saint-Damien, QC, that marketing manager Jacques Carten says has grown to its current \$215 billion in sales through its constant innovation and plastics manufacturing expertise. The company was formed in 1939 as a manufacturer of straw brooms by Joseph Emile Métivier, whose sons Julien, Rémi and Clément now run the company. IPL's entrance into the plastics injection-molding market can be traced

Saint-Damien, the company operates more than 60 injection-molding presses, most of which are supplied by **Husky Injection Molding Systems Ltd. (www.husky.ca)**, to produce plastic containers ranging from 8 oz to 6.5 gal. Among some of the innovations that IPL lays claim are the use of 100-percent-recycled polypropylene for 1-gal and larger containers (rather than polyethylene) for its

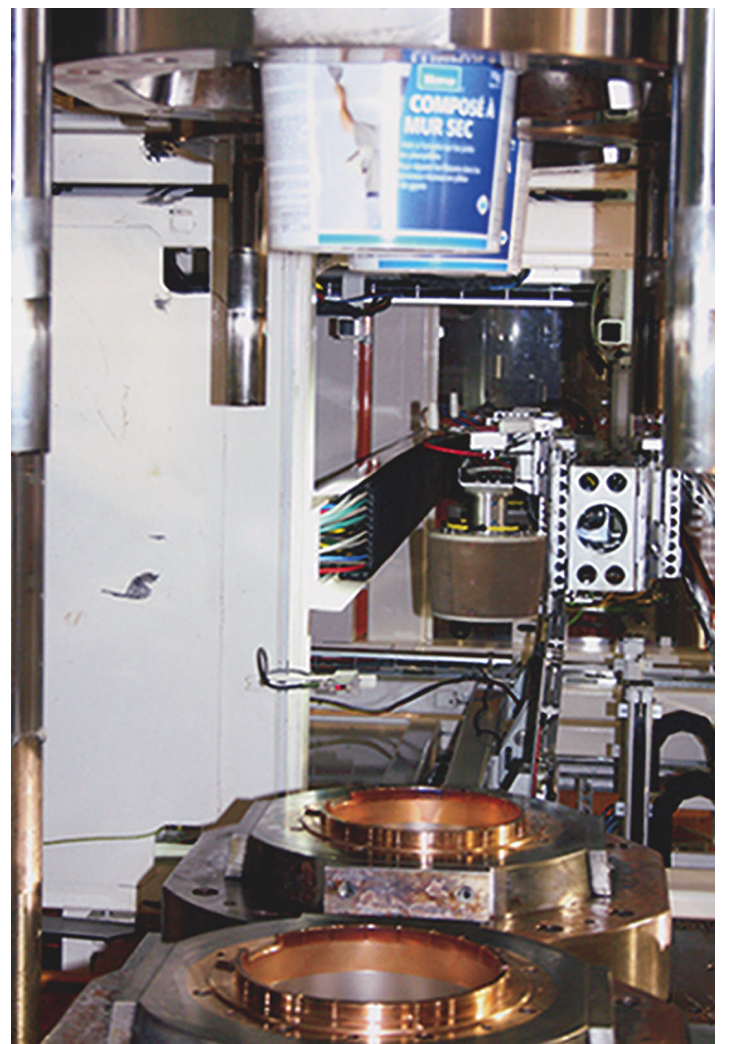
greater structural resistance; the introduction of square retail containers that provide a space savings as well as an enhanced billboard effect; and an easy-to-use, environmentally friendly tamper-evident break-tab feature for its lids.

According to Carten, IPL was also the first to invest in IML technology for injection-molded products in North America. In 1996, IPL, along with its proprietary robot supplier, engineered a robotic pick-and-place system for its injection-molding equipment that would enable IML decoration for containers from 8 to 32 oz.

As Carten explains, IPL faced two challenges in creating an injection-molding system to accommodate IML: the design of the molds and the speed of the robots.

"While the injection-molding presses are the same, the molds have to be designed in such a way that when you put a label into the molds, the resin will flow behind the label, because otherwise the label will just flow with the resin and will melt within the resin itself," he says. "The speed of the robot is also vital. While there are a lot of companies developing robots, we needed a system that could put the label into the mold and exit the press in approximately one-half second. Cycle time is very important to packaging manufacturers; we needed to have a maximal cycle time of not more than one-half second on the injection. More than that, and it would not be worth it."

Until it introduced IML on its larger-size pails, IPL's main customers for IML have been private-label prepared salads marketers, Continued on page 24



Home Hardware's 1-gal pails of drywall compound are decorated and molded in a one-step process at IPL's Saint-Damien, QC, facility. During the process, PP labels are placed into the mold of the injection-molding machine, shown at top in background, via pick-and-place robots. The plastic resin then envelopes the label, making it an integral part of the container during manufacturing. Above, molded pails await removal from the injection-molding machine.

such as Kroger. Carten estimates that IPL now holds a 25-percent share of the prepared salads market in North America.

IPL now offers IML on 10 container sizes and four lids. Many of its containers are made from PP, which it says require 20-percent less resin than pails made from PE and exhibit "immense top-load strength." In addition, notes Carten, PP also withstands higher temperatures than

PE, which is an advantage for hot-filling applications.

Complementing the pails, IML substrates are also made from PP and are supplied to IPL by a proprietary converter in thicknesses from 57 to 82 microns. Thicker labels are used for larger containers, making it easier for the robot to handle the substrate from label magazine to mold. Three types of labels are offered by IML—opaque with an "orange peel" finish, opaque with a glossy finish and transparent

with a glossy finish—for various effects. Carten notes that a recent visit to Europe revealed that other emerging label options being used there include metallic and holographic styles.

Through IPL, labels are flexo-printed in four-color process in up to eight colors, providing a reproduction quality of 150 lpi. According to Carten, this is one of the tremendous advantages of IML over other container decorating processes for products in the do-it-yourself market. "On most



of these types of products, there are illustrations on the labels of how to use the products. Many times, these graphics are difficult to understand when they are reproduced with offset printing," he says. "With IML, you can clearly reproduce a photograph of someone using the product at home, making it much easier for the consumer to visualize. That's another reason why brand owners are considering IML for their products."

With IML, labels can also be printed with type as small as 6 pt, without a loss of clarity—a benefit for products requiring extensive legal copy or descriptors. And, Carten relates, IML provides a greater consistency in background colors over offset-printed pails. An example he uses to emphasize the importance of color uniformity for brand recognition is a container that



Allison's Gourmet Kitchen offers prepackaged salads and desserts in IPL PACKAGING'S square, Shure-Lock® containers. Read more at www.packagingdigest.com/info/allison

IPL produced for Elmer's Products, Inc. for its wood-filler mixture. Elmer's, he relates, is very protective of its PMS orange and blue colors, as well as its trademark cow logo, and through IML, IPL was able to produce the containers with consistent, solid colors and crisp graphics, much to Elmer's liking.

Home Hardware employs several different types of IPL pails: a handled, 5.5-gal pail for paint, cleaning products and driveway sealer, and 0.5- and 1-gal pails for drywall compound and stucco. While IPL does not currently offer an IML-type container for Home's paint products, Scodras has been able to enhance his packaging graphics nonetheless.

"Over the past year, we changed the label on some of our best-selling paints and the Acrylic Driveway sealer from paper to a dry-offset printing," he says. "It really enhances the label, especially since it can't be torn or damaged like the paper version. What's more, our production department prefers this

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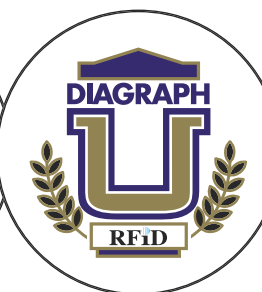
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new label since they no longer have the additional task of applying the labels before filling the pails."

As both Dingman and Scodras point out, it is not only the product or the price that have cemented Home Hardware's relationship with IPL, it is also the service. When it comes to service, IPL has redefined the term "above and beyond."

"When we changed from our existing pail to another for the in-mold label, there was a production issue," says Scodras. "On the new pail, there was a sharp bottom edge that caused some problems on our production equipment. To IPL's credit, they identified the problem and worked very hard with us to solve it."

"But they did more than just talk about it," he adds. "Within an hour of telling IPL that we had this problem, they had an expert come in from a machine shop to evaluate our production line and see what could be done. Ultimately, they added an extra piece to our equipment that would keep the containers from 'hopping up,' letting us slide the pail into the carton without buckling it. IPL not only put the piece

on, they had it designed and built."

Assuming that IPL continues to perform well and the price points remain relatively steady, Dingman says that she would examine the option of rolling out additional IPL packages.

"As soon as IPL offers a smaller, two-liter size, we will be interested in switching," says Dingman. "Unfortunately, many of the products on the nonpaint side—general-purpose cleaners, handsoaps, fertilizer and

aerosols—don't lend themselves to pail-type packaging. But as we introduce new products that are appropriate, we will definitely look to IPL first.

"It should be noted that there are a number of outside suppliers that make Home Hardware private-label products like grout and wood filler that also use IPL packaging. So we're not the only ones who recognize their value."

But certainly, no one places a higher premium on their value than Scodras

and Dingman, who have seen their products not only appear to "grow" on the shelf with their enhanced graphics, but fly off of it as well.

More information is available:

IPL Packaging, 800/463-0270.

www.ipl-packaging.com.

Husky Injection Molding Systems Ltd.,
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Smart designs for IML

According to IPL Packaging's marketing manager, Jacques Carten, brand owners should keep in mind the enhanced graphics capabilities of IML when designing their product labels.

- Use bright, eye-catching colors that will attract consumers. IML enables uniform, bold background colors.
- For maximum visual impact, match the container resin color to the main label color.
- Use a colored, plastic resin for the lid to increase marketing appeal.
- Include full-color images, when applicable. IML allows graphics to be flexo-printed in 150 lpi, enabling photographic-quality reproductions. For food and DIY markets, this capability allows for accurate product representations and usage instructions/guidance.



Packing living lettuce

Lettuce is packaged with intact roots that give it an 18-day shelf life in the store. The organic living lettuce is available in five varieties: arugula, green leaf lettuce, red leaf lettuce, Boston lettuce and watercress.

Jack Mans, Plant Operations Editor

With the demand for organic produce on the rise, Goodness Greenness, Chicago, has introduced organic living lettuce, the latest innovation in produce, to the Midwest marketplace.

Organic living lettuce is a hydroponic line of lettuce that is packaged for consumers with the roots still intact. The roots rest in a soil plug, allowing for a shelf life of up to 18 days. This process provides a lifeline to be maintained within the soil plug in the

package, permitting moisture and nutrients from the greenhouse to supply continued nourishment to the living lettuce. Unlike conventional lettuce that begins to wilt after just a day or two and needs to be rehydrated on the grocers' shelves, organic living lettuce remains at peak freshness in its clamshell container.

Organic living lettuce is available in five varieties: arugula, green leaf lettuce, red leaf lettuce, Boston lettuce and watercress. All five varieties are distributed exclusively throughout Indiana, Illinois, Michigan and Wisconsin by Goodness Greenness. "There are a surprising

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Organic has a better balance of nutrition than conventional products and, when consumers try organic living lettuce, they taste the difference and appreciate the longer shelf life.

number of benefits to these innovative new greens," says Robert Scaman, president and CEO of Goodness Greeness. "First, they are available year-around and are not subject to changes in availability due to bad weather. Second, they are consistently fresh, due to the controlled growing environment. Third, the price is stable and doesn't fluctuate as the price of traditional greens do based on availability."

In its quest to seek out the most unique and healthiest organic produce, Goodness Greeness found Slegers Greenhouse, an organic farm and greenhouse operation in Strathroy, ON. Slegers is a premier grower of organic living lettuce in North America and meets the stringent standards of the Canadian National Standard and the U.S. Dept. of Agriculture National Organic Program (NOP). It is certified

are packaged with a peat root-ball in a **Produce Marketing Assn. (www.pma.com)**-approved plastic clamshell container. The Goodness Greeness label is applied, after which the clamshells are cartoned, palletized and shipped to Goodness Greeness. The clamshells are supplied by **Tri-City Packaging, Ltd. (www.tricitypackaging.com)**.

When the lettuce is packaged, it is not rinsed, allowing for all of the protective cuticles on the leaves to remain intact. In addition, since the lettuce is living, it is able to resist

e-coli infection as long as the produce is alive and the ecology process is being maintained. "I believe organic produce boasts a greater vigor over conventional produce," says Jo Sleger, of Slegers Greenhouse. "Organic has a better balance of nutrition than conventional products, and when consumers try organic living lettuce over conventional lettuce, they taste the difference and appreciate the longer shelf life."

"Goodness Greeness was one of my first customers, taking the plunge

early-on in the development of my greenhouse. From there, I've seen a steady increase in organic produce based on repeat sales to many customers in small volumes. It is definitely on the rise."

More information is available:

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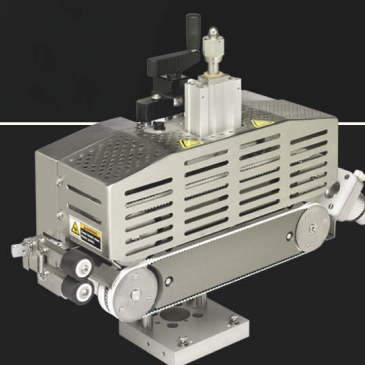


For another look at distinctive rigid containers, visit the Rigid Containers INFO CHANNEL on PD's website at www.packagingdigest.com/info/rigid

by OCPP (Organic Crop Producers & Processors)/Pro-Cert Canada, Inc., a foremost Canadian certifier of organic food products.

The greens are grown in a hydroponic medium for about eight weeks at Slegers Greenhouse, where organic nutrients are added throughout the process of growth. The greens are harvested with their roots intact and

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Bulk-solids handling system tackles silica-gel packets

An automated bulk-solids handling system for Multisorb's silica-gel adsorption packets increases productivity and market growth in the U.K. by feeding four f/f/s machines simultaneously.

Multisorb Technologies, Inc. (www.multisorb.com) is finding that productivity is "jelling" at its new European facility that produces silica-gel granule adsorption packets. The company's sorbent packets are used to eliminate moisture and oxygen in the final packaging of food, pharmaceuticals, chemicals, electronics, aerospace and other products. Based in Buffalo, NY, Multisorb built the 22,000-sq-ft plant to capture opportunities in Europe, the Middle East and Africa, delivering product according to BS (British Standards), MOD (British Ministry of Defense) and DIN (Deutsche International Normal) standard accreditations. The bulk-solids handling system has been fulfilling production expectations and will allow higher productivity as the plant expands into different

products for new markets.

Thanks to the automated, multi-line conveying/feeding system, which simultaneously feeds four form/fill/seal machines, the packaging process at the new plant is under control and humming along smoothly. Expandable for future market growth, the system



For more articles on conveying, feeding and package handling, visit the **PACKAGE HANDLING** Info Channel at www.packagingdigest.com/info/packhandling

was designed, built and commissioned by **Flexicon (Europe) Ltd.** (www.flexicon.com), which equipped it with a programmable logic controller, a bulk-bag discharge station, four flexible screw conveyors and four feeding hoppers that gravity-discharge the silica-gel material to the f/f/s machines (the supplier for which is

proprietary). Described as being "airtight," the system protects the granulated silica-gel adsorption product while it's being conveyed so that the lines operate at high capacity.

Multisorb chose this more complex layout instead of a lower-capacity, single line of flexible screw conveyors that would supply the f/f/s machines one at a time in part because it says mechanical conveying offers more gentle product handling and maintains a particle size of 0.04- to 0.15 in. The conveyor's self-centering, stainless-steel spiral feedscrew rotates within an ultra-high-molecular-weight polyethylene (UHMWPE) tube, providing clearance between the screw and the tube wall so that the gel particles are able to flow without damage.

The granules arrive at the new plant in 1-ton



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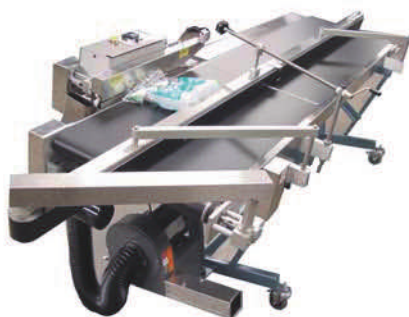
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The first of three transfer points, a slide valve between the flexible screw conveyor and the hopper inlet opens and closes to regulate product flow.

bulk bags that are lined to prevent moisture or oxygen from entering, which could also possibly damage the fragile, hygroscopic material. A forklift operator then attaches one of the bags to four Z-CLIP™ bag-strap holders on a bag-lifting frame and maneuvers the forklift to secure the lifting frame onto a 12-ft-high discharging frame, above an 8-cu-ft-capacity receiving hopper. The bulk bags discharge dust-free. A bulk bag/hopper interface consisting of Flexicon's manual Spout-Lock® clamp ring is positioned above a pneumatically actuated Tele-Tube® telescoping tube to facilitate making dust-tight connections between the bag spout and the hopper. This automatically elongates the bag as it empties to promote smooth product flow and evacuation.

The telescoping tube pneumatically raises the clamp-ring assembly, allowing for connection to the bulk-bag spout and for sealing the "clean" side of the spout to the clean side of the telescoping tube. The assembly then lowers until the bag spout is pulled taut. Once the spout is opened, the telescoping assembly exerts continual downward tension on the spout. Thus, as contents of the bag empty, the bag elongates without dusting. The dust-resistant seal between the bag spout and the clamp ring allows the mouth of the bag to fully open as the granules discharge.

From the hopper, the 20-ft-L, 3-in.-dia, flexible screw conveyor draws the silica-gel material at a 45-deg angle up to the first of the four 4.5-cu-ft feeding hoppers, which is mounted at a 14-ft height. Three 15-ft-L, 3-in.-dia flexible screw conveyors connect the feeding hoppers horizontally in a series. Each hopper gravity feeds the product to an auger and a f/f/s machine. The PLC control lets any combination of feed hoppers be filled simultaneously, dictating how much material fills a



A bulk-bag discharger, foreground, delivers the silica-gel material through a receiving hopper and a flexible screw conveyor to four hoppers simultaneously.

hopper by activating a slide valve between the conveyor discharge and the hopper inlet to open or close. High- and low-level warning indicators on the hoppers and above each slide valve tell the control to stop or resume the flow. A parallel line of the conveyors

can be added should Multisorb's production demands increase. The hopper inlets are offset to accept another conveyor that can discharge into a second inlet.

More information is available:
Flexicon Corp., 610/814-2400.
www.flexicon.com.
Multisorb Technologies, Inc.,
 908/849-3005. **www.multisorb.com.**



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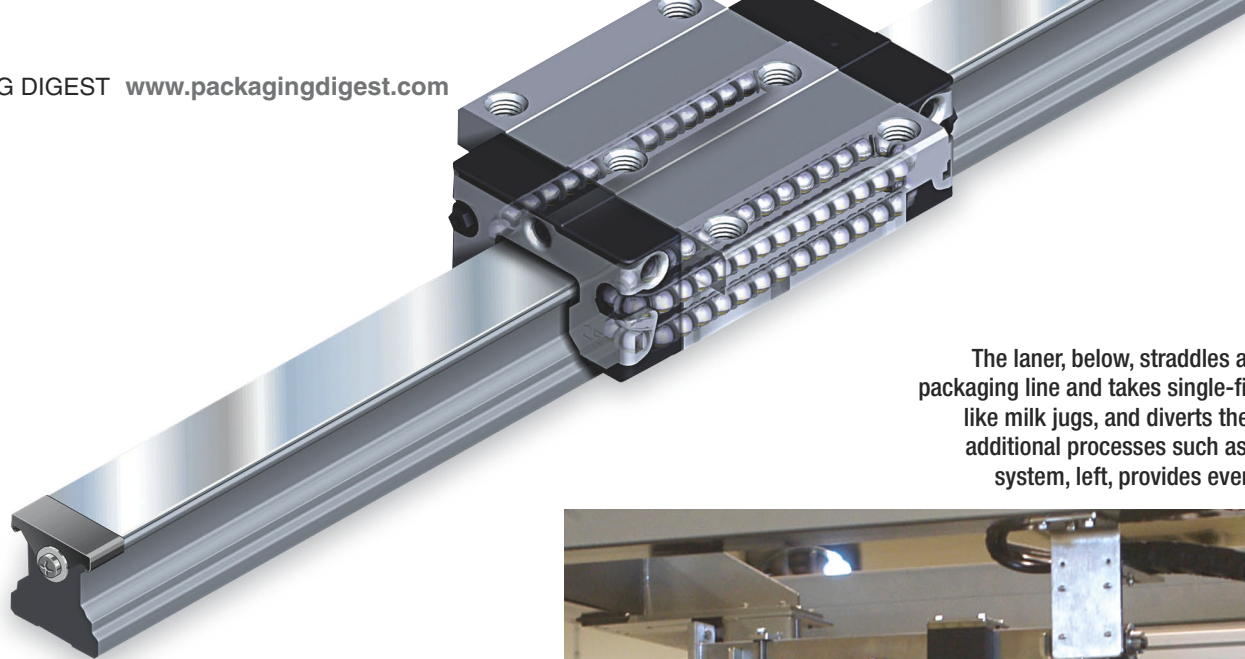
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The laner, below, straddles an existing conveyor along a packaging line and takes single-file rows of bottled products, like milk jugs, and diverts them to downstream areas for additional processes such as case packing. The Ball Rail system, left, provides even greater side-load support.

Linear modules speed bottle laning



Linear modules handle a laner machine's high acceleration rates and load requirements. The system can direct 550 bottles of 1.75-L orange juice/min from one to six lanes.

When turnpike traffic is funneled left and right into the toll booths, each driver must be prepared to pay the toll in order to continue traveling. This same scenario also plays out in the packaging world. Upstream processes, like container blow molding or bottle filling, lead to downstream processes such as sealing or packaging. Laning machines are used to organize products for the next operation by rapidly dividing the line and diverting containers left and right as needed, creating multiple lanes for case packing, shrink wrapping or further processing. Moving containers into multiple lanes adds speed and relieves congestion, and just like drivers at the toll booth, products travel to their final destinations.

Hartness Int., Inc. (www.hartness.com), Greenville, SC, is one company that intimately understands the critical nature of packaged-goods traffic patterns. Hartness recently introduced a laner to the packaging and bottling industries that pushes the limits of line speed, while also protecting product packaging along the line. Called the GlobalLaner 2260, this laner's ambitious design called for a linear belt-drive module with an acceleration rate of 1 m/sec² to keep pace with the line speed of 200 ft/min.

To give the laner the ability to relocate a section of bottles to any point in the grid, Hartness incorporates three linear modules on each GlobalLaner. Two X-axis linear modules are connected to a common shaft and driven by one servo motor. The third linear module is

also servo-driven and acts as the Y axis.

The performance requirements for the GlobalLaner are ambitious. For example, it can handle 550 bottles of 1.75-L orange juice/min. Typical laners can only achieve accelerations of half that rate. The GlobalLaner is twice as fast as any other competing laner. Knowing this, it is not surprising that several linear modules failed the tests in the prototype stage of the design, as they repeatedly broke down under the stress of the side load, created because of product shifting and the demanding acceleration requirements. After several rounds of testing modules from various suppliers, Hartness called upon automation-solution provider **Livingston & Haven** (www.lhtech.com), which has a facility in Greenville, to provide linear

& Haven automation specialist. "Our experience with the Rexroth linear modules and their performance, plus the full support of the Rexroth team in Charlotte, made us comfortable recommending them to Hartness for the GlobalLaner." According to Long, Livingston & Haven teamed up with Rexroth to test the modules, and together they confirmed that, with two modules on the X-axis (one driven and one idler) and one module on the Y-axis, the MKR Linear Modules could meet the acceleration and load demands Hartness wanted. Rexroth also took the project one step further by providing a confidence-boosting two-year warranty on the modules—twice the length of a traditional warranty.

The Hartness GlobalLaner 2260 straddles an existing conveyor along a packaging line and takes single-file rows of bottled products, like milk jugs, and diverts them to downstream areas for additional processes such as case packing. For

The linear modules have allowed us to achieve unprecedented line speeds with their exceptional drive-acceleration rates.

modules that could not only accommodate the demanding acceleration rates of the GlobalLaner, but could also manage the intense load demands from 45-lb product without a breakdown.

After reviewing the specifications for the GlobalLaner, Livingston & Haven selected MKR 20-80 Belt Drive Linear Modules from Bosch Rexroth Corp. (www.boschrexroth-us.com) to do the job. "We evaluated the linear modules that Hartness had already tried and were acutely aware that they needed a more robust design," says David Long, Livingston

high-speed applications, the GlobalLaner can achieve speeds up to 200 ft/min, while gently handling the laning of the containers by not stopping or gripping them. The laner can run multiple shapes and sizes of containers, such as empty polyethylene terephthalate bottles for dish detergent, liquor, cooking oil and beer. It can modulate its speed according to the infeed and outfeed conditions, because of the tight coupling between the servo motor and input shaft of the gear reducer and the output shaft and drive pulley.

Due to the smooth acceleration and deceleration of



the linear modules and the subsequent absence of container contact, the GlobalLaner produces little noise and no label damage. The continuous motion of the GlobalLaner does not disrupt the flow of products, whereas a standard laner will typically stop container flow during a jam, which can cause breakage when bottles collide. In addition, product and line-configuration changeovers can be performed in less than two minutes by handwheel guiderail adjustment, while the motion controller manages the number of lanes and the line speed.

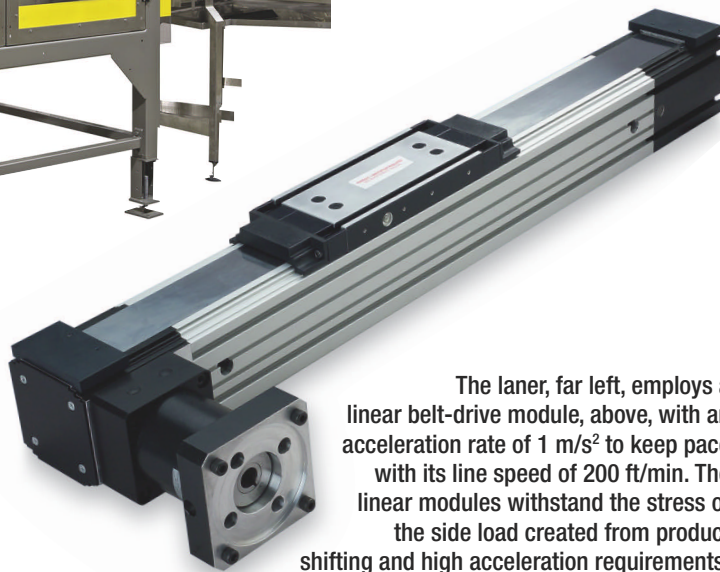
Using the GlobalLaner, the system for the afore-mentioned 1.75-L jugs of orange juice requires splitting one line into six lines for packaging. This application was one of the bigger challenges for Livingston & Haven when selecting the linear modules. "These jugs were



Rexroth has developed a method called "LOSTPED" that can help with sizing and selecting linear motion systems. To learn more about this, go to www.packagingdigest.com/info/374

some of the toughest to accommodate on the line, because they presented the greatest moment loads that the laner and linear modules were required to handle," says Long. The moment load describes the load placed on the linear modules when dividing product flow into multiple lanes. "The laner shifts the products at this point in the process, which creates a side load on the linear module. We had to pay special attention to the inside track of the linear module that controls the load and product shift to ensure the module could handle the load without a breakdown," says Long.

The Rexroth MKR 20-80 Linear Module selected for the GlobalLaner features an AC servo motor and a pretensioned, toothed-belt drive for these demanding speed and load requirements. The modules are designed with anodized aluminum frames and carriages with low-maintenance, one-point lubrication. "Previously the GlobalLaner 2260 prototype was outfitted with some nonRexroth linear modules, but they couldn't handle the speed," says Mathias Coulomb, Hartness controls manager. "With the high acceleration and deceleration rates of 1 m/sec², previous modules began losing position. We then switched to the Rexroth modules based on the recommendations



The laner, far left, employs a linear belt-drive module, above, with an acceleration rate of 1 m/s² to keep pace with its line speed of 200 ft/min. The linear modules withstand the stress of the side load created from product shifting and high acceleration requirements.

of Livingston & Haven. The quick and easy access to parts, combined with the service and support from Livingston & Haven and the Rexroth group in Charlotte, have been incredibly beneficial. If we have issues, they are very helpful."

Recently, Hartness began adding the Rexroth Ball Rail® system to the linear-motion portion of the GlobalLaner. The Series 16-71, size 20-40 Ball Rail complements the MKR Linear Modules by providing even greater side-load support.

The Rexroth Ball Rail system features a Generation 2 runner-block design, which helps machine builders, like Hartness, shorten assembly time, cut machine-cycle times, increase production and reduce lubrication and maintenance costs. The runner block enables industry-leading travel speeds of five m/sec and acceleration up to 50G." The high load capacity of the Ball Rail system comes from optimized force distribution within the runner block. The integrated lubrication system uses a foam insert to release lubrication to the balls over time and, thus, provides 10 million m of maintenance-free travel.

The linear modules have allowed us to achieve unprecedented line speeds with their exceptional drive-acceleration rates," summarizes Coulomb. "Rexroth's willingness to provide a two-year warranty on its linear modules and Ball Rails also demonstrated to us their confidence in their product's performance and in the GlobalLaner application. Their commitment, which is complemented by the service and support of both Rexroth and Livingston & Haven, definitely boosts the benefits we offer, when selling to our customers. It gives us an even greater degree of confidence in the product we're selling, and it gives our customers confidence in their purchase of the Hartness GlobalLaner."

More information is available:

Bosch Rexroth Corp., 800/739-7684.

www.boschrexroth-us.com.

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6 DAILY TRIBUNE SECTION 7 NNW

Missing man turns up

Wheeling Illinois - Police here said that a man who had been missing for four days has turned up alive though somewhat disoriented. Burt Petersen, Shift Manager for Super Mega Foods was originally reported missing four days ago by his wife and his Plant Manager, Rick Tornes. "We sent Burt out to the warehouse to look for some pre-print boxes we had for a run of private label peas when he disappeared", said Tornes. "He just vanished. At first we suspected foul play, but as it turns out, he got lost in the tons and tons of cartons we have in our pre-print inventory". "What a nightmare, exclaimed Petersen. I thought I was never going to see my family again. Once I got out there, I couldn't find anything, then everything looked the same and before I knew it, I was completely lost. I had no idea how to get out, much less find the cases. Some of the cases we have out there have been there since 1950."

Police said that Mr. Petersen was taken to Illinois Masonic Hospital to be checked and then released. A spokesman for the hospital said he was dehydrated and hungry but otherwise, in good spirits. "I guess we need to consolidate our inventory and toss out the old stuff", said Petersen. "We need a generic case printing program before somebody dies out there!"



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system integration

Team efforts facilitate integration projects

Vance J. VanDoren, Ph.D., P.E.

As noted here last month, system integration services are available from a variety of sources, including independent system integrators, automation vendors/distributors and machine builders. For some automation projects, a team that combines the best of all these resources with the in-house engineering staff will be the most effective implementation strategy.

For example, the in-house engineers' inherent understanding of the automated process can be combined with the application expertise of a system integrator and the product knowledge of the product vendor to great effect. Each party can focus its attention on issues that may be difficult for its counterparts to handle effectively. If managed properly, such a division of labor can significantly improve the odds of completing the project on time and under budget.

Unfortunately, that can be a mighty big "if." The success of a combined implementation strategy depends on clearly defining the scope of work for each party. The communication channels between them must also be crystal clear so that minor adjustments made by one party will not cause unexpected work or delays for another. In a well-defined alliance, there should be no question about who is accountable for delivering each piece of the overall project. Indiscriminate finger pointing is never a good solution when unforeseen problems arise.



*Cost-conscious end users
sometimes take over a project as
soon as it's complete enough for
them to finish the job in-house.*

End-user involvement

Including the plant's personnel in the implementation team is also critical. The operators need to take ownership of the automation system at some point, and the in-house engineers need to know how the system works. Otherwise, every minor glitch will require a visit from whomever it was that originally installed the system.

And though system integrators can be especially cost-effective when it comes to designing and installing the automation system to begin with, bringing them back in to handle troubleshooting and maintenance responsibilities can be extremely expensive. A vendor's application engineers can be even more costly to keep on call since their hourly rates tend to be higher.

Cost-conscious end users sometimes send the rest of their implementation team home before the system is completely operational. They'll take over the project just as soon as they're confident that it's complete enough for them to finish the job in-house. Less-ambitious end users might prefer to keep at least some of their team on-site as long as possible, in order to guarantee that the project starts on schedule and is trouble-free.

Life-cycle support

A combined implementation team is powerful when the full life cycle of the automation system is taken into account. Users who make improvements after the system has been commissioned should keep their service providers apprised of any major changes, or the integrator, vendor or machine builder will need to figure out how the system is currently configured should their services be needed in the future. If the system becomes obsolete, keeping track of the original team can greatly reduce the effort required to put another team together for the next 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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The main packaging event in Anaheim's Convention Center, Feb. 13 to 15, offers packaging machinery, containers, materials, a medical conference and a new contract-packaging/outsourcing pavilion.



to the WestPack show homepage, find the MD&M West website and click on the "conferences" info channel, or call 310/996-9413.

WestPack is organized by Canon Communications. The show hours on Tuesday and

Wednesday, Feb. 13 and 14, 2007, are from 10 a.m. to 5 p.m. Hall E opens at 9:30 a.m. and at 10 to 4 p.m. on Thursday, Feb. 15 (again, Hall E opens at 9:30 a.m.). Show registration opens at 8 a.m. the first two days and at 9 a.m. on Thursday. For a complete listing of exhibitors and to register for WestPack, visit www.westpackshow.com.

The exhibitors listed below have a marketing message in this issue:

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 Pearson Packaging Systems—4975, p. 33
 Placon Corp.—454, p. 7
 Pliant Corp.—874, p. 41
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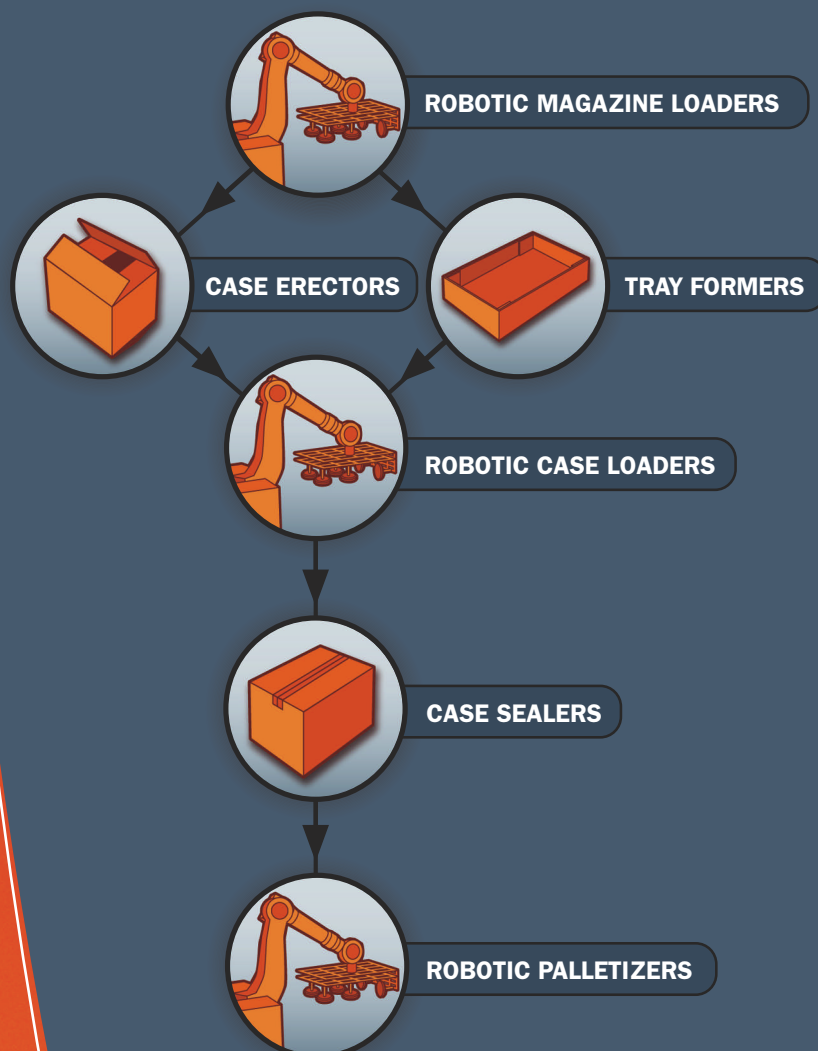
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The role of nanotechnology in brand protection

Despite its high cost and questions about its disposal, nanoscale technology is being developed that provides covert authentication and track-and-trace features for consumer packaged goods.

The key to designing a good brand-protection technology is to make it easy for brand owners and their investigators to identify genuine goods, while making it very difficult for counterfeiters and crooks to know how that is being done.

Nanotechnology can provide such a solution. Using nanotechnology, companies can now apply covert information, such as batch information, directly onto products and packaging. They can, for example, encrypt nanoscale codes onto pharmaceutical pills for tracking and tracing. They can also create nano bar codes, which are invisible bar codes that are technologically complex but can be used to easily authenticate products and packaging. Many more significant advances in nanotechnology are on the way, and the possibilities are almost endless.

There are two main reasons to use authentication and track-and-trace features on a product: to fight counterfeiting and to prevent the diversion of products destined for a particular market. Brand owners have learned that in order to fight counterfeiting, security technology is often needed. The best solution is to use a combination of overt and covert features, or features that are and are not visible to the naked eye, respectively.

Overt features, such as holograms, are useful because they can enhance a product's image, and consumers recognize them as marks of authenticity. Holograms, however, are susceptible to counterfeiting because the technology is

widely available.

Covert features are useful in the fight against counterfeiting because, under normal circumstances, counterfeiters will not even know they exist. If they do discover the existence of covert marks, they will be deterred from attempting to copy them for the straightforward reason that invisible marks are difficult to imitate. In addition, covert features are useful in the fight against unauthorized diversion. With information hidden on its products, a brand

Using nanotechnology, companies can apply covert information directly onto products.

owner can keep track of where distributors are sending its goods.

For example, if a batch number is tied in with a destination and is hidden on the product's package, a brand owner's authorized investigator will know when the company's products show up in a market where they are not supposed to be. The investigator can trace where products were originally sent and find the distributor that allowed the diversion.

This system has the potential to allow brand owners to monitor their supply chains without having to share company information with a variety of arms-length distributors and wholesalers. This is because only authorized people in the supply chain

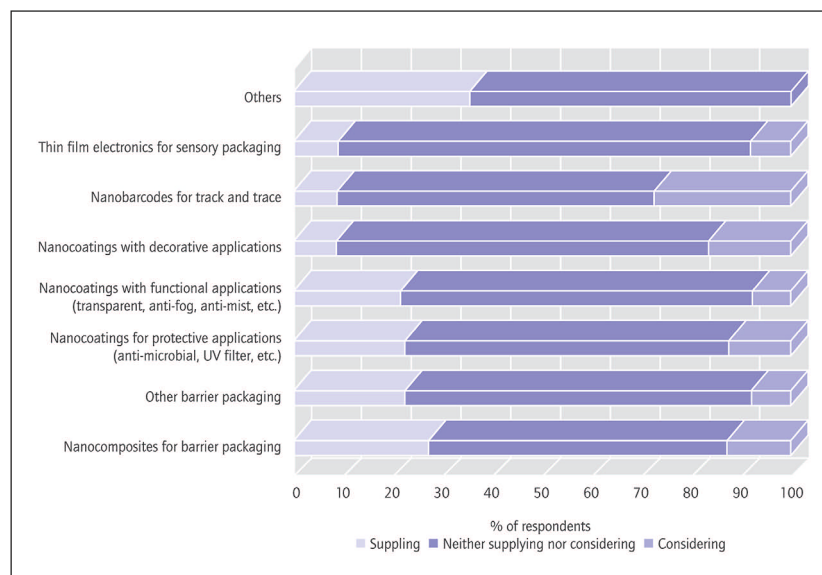
will have access to the information on the products.

Nanotechnology is the science of everything small. Everything done at the nanoscale is invisible to the naked eye, making nanotechnology the obvious choice for adding covert information to branded products. In order to protect public safety, regulatory agencies and governments are demanding that supply chains are as secure as possible.

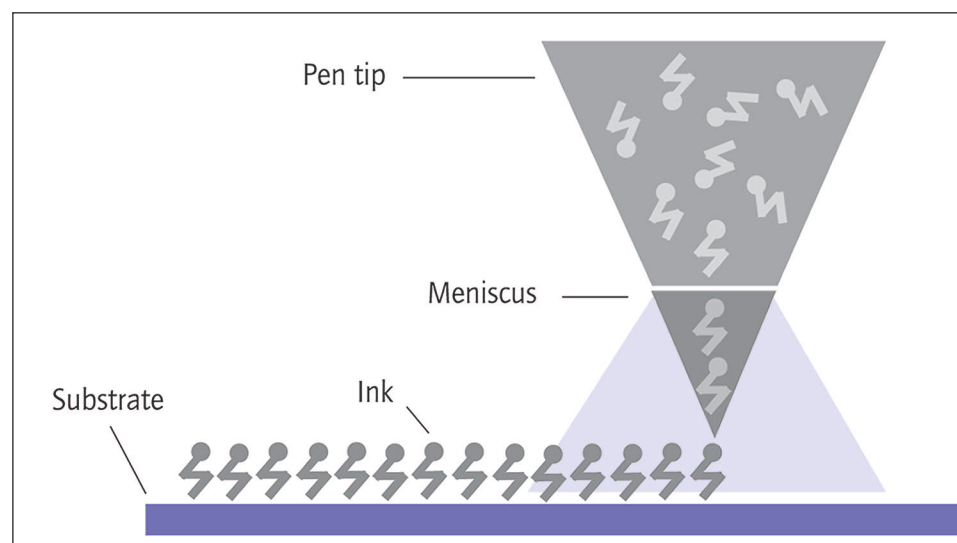
Pharmaceutical companies are among the most heavily regulated groups and will be among the first to be forced to ensure their drugs are safe. Already in some places, such as in certain U.S. states, regulators are asking pharmaceutical firms to provide a drug pedigree—a drug's history from its point of manufacture—with the drugs they supply. Since pharmaceutical companies often employ cutting-edge nanotechnology in their drug research, they might be among the first to use it to provide this drug pedigree.

Owners of high-end brands are also likely to want to use high-security features incorporating nanotechnology. Because of the higher value of their products, they'll be willing to spend more if it will mean their products are better protected.

However, much of the technology is still confined to the laboratory. Many applications of nanotechnology have not been tested yet, and printing and packaging companies are still hesitant to invest in the technology—they'd rather use a technology that most brand owners are more comfortable with. What's more, the cost of nanotechnology is still too high to



Packaging applications targeted with nanotechnology by suppliers. Source: Pira Intl.

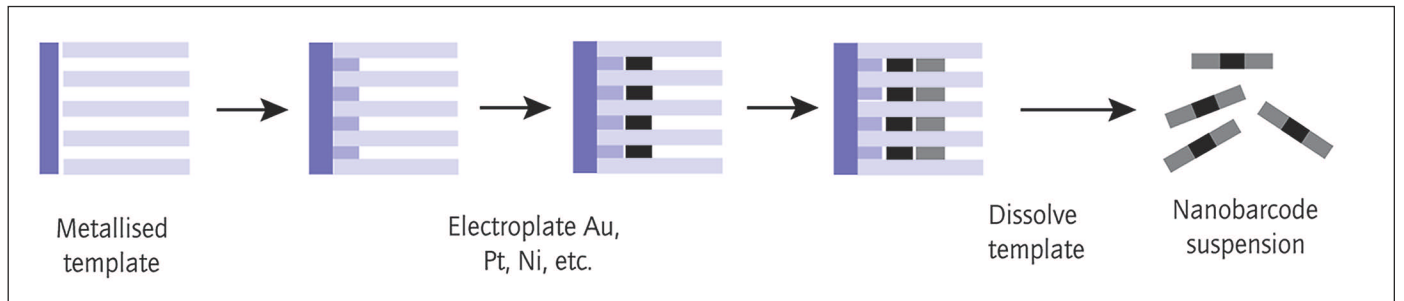


Nanolnk uses a scanning probe—a molecule-coated probe tip that acts like a pen—to deposit material onto a surface.

justify its use in many cases. Still, the technology is developing too quickly to ignore.

So what are technology companies doing? One U.S. nanotechnology company, **NanoInk, Inc.** (www.nanoink.net), Skokie, IL, is using its patented Dip Pen Nanolithography™ (DPN) technique to apply drug information directly onto pharmaceutical pills, and it hopes to use the same technique on packaging. The company would like to partner with packaging companies in order to provide a layered solution for pharmaceutical customers.

NanoInk's DPN is a patterning technique that can be used for encrypting pills. NanoInk uses a scanning probe—a molecule-coated probe tip that acts like a pen—to deposit material onto a surface. The general process involves a chemically engineered ink-and-substrate combination, and the comprehensive nanoscale positioning control allows for



This illustration shows the template-directed synthesis of nano bar-code particles. *Source: Oxonica, Inc.*

high-quality nanolithographic patterns. The technology has been used to

encrypt pharmaceuticals at the pill level, but at press time, it has not yet been used on packaging. Company CEO, Dr. Cedric Loiret-Bernal, says that NanoInk is in discussions with several

packaging companies, but nothing has been finalized.

As Loiret-Bernal explains, NanoInk can encrypt each pill with place and
Continued on page 36

Potential market size

There is very little historical market information for the use of nanotechnology for writing codes and covert information. However, in a market report entitled "The Future of Nanotechnology in Printing and Packaging," from U.K.-based consultancy **Pira Intl.** (www.pira.co.uk), author Dexter Johnson estimates that the market will experience incredible growth over the next five years. To reach that conclusion, he uses the internal estimates of providers of nano bar codes (\$500 million in 2007), along with demand surveys of those in the printing and packaging industries.

Printing and packaging respondents reportedly indicated that quantum dots and nanowires are the technologies they are targeting. Respondents were less enthusiastic about nano bar codes.

Johnson writes with more certainty about nanolithography, which is used by NanoInk and the National Physical Laboratory. But he points to their potential in more areas than just brand protection. He says potential markets for nanolithography include research labs, lab-on-a-chip systems for the pharmaceutical industry, making molds for soft lithography (or nanoprinting), and NanoElectroMechanical Systems (NEMS) for applications in resonators and wireless technology.

"The total market size of these applications is substantial," he writes. "NEMS could begin to make inroads into the \$7-billion MEMS market, requiring more use of nanolithographic tools."

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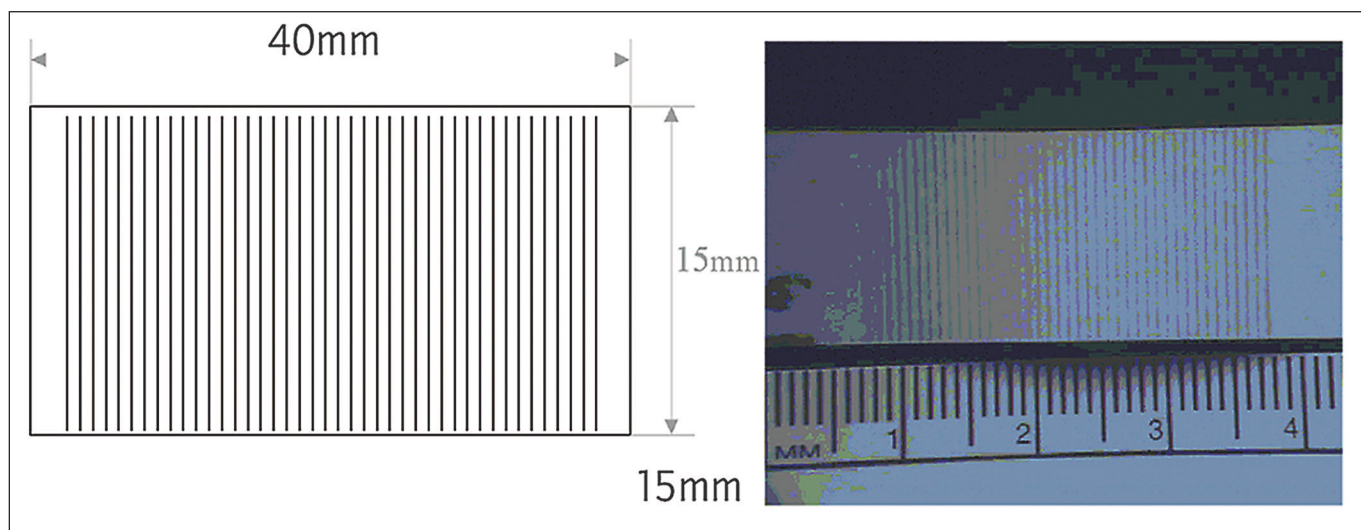
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The actual size of a DataFiber tag.
Source: ACS.

day of manufacture, target market and expiration date. He notes that it would be an added advantage to have the same encryption on the pill's packaging so that it would be evident if the pills had been repackaged. He adds that the patterning technique is preferred over the use of a taggant in the pill because the European Medical Agency doesn't like taggants. "And you can't have a solution that works in one market [the U.S.] and doesn't work in another [Europe] to solve a global problem," he says.

The pills will not be able to be authenticated in the field. Instead, they will be sent to an auditing center set up by NanoInk. The company plans to set up six auditing centers around the world, capable of auditing 50 million pills annually.

Loiret-Bernal says he can't go into detail about NanoInk's proprietary auditing process, but he says that it's much simpler than the process used currently, which involves liquid chromatography—a time-consuming and costly process.

Researchers at the **National Physical Laboratory (NPL [www.npl.co.uk])** in the U.K. have also developed a way to write valuable information about a product using nanotechnology. They are using electron-beam nanolithography to hide valuable information about products from counterfeiters and crooks.

NPL researchers Dr. David Mendels and Dr. Alexandre Cuenat have discovered how to write tiny bar codes that can be applied to a product's surface in a coating, or simply embedded in a polymer layer. The researchers say they can fit the same amount of information as is contained in the King James Bible onto the sharp end of a pin. This means the technology has the potential to covertly store valuable information on product packaging, such as a drug pedigree, or authenticate high-value goods, such as diamonds.

Sian Brereton, a business development leader at NPL, says the laboratory hopes to exploit two key features of the technology. She says the technology carries information in a secure way because a special reader is needed for it to be decoded. In that way, it could be used to store information on passports and other forms of identification. Secondly, the information is so tiny that it cannot be seen with the naked eye, making it ideal for covert marking.

Brereton says the technology is close to commercialization, but NPL relies on partners to bring technology to the manufacturing stage. She notes that the laboratory is currently talking to a number of potential partners that could take the technology forward. "It's not something that needs considerable further development on the research

side, but commercialization would depend on how quickly we come to an agreement and the investment required to tailor the technology to the application," she explains.

NPL researchers have discovered a way to write more than 90,000 nanoscale squares onto a particle of silicon 30 microns wide. The bar code, which takes the form of a cube, is coated with a 100-nanometer-thick layer of polymethyl methacrylate. The technology uses an electron-beam lithograph to drill 90,000 small squares into the plastic coat of each face at five different depths. The position and depth of each square is unique, so data can be encrypted using a key-based code. The cube is scanned line-by-line using an electron-force microscope, which detects differences in the depth of the squares. The information can then

Nanotechnology in brand-protection applications is expected to grow exponentially over the next five years.

be verified by matching it with information created upon writing the code. According to the researchers, this scanning process takes less than a minute.

Once in mass production, NPL researchers estimate that each device will cost about \$1.25, which means that the technology may not yet be suitable for consumer packaged goods due to its high cost.

Another company using nanotechnology for authentication purposes is **Oxonica, Inc., formerly Nanoplex Technologies (www.nanoplextech.com)**, in Mountain View, CA. The company is about to wrap up trials with several U.S.-based packaging companies that are using their nano bar codes for authentication and track-and-trace. The first application of the technology is likely to be on either packaging or labeling, and the company hopes to extend the technology so that it can eventually be used as a thread and put on materials.

Oxonica has finished developing the technology and has manufacturing processes in place. The product is supplied as a powder and can be added to liquid or surface coatings. The company has developed the nano bar-code particles to be used primarily as a covert tag for anti-counterfeiting applications. But the technology also has the ability to give each item or pallet, depending on how the company opts to apply it, a unique identity code

allowing it to track where the product has been. Every item can be assigned a different code because the system allows for billions of unique codes.

The nanoparticles are made up of metals, including gold, silver and platinum, which create stripes using the different reflectivity of the metals. Oxonica can create different codes by altering the stripe order. The bar codes can only be read with a modified microscope and are likely to be used as a last-level taggant, which is read at a central location and known only by a few members of the company.

Oxonica director of chemistry Dr. Sharron Penn says the nano bar codes are a complementary technology to radio frequency identification (RFID) and competes on cost with the other taggant technologies available.

Advanced Coding Systems Ltd. (ACS [www.acs-coding.com]) in Israel has developed near-nanoscale bar codes that do not need to be on the outside of a package to be scanned. The company will trial these high-tech authentication and track-and-trace features, which are called DataFiber, within nine to 12 months.

The company has developed and tested the technology, but they don't yet have the capacity to produce it on a large scale. ACS is now working on the development of a commercial manufacturing process; the company says the engineering work has already begun. ACS president Yoav Dvir says that ACS is talking with several interested parties, including brand owners and governments, about use of the DataFiber.

The DataFiber solution uses ACS's magnetic MicroWire technology to create a covert code within an item or its packaging. The code provides authentication as well as track-and-trace information such as ID, batch number and expiration date. Unlike RFID solutions, the DataFiber tag is not compromised by metallic materials such as aluminum, magnesium, copper, bronze or brass. The DataFiber tag is made from several glass-coated magnetic MicroWires, which can be produced with a very small diameter, ranging from few microns to tens of microns, from a variety of magnetic and nonmagnetic alloys and pure metals. These MicroWires are placed on a tag that can be about 15×30 mm, and will therefore fit on most product packaging.

The DataFiber reader can read the tag somewhat like an RFID reader reads an RFID tag. The reader contains a magnetic analog circuit for generating a magnetic field, and it receives the wires' re-magnetization pulse response. The reader can be mounted on a production line, or it can be hand-held.

Despite the fact that the DataFiber tags share

similarities with RFID tags, Dvir says they are not competing technologies. He believes DataFiber can work alongside RFID. He says that one thing that differentiates the two technologies is the price—when the tags are commercialized, they will cost less than \$0.06 each.

While much of the technology discussed in this article has not yet been commercialized, there are some important partnerships in the works, indicating that businesses are investing in the future of the technology.

Applied DNA Sciences (ADNAS [www.adnas.com]), a botanical DNA security solutions company in Stony Brook, NY, recently signed a memorandum of agreement with DataFiber maker ACS. The partnership

Nanocomposite technology also paves the way for PACKAGING INNOVATION in the flexible film and plastic container industries. Read how at www.packagingdigest.com/info/nano05

calls for the companies to develop new security products that marry ADNAS's proprietary botanical DNA security technology with ACS's patented technology. ACS will exclusively manufacture the new MicroWire products embedded with DNA, and Applied DNA Sciences will exclusively market the new products worldwide.

The collaboration is to develop a DNA-embedded Digital Magnetic Identification Device (DNA-DMID) that will be a DataFiber tag and a reader, and will incorporate botanical DNA. The ADNAS botanical DNA is encapsulated in tiny particles, designed to withstand heat and pressure, using nanotechnology. The reader, already developed by ACS, has the ability to read directly through the walls of cartons and containers and identify the contents inside. The DNA-embedded MicroWires can be integrated into product packaging, cartons, paper, tags, clothing, passports, security documents and virtually any product requiring identification.

Dvir of ACS says, that DNA-DMID will provide an instant, low-cost security technology for the global anti-counterfeit and brand-protection market. "Our existing product lines will now be enhanced by the forensic qualities provided by Applied DNA Sciences," he says.

The two companies say that when these products are released, they will provide covert coding-based solutions for a wide range of industries, including homeland security, pharmaceutical, beauty products, luxury goods, automotive, and fine art and collectibles.

Nanotechnology for brand-protection is expected to grow exponentially over the next five years. But with the new technology mostly confined to the lab, the market can only grow. The technology is so new that tests have not yet revealed positive or negative results. In addition, nanoscale protection can vary from \$0.06 to \$1.25 for each item, and since authentication technology is available at a lower cost elsewhere, that price is more than most end users want to spend. There is still work to be done

before the technology will be adopted.

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www.acs-coding.com.

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Motor-oil-themed cans rev bodybuilders' engines

Dietary supplements from WellNx Life Sciences, Inc. never looked so buff as they do in new, custom containers and a keepsake tin that emphasize the products' scientific foundations while appealing to the gym crowd with its promise of body transformation.

Anne Marie Mohan, Senior Editor

To introduce its three-product Biogenetix™ line of “physique-enhancing” dietary supplements for male athletes, WellNx Life Sciences, Inc. (formerly NxCare™, Inc.), Mississauga, ON, has brought in some muscle, with masculine, motor-oil-style containers and a striking, custom keepsake tin. Launched in General Nutrition Centers (GNC) last September, Bioburn-D²T, Creatine-D²T and NO-D²T are respectively being billed by WellNx as America’s “strongest fat burner,” “strongest creatine” and “strongest nitric oxide.” Together, the supplements are designed to increase muscle growth, improve strength and increase thermogenesis—or the

Created to catch the eye of gym-frequenting males from 18 to 24 years old, the packaging is ‘pumped.’

supplement bottles replicating the style of motor-oil containers. Extrusion/blow-molded in polyethylene terephthalate glycol by **Custom Bottle/Lerman Container (www.bottles.com)**, the bottles are oblong in shape, with one side etched to look like the diamond-plated metal often used in gyms and on gym equipment.

The “atomic” Biogenetix logo is etched into the top of the bottle’s front panel, while most of the container’s body is indented to accommodate a three-quarter-wraparound label decorated with a special, raised, 3D printing technique. According to the company, because of the bottle’s unique shape and decoration, its mold was carved by hand. Bottles are capped by foil-lined, black, child-resistant closures from **Drug Plastics & Glass Co., Inc. (www.drugplastics.com)**.

Complementing the container’s cutting-edge appeal, product labels use an arresting color scheme of metallic silver and blue, and utilize a raised-varnish printing process that provides the look and feel of embossing, relates Stevenson. The first application of this technology for supplement products, the labels are printed in four colors, plus one spot color, a silver foil, a UV gloss finish and a spot-raised varnish by **All Stick Label (www.allsticklabel.com)**.

While the products can be purchased separately for a cost of \$69.99 for Bioburn-D²T and \$89.99 each for Creatine-D²T and NO-D²T, NxLabs is bundling the three supplements, along with a book, “The Ultimate Guide to Total Body Transformation,” into a custom tin marketed as the Biogenetix Total Body Transformation Kit, for \$199.99. The company hopes that the tin, which uses a custom hinge from China and is embellished with embossed atomic and D²T logos, along with the same steely metallic silver, blue and black graphics, will be saved by consumers for storage, increasing the frequency with which they view the brand.

WellNx relates that the graphics for both the tin and the bottles were designed for maximum “on-shelf stopping power.”

“The kit and bottles are designed to be leaders in the sports supplement industry,” Stevenson says. “The dominant blue color, the custom bottles, the scientific look and feel and the metallic packaging all contribute to a large shelf presence of the brand in-store. The unique packaging is also the first to the sports supplement industry.”

Notes WellNx, GNC has contracted for exclusive distribution of the product line, including the kit, until September 2007.



Earlier this year, WellNx brought beauty to weight loss with **NV**. Slim and sexy, the ‘supermodel of diet pills’ made its debut in a custom-designed bottle and stylish carton. Go to www.packagingdigest.com/info/nv

production of heat in the body—in bodybuilders, mixed martial artists and other male athletes.

“All Biogenetix products use new, innovative scientific formulations to help athletic males reach their peak conditioning fast,” says Craig Stevenson, director of marketing for Biogenetix. “All of the products possess a ‘pharmaceutical drug-delivery technology’ component known as Deca Delivery Technology [D²T] that allows for sustained release, high bioavailability and once-a-day dosing, which sets it far apart from the competition.”

Created to catch the eye of gym-frequenting males from 18 to 24 years old, Biogenetix’ packaging is “pumped,” with its 550-cc

More information is available:

All Stick Label, 800/263-2368.

www.allsticklabel.com.

Custom Bottle/Lerman Container, 800/453-7626.

www.bottles.com.

Drug Plastics & Glass Co., Inc., 610/367-5000.

www.drugplastics.com.

sustainability

Understanding material health

Anne Johnson

My introduction to chemistry started early. As a child, I trailed my father through the woods of the Hubbard Brook experimental forest, helping collect water samples from pristine streams. Later, we would process the samples in his lab to measure the pH, the nitrates and the aluminum that would later be recognized as the calling cards of acid rain. Once scientists started thinking about the chemistry of coal combustion and applied the "rules" of chemistry, it was a straightforward application of science and chemistry to understand the interactions of acid rain with local geology and all the other related biogeochemistry changes that have been observed. Acid rain is now recognized as a significant industrial impact affecting the chemistry of natural systems.

The acid rain example illustrates the prototype scenario for end-of-pipe solutions: Discover a problem, measure it and then figure out how to control it. Control in this case involved the Clean Air Act and the subsequent installation of control technologies on coal-burning combustion facilities. Today, the



We have been slow to extend chemistry-based thinking to evaluate how materials themselves may impact human health and the environment.

accumulation of substances of concern in humans and the environment and the increasing degradation of natural systems provides clear evidence that the end-of-pipe approach is slow, noncomprehensive and expensive—and, all too often, the damage is already done. Sustainability for the future suggests we need to go about thinking about the application of chemistry differently.

Outside of science and academia, we have been slow to extend chemistry-based thinking to evaluate how materials themselves may impact human health and the environment. We tend to focus on the chemistry of materials only in terms of their performance, cost and esthetic rather than using our knowledge of chemistry for the purpose of pollution prevention. Green chemistry is an evolving science that hopes to do just this for materials and processes; sustainable design aims to do the same for products and packaging.

Material health is a term that we coined at GreenBlue to describe the science of understanding the human health and environmental impacts of a material at any point in its life cycle—from its inputs through its use and extending to all possible end-of-life scenarios. Material health focuses solely on the chemistry of a material itself; it is distinct from "Clean Production," a broader term that encompasses the direct and indirect processes of how materials are made. When we evaluate the material health of a material, we look at the toxicity of inputs, including any additives or fillers, and ask a series of questions. Do any of the inputs to this material pose a threat to human health or the environment? Are they carcinogenic or acute aquatic toxicants?

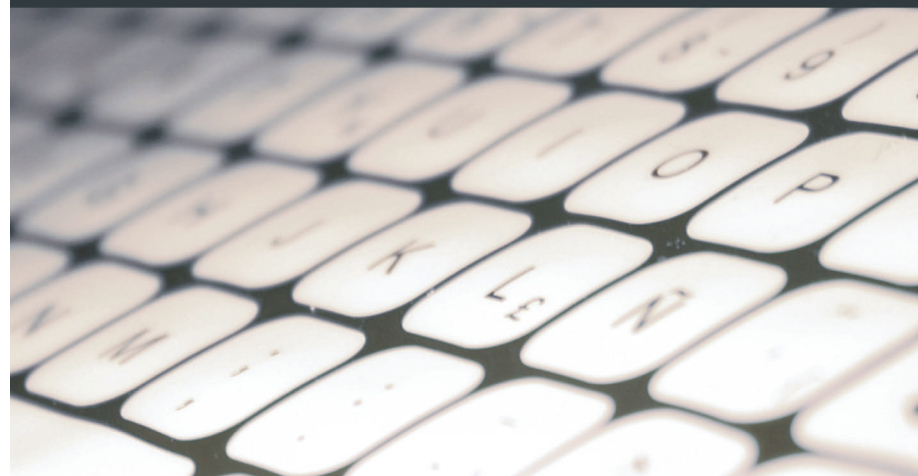
Once a material is made, we ask a different set of questions. Are there additives or chemicals of concern in this material that may leach out during its use? We need to know what happens to this material in all of its probable end-of-life scenarios. For instance, are these inks safe for the environment if this package is composted? Are there chemicals in this material that may accumulate or limit its use if recycled? For packaging, end-of-life scenarios include litter, composting, open burning, incineration, landfills and recycling.

As the science of developing and manufacturing materials becomes more complex, and as we look to design sustainable systems to recover these materials, the need for rigorous science and information around the human and environmental impacts of materials and their auxiliaries will be increasingly important. For more resources on material health, go to www.packagingdigest.com/info/greensources.

Anne Johnson is the director of the Sustainable Packaging Coalition, a project of GreenBlue (www.greenblue.org).
For additional information, email info@sustainablepackaging.org.

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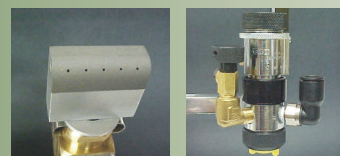
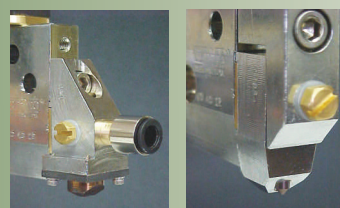
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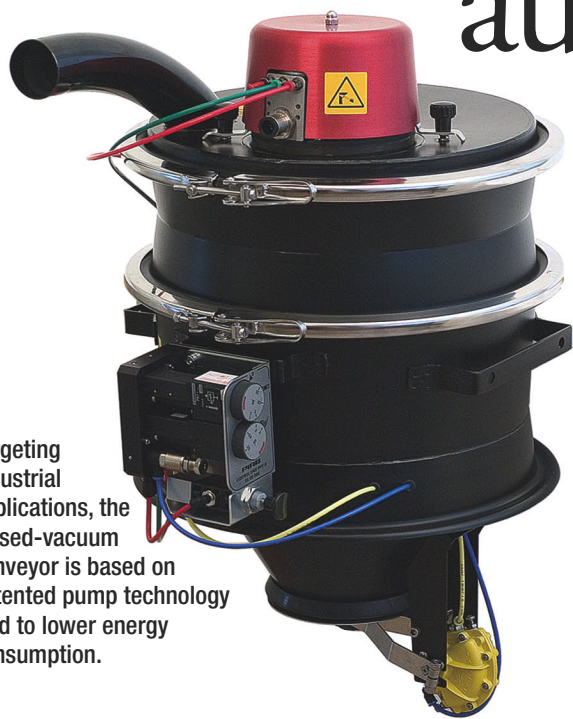
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Vacuum conveyors automate resin throughput

Targeting industrial applications, the closed-vacuum conveyor is based on patented pump technology said to lower energy consumption.



Tectubes, a converter of squeeze-tube packaging for food, pharmaceuticals and personal care and chemical industries, cuts downtime and maintenance costs with a vacuum-conveying system that further automates its resin-handling processes.

Lauren Hartman, Senior Editor

As its name implies, Tectubes Sweden AB, Åstorp, Sweden, knows the packaging tube business. Formerly known as Norden Tubes, the largest supplier of tubes in northern Europe, the company has a long and proud history in tube packaging. Founded as early as 1917 in Kungsör, Sweden, Tectubes manufactures an extensive line of stock and custom tube packaging in both plastic and aluminum and produces about 1 million tubes each year. The containers range in diameter from 0.75 to 2 in. and in lengths from 2 to nearly 8 in. and are available decorated in multiple colors by screen or offset printing, in-mold labeling and foil stamping. Tectubes' facility in Hjo, Sweden, makes the tubes from various polyethylene and polypropylene resins, depending on the specific application, and can extrude or injection-mold them with barrier layers of ethylene vinyl alcohol.

The squeezable tubes provide essential content protection, functionality, hygiene and user-friendly seals, and the company's longstanding reputation for enhancing its customers' products with visual impact is well-known. Specializing in innovative structural designs, the company offers unique shapes including distinctive ovals, tubes with large display areas, sloping-shoulder designs that facilitate product dispensing, tubes that use less packaging material and tubes with clever closures that are both convenient and attractive. Tectubes realized recently that in order to manufacture more tubes in less time and to continue maintaining internal production efficiencies, it needed to upgrade its existing mechanical conveyors for transporting raw tube material—resin—with a set of pneumatic vacuum-conveying systems provided

by PIAB (www.piab.com).

Executives at Tectubes saw a specific opportunity to reduce machine downtime in the tube-converting operation by improving the way the PP and PE tube resins are handled. "Handling all of the plastic granules was [becoming] too labor-intensive, so we sought a way that could lower our expenses by automating and streamlining the resin-handling process," admits Tommy Andersson, production



Low-fat yogurt maker YoFarm in Naugatuck, CT automated the way it conveys yogurt toppings with a **VACUUM CONVEYOR** from PIAB. To view the story, see www.packagingdigest.com/info/YoFarm03

engineer at Tectubes.

He goes on to say that Tectubes wanted to reduce its overall resin-handling time as well as to try to prevent employee handling injuries. Tectubes was especially interested in automating the handling process that involved bending, lifting and other movements. A solution came with PIAB's analysis and recommendation to replace the existing mechanical conveyors with its IC 3301 compressed-air-driven vacuum conveying system.

Designed for industrial applications like the consistent, hygienic transfer of Tectubes' resins, the new IC Series of vacuum conveyors is based on a new, patented pump technology that PIAB says can

contribute to lower energy use.

PIAB Sweden installed the first conveyor at the Hjo facility in March 2005. "Customers have come to us with inquiries for this type of a vacuum conveyor," relates Markus Tell, business unit manager for vacuum conveying, at PIAB AB. "The objective was to make a simple, ergonomic and user-friendly system with high performance. So we created a closed-vacuum system that not only protects the material being handled from external influences, but also protects the user from the material being handled."

The system's vacuum pump draws the resin pellets for tubemaking from a feed station through a conveying tube and into a closed container. When the container is full, the pump stops, and a valve at the bottom of the container opens and discharges the material from the tube. Constructed of high-grade steel, the conveyor protects users from inhaling potentially harmful materials and helps prevent product damage caused by external elements.

The IC 3301 system is available in three versions that handle 1,100 to 4,400 lb/hr, depending on the conveying distance and the characteristics of the material being handled. Tectubes' IC3301 system is equipped to process the 1,100-lb quantity. Designed to cope with demanding circumstances, a unique filter design traps particles to prevent dust and contamination in the plant. During each cycle, compressed air cleans the filter to ensure that it stays hygienic. The suction and discharge times are pneumatically controlled.

Instead of taking up valuable floorspace, the IC Series has a compact design, which Tectubes likes. It conveys the resin transported by pipes or hoses to provide extra flexibility. "We chose the IC Series because it's easy to control and





Taking up minimal floorspace, the vacuum system has few moving parts. It conveys tube resin transported by pipes or hoses into bulk bins. Compressed air cleans its filter during each cycle. Suction and discharge is pneumatically controlled.

requires less maintenance compared to the other methods we considered," says Andersson. "We wanted a conveyor that didn't take up too much space and didn't have too many moving parts that could break down. This could result in unwanted downtime, additional maintenance and higher costs."

The former conveying operation relied on a mechanical system that required regular lubrication to maintain. Having to grease the conveyors would often cause machine interruption and slowed productivity down, according to Andersson. The new compressed-air-driven vacuum pumps are distributed and located at the point-of-use, so the individual pumps can function independently, without consuming compressed air between operating cycles, which also helps minimize



The system's vacuum pump draws the resin pellets from a feed station through a conveying tube and into a closed container.

energy use. "The vacuum conveyors have proven to be extremely reliable," says Andersson. "We now have ten systems running without interruption and they are easy to operate and require almost no maintenance."

The driving force behind the savings is the patented COAX® technology, which PIAB reports is based on its multistage ejector concept. COAX creates a vacuum with compressed air that can handle up to 15 tons of Tectubes' plastic flake per hour, with

little energy consumption.

COAX integrates the internal components of the multistage vacuum pump into a vacuum cartridge designed to provide a small, efficient and reliable setup, the company says. When compressed air passes through the vacuum nozzles, air is pulled through with the stream of compressed air, creating suction at the opening of each stage. PIAB says that COAX is efficient because it puts energy to maximum use. Its vacuum pumps based on COAX

operate at low and fluctuating feed pressures of 25 to 90 psi, with sustained vacuum performance. According to a pleased Tell, these factors keep maintenance, and therefore potential employee handling injuries at the plant, to a minimum.

More information is available:

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Sanford 'pens' an improved blister-pack tale

Applying lean-management principles and standardizing its packaging and processes, pen pioneer Sanford Corp. reduces its blister-pack heat-seal tooling for hundreds of stockkeeping units as a way to reduce overall costs, time to market and downtime on its lines.

Lauren R. Hartman, Senior Editor

It started out as a way to reduce the amount of heat-seal tooling required for packaging the hundreds of new stockkeeping units (skus) for writing instruments produced each year, but a recent and massive blister-pack tooling project conducted by Sanford, a Newell Rubbermaid company, has written itself into a most impressive lean-manufacturing implementation story.

The Oak Brook, IL-based company strives to dominate the writing instruments industry and has added companies such as Papermate (in 2000) to its already impressive roster of more than 3,000 products and brands. The recent streamlining project applied to carded blister-packs across all of its writing instrument brands (including markers and everyday writing instruments), with the exception of its Dry Erase products. Says Jon Bruser, director of marketing services at the leading manufacturer of writing instruments and producer of such well-known brands as PaperMate®, Liquid Paper®, Sharpie®, uni-ball and EXPO dry erase products, "Most lean manufacturing is implemented from above. We empowered our people to find opportunities for improving our packaging processes and then gave them the freedom to come up with solutions. They managed to not only solve their own blister-pack heat-set tooling challenges, but also put into motion a series of packaging improvements that worked across strategic business units and our manufacturing facilities."

The lean-manufacturing project has a happy



Blister-cavity platforms on Sanford's carousel heat-sealers accept the thermoformed blisters from a magazine. Workers then load the pens and apply backing cards before sealing.

ending, which the company might consider the "write" way to finish up such a program, but it wasn't without its challenges. But they definitely made the outcome worthwhile. According to Bruser, there is an enormous complexity involved in getting carded blister-packs for pens, markers and Sanford's other writing instrument products designed and ready for market. When he first came to the company, he says he also realized the size of the company's blister-pack tooling inventory. "Two key tools of lean manufacturing are simplicity and inventory control. Marty Rakes, our commodity manager for packaging, pointed out that our packaging suppliers had suggested 'platforming' [or standardizing

the packaging by developing more common blister heat-seal cavity platforms], eliminating several package sizes and streamlining the number of sizes as a way to reduce our overall tooling costs. Since that time, our packaging leaders have been steadily working to implement this process, which is not only eliminating the problems we saw, but is also revolutionizing how we do business [overall]."

Sanford knew it had to reorganize the packaging, both in terms of configurations and processes. Inventory was steadily climbing because there were so many packages for the numerous skus. With platforming, the company could standardize the size of the blister-card and the blister itself, and utilize them across the different pen brands and package counts. So in early 2005, the company established a team that went to work to find ways to implement just such a platforming process. With help from its preformed blister vendor and blister-packaging equipment provider, **SCA Consumer Packaging, Inc. (www.scapackaging.alloyd.com)**, in 2006, Sanford accomplished its goal. It was able to jumpstart productivity, reduce the amount of changeovers necessary between sealing blister-pack sizes, slice labor and cut the time lost per changeover. Additionally, the project helped the company reduce speed to market for the pen products from six to eight weeks down to only two or three weeks.

The new blister platforms work on SCA Consumer Packaging's Alloyd-branded heat-sealing machines, which automatically pull the thermoformed blisters from a magazine and load them into a multi-cavity nesting tray. Workers then load the pens into the



blisters and the heat-seal machine automatically loads the backing cards, seals the blister and card together and then ejects the finished package.

Identifying challenges in the first phase of the project, the packaging team found several issues to overcome. Every time a new pen sku was developed, the company basically had to start from scratch and develop a new package for it, including a blister-card with graphics, new blister tooling and a new set of heat-seal tooling, which took time and money. Says Jeremy McBroom, packaging leader for uni-ball and one of the driving forces behind the project, "To understand how our inventory of heat-seal tooling grew, you have to understand how we were structured. The skus were developed by different business units, often resulting in duplication of design and support services required. Adding to this was the challenge of keeping track of all of the different designs and tooling required for each sku. When a new design would be requested, there was limited visibility if a similar design was already created." Leadtimes for creating the backing-card portion of the packaging alone could often take a few weeks from concept to printed card. This created hundreds of tool sets that had to be changed over and be at the ready for every new production run. Changeovers added time and another expense to the packaging process. Each day, there were at least 10 changeovers, according to Sanford, with each changeover between package types requiring about 20 minutes of downtime.

As a result, the team says, the packaging process gradually became more and more complex. Products were divided between different skus—each having its own team—but there was limited communication between teams. So Sanford consulted with SCA Consumer Packaging, which then began to compile a database of Sanford's heat-seal tooling in an effort to help Sanford move toward standardizing the packages and blister-sealing platforms. Sanford uses its existing multistation rotary and carousel blister-sealing equipment from SCA to package the pens in preformed vinyl blisters that are thermoformed locally. But trying to go back through all of the tools in the inventory—even through a database—was a bit daunting. "We needed to develop some standard platforms that could meet the needs of most of the skus," states Scott Gabbert, packaging sales consultant for SCA Consumer Packaging. "That way, when a new sku is developed, all Sanford has to do is to match up the pen product with a standardized packaging platform. And with a database, we set out to try and identify the common features and sealing areas in the packaging that would help us arrive at the package sizes that would work well with that particular platform."

This second phase of the project included eliminating packaging waste through standardization. The team leaders representing the different skus began to hold weekly, and soon, twice-weekly meetings, also meeting with SCA Consumer Packaging, to identify how they could reduce the number of heat-set tooling sets they each needed. As McBroom recalls, "At one point, we just spread hundreds of products out over some tables, along with blisters and cards, trying to come up with a way to standardize all of the sizes."

While it didn't change the basic blister-pack structure and materials involved, the team was able to shave the amount of package sizes it offers from several hundred to less than a few dozen by using definitive platform configurations. Instead of building new forming tools for each and every pen developed, SCA



Read about Nylabone's Big Chews bones for dogs in clear, **DOUBLE-TRAPPED PVC BLISTERS** from SCA, designed to withstand 'ruff' handling at www.packagingdigest.com/info/nylabone03

and Sanford pared down the blister-pack sealing tools so that tasks for each changeover have been sliced by more than half, in some cases.

Instead of all new tooling, the blister-sealing equipment today requires a plug-rack device that pulls the blisters out of the machine's magazine and automatically loads them into the sealing-cavity trays. The plug rack costs a whopping 80-percent less than a full set of new blister-sealing tooling and takes half of the time to change over, saving an amazing 75 percent in tooling storage space. Only the redesign and purchase of the new platform nesting trays, plug racks and forming tools were required. Duplicate sets of platform tooling were created for Sanford's primary manufacturing facilities in Tennessee and also for plant locations in Mexico.

The team managed to streamline the packaging by narrowing down the hundreds of configurations to 15 blister configurations, saving 80 percent in heat-set tooling for "platformed" skus, 50 percent in setup time to package the pens and heat-seal the blister-packs and 25 percent in warehouse space for many of the packaged items. The company says the exact amount of the labor savings varies by product/package.

"It was really incredible," recalls Gabbert. "Platforming is all about standardizing basic blister-card sizes and heat-seal areas. Rather than create a new card and blister for each product sku, we narrowed them down with about fifteen interchangeable blister-sealing cavity platform sizes. On that set of blister-sealing platforms, certain products were arranged differently to maximize space across the different package skus."

Left, preformed PVC blisters are placed in the magazine of one of Sanford's blister-pack-sealing machines. Above, an overhead shot of one of Sanford's massive pen-production facilities where the new standardizing/lean-manufacturing processes have been implemented.

SCA Consumer Packaging says the platforms will accommodate future pen packs having certain product counts. For example, if Sanford wants to design a new pen in a longer length, it can be contained in a two-pack, a four-pack or a six-pack, using a particular blister configuration.

Standardizing the heat-seal tooling was only half of the battle, however. Sanford also pared down the blister backing cards to about 15 different sizes. For that, it engaged its creative department and asked Mark Radoha, director of creative services, and studio manager Gordy Bartolomei, to join the growing project team. "At first, we thought it would be a matter of identifying a set of standard card sizes, but after we got going, we realized the benefits of standardizing the structural design process for the card and the card graphics as well," Radoha says. "Before, we had different graphic treatments for each different sku. Today, each brand retains its own identity, but all share a common set of features that show they are all a part of the same brand." The cards are now offset-printed with universal graphics instead of the hundreds of different designs used earlier (Sanford says it obtains its backing cardstock from several sources).

A third phase of the project involved reducing packaging costs and labor and simplifying the packaging process. Being more efficient upfront also expedites the production process, while the packaging engineers can work on designing the sealing machines' platform areas to accommodate the shape of new writing instruments. "Common, standard backing-card sizes and graphics frees up our designers to be more creative," says Radoha.

The project also had an impact company-wide, for things like corrugated shipping cases, off-shelf displays, ink manufacturing, raw-material components and more. Shipping cases were restricted to set configurations, saving 15 percent, Bruser points out. "Add to that more time to create and we can better respond to customers' needs more quickly, with more flexibility and agility. We accomplished our lean-manufacturing goals. Our productivity has shot up tremendously. That means we have more time to improve the products our customers need."

More information is available:

SCA Consumer Packaging, Inc., 800/756-7639.
www.scapackaging.alloyd.com

Cold foil, warm labels

For decades, the hot-stamping process has been used to provide packaging with an upscale, classic look, incorporating glossy, metallic lettering and designs. Today, cold-foil transfer is gaining ground, not as a competitive process, but as a highly versatile supplement, giving designers a broad range of creative options.



What do humans and magpies have in common? We are both attracted to things that glitter and sparkle. A metallic look stands out and can convey an impression of high value. The design community has long used this effect to create packaging with shiny, bright features that increase product value as well as focus attention at the point of sale. Of course, sometimes the designer is constrained by technical or financial restrictions, because not every design concept can be realized or can be achieved within the outlined financial scope.

Cold-transfer foil has significantly broadened the scope of design potential. Using this technique, high-gloss, metallic patterns may be created that otherwise would not be possible. Fine lines, filigree cutouts—even on a large transfer area—minute details and even

Cold foil also offers benefits for applications in which metallized paper is frequently used, such as in the label market. Large surfaces may be covered with foil while leaving any desired area white. Therefore with bar codes, for example, there is no need for any elaborate, preliminary white printing. Moreover, foil recesses also permit the clear, unobstructed printing of light colors. Cold-foil use in the label industry also has certain advantages when compared to hot stamping. While the paper used in the hot-stamping process may become deformed due to the application of pressure and heat, the cold-foil transfer process does not cause a similar condition, even in large-area use.

But cold-foil transfer is not a replacement for hot stamping. In hot stamping, the foil is transferred to the surface by a combination of heat and pressure. It is this very process that provides the distinct advantage of the technique. The pressure used forms a slight depression in the substrate with a unique sense of touch. The effect of the heat used results in a special bond between the

substrate and foil and also associates the hot-stamping process with a one-of-a-kind gloss level. The visual quality of hot stamping remains unequalled and consequently, cold-foil transfer does not offer a realistic competitive alternative. Especially when it comes to luxury product packaging, hot stamping is still the first choice.

Another advantage to hot stamping is its tactile quality. Nowadays, the human brain is constantly being bombarded with different stimuli. Given this, it is a real challenge to create, through packaging design, visual signals that are eye-catching and stimulate the urge to buy. Hot stamping can provide such an impetus, and beyond this, it is effective in an area where sensory perception is not yet overwhelmed: tactile impression. Structural and relief stamping are not only pleasing to the eye, but they also possess physical characteristics so that specific packaging may be compared against competitive products. While visual differentiation has been widely pursued, tactile features still offer the potential for product positioning. The hot-stamping technique lends itself perfectly to this opportunity.

Hot stamping and cold-foil transfer each offer specific benefits, thus it is the application that should determine which decoration method should be used. Cold-foil transfer may be conducted in-line at print-production speed, without the need for stamping tools. It consequently has cost- and timesaving benefits when compared to hot stamping. In particular, patterns are significantly cheaper and faster to produce when stamping dies are not required and die adjustment and cutting are unnecessary. Also, on



Cold-foil transfer can be used to create virtually any color for labels with eye-catching, metallic effects.

To learn more about package decoration, visit PD's **LABELING INFO CHANNEL** online at: www.packagingdigest.com/info/labeling

halftone pictures are a viable option. Also, the foil can be used without restriction on large or full surfaces.

An additional wealth of design possibilities results from the ease with which cold foil may be overprinted using four-color printing. This allows for an extremely effective combination of colors and metallic brilliance, and a multitude of effects may be realized, since not only the overprinted color but also the cold foil itself may be screened. By selecting opaque or transparent colors in conjunction with different screening values of the colors, as well as the cold foil, highly variable, metallic effects and gloss levels are achievable.

Using cold foil with holographic patterns has also proven to be a real attention grabber. Here again, overprinting offers a virtually endless range of options. Finally, the ability of cold foil to be overprinted means that it is available at any time in the most varied colors, because printing over silver foil with transparent colors provides almost any shade or color desired.

Cold-foil transfer also enables the use of "side-by-side" print and foil. Cold foil is transferred in-register to the printed colors so there is no issue concerning registration tolerances. This precise registration increases design scope; for example, it allows exact continuation of a printed motif using cold foil. The random change between foil and color drawing enables the creation of attractive effects.

Cold-foil transfer application tips

Applications: Under normal circumstances, any job that is printed on a flexo machine may use the cold-stamping process. However, the particular capabilities of the flexo machine must be taken into account, and for this, the customer should contact his machine supplier. During the cold-stamping process, the wet lamination technique requires printing, laminating and stripping stations. Using this new process, it is possible to print halftones to full tones depending on the adhesive, substrate, anilox roller and printing plate used.

Adhesives: There are numerous adhesives available on the market. You must carefully test the suitability of the adhesive for your particular job. The adhesive should be suitable for application over free-radical UV-curable inks/coatings in addition to being applicable over solvent- or water-based inks.

Substrates: Practically all substrates that are processed on flexo machines, such as polypropylene, polyethylene and nonabsorbent papers, can accept cold stamping. If there are adhesion problems, contact the adhesive supplier.

Anilox rollers: Depending on the design to be applied to the substrate, the right anilox roller must be chosen. First start with 120 lines/cm and 10 cm³/m². For fine detail work, the ceramic anilox should have higher line counts. For broad areas, lower line counts are needed. For all nonabsorbent materials and plastics, the typical coating weight should be in the range of around 2 to 5 g/m². This calls for the anilox roller to be 180 lines/cm and 6 cm³/m². For more absorbent substrates, like paper, start with an anilox roller with 100 lines/cm and 14 cm³/m².

Laminating station: For the application of cold-stamping foil to wet, UV adhesive, a silicone roller with 80 to 95 shore hardness is recommended. The tension of the foil unwinding and rewinding units should be as low as possible. Be careful, though, to avoid wrinkling. If you use a nip roller with too low a shore hardness, the result will be poor foil transfer.

UV lamps: For UV curing, medium- or high-pressure mercury lamps should be used. The UV lamp output should be adjustable to take into account operating speed. The higher the speed, the more UV lamp output is required. Typical outputs are in the range of 120 to 200 watts/cm. For colored cold foils, the UV lamp output must be set higher than for silver or light gold shades.

Speeds: Typical printing and application speeds are between 45 and 120 m/min.

Source: www.kurz.de

The ability of cold foil to be **overprinted** means that it is available at any time in the most varied colors.

small-run jobs or where design changes are needed, this method is especially economical.

Generally, cold-foil transfer is particularly suited to those applications where metallic-gloss decoration tends to be avoided for either technical or cost reasons. Due to the high brilliance

achievable using cold-foil finishing, it is an attractive alternative to metallized paper or laminate use. The cold-foil process is also a potential replacement for metallic colors, especially those generated by flexo or offset printing, since they cannot offer comparable gloss.

Cold foil is increasingly found

on a host of diverse objects, from calendars and greeting cards, to labels for sparkling wines, fruit juices and liquors, and from magazine covers to business cards. Cold-foil transfer allows for a simple yet effective upgrade of packaging, and it is predicted that the use of metallic-gloss foils will grow using this flexible process.

The author, Wolfgang Burkard, is head of product management for the graphics industry at Leonhard Kurz GmbH & Co. KG.

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In colorful competition, the eyes have it

The Bare Escentuals liner shadow compact is named Package of the Year as Chanel and Lucky Brand Cosmetics packages also double up on top awards.

Bernard Abrams, Contributing Editor

An esthetically satisfying engineering feat has captured the Package of the Year award in the **New Jersey Packaging Executives Club's** (www.njpec.com) annual competition.

First flirting for the gold award in the color cosmetics category, the winning package is a compact that San Francisco-based Bare Escentuals is using to draw eyes to its i.d. bareMinerals™ Liner Shadow Compact Quad II series of loose radiant colors (**A**).

The kit, reportedly introduced in July, is sister to the original Compact Quad, differing only in the selection of four liner colors, with the compact exactly the same as the original. The palette of colors—aquamarine, coffee bean, firefly and retro—can be mixed wet or dry in two watertight wells molded into the compact, which is structured for consummate convenience.

Produced, filled and supplied as a turnkey package by **HCT Packaging** (www.hctpackaging.com), the compact, barely 4½×2½×⅞ in., is injection-molded to incredibly close tolerances, a practical necessity for keeping the loose shadow in place as well as providing smooth function when blending shades.

Components are a black lid screen-printed with the brand logotype, its underside fitted with a mirror, and a strip of four plugs mating with the product wells, molded of acrylonitrile butadiene styrene and styrene acrylonitrile;

a polypropylene spigot plate, rings and insert for the four wells; a clarified ABS pushbutton to open the compact; and a transparent SAN base for viewing of the product colors.

There is a third well for an applicator brush. Covering the lower half of the base is a pressure-sensitive, die-cut 0.21-mm label, which is round-cornered and matte-coated, featuring product names, content statement and the copy, “no animal testing” and “please recycle.” In several ways, the package, as well as other winners in the competition, anticipates the findings in the presentation by Ampacet’s Linda Carroll (see sidebar on p. 47).

A double-face card with product use suggestions is included with the compact in a straight-tuck, C1S 300-g folding carton, printed in four process colors and given an ultraviolet finish. The eyes have it in the fetching graphics of the carton’s face, with the rear including close approximations of the product colors.

For an uncompromisingly elegant presentation of a product that crosses over to anti-aging skin treatment, New York City-based Chanel captures the gold award in the personal care category, also taking the technical merit gold award.

Marketed under the Chanel Précision aegis is Sublimage Essential Regenerating Cream (**B**), said to result from the discovery of an extract of the green fruit of the Vanilla Planifolia growing in Madagascar. It is reportedly more potent than traditional plant extracts in targeting wrinkles, loss of firmness, dehydration and other aging characteristics.

To hold a 50-g (1.7-oz) quantity of the Sublimage cream, a heavy, sculptured glass jar from **Saint-Gobain Desjonquieres** (www.saint-gobain-desjonquieres.com) is inside-sprayed with champagne color before a matching plastic cup of the product is inserted, notes Scott Widro, Chanel’s vp of materials management.

Screened in champagne and black with the product identity and other information, the jar receives a plastic insert that rests over its neck and enables an **Embatherm** (www.embatherm.com) disc with pull-tab to be heat-sealed, preserving the product’s freshness. The closure is

a threaded, lined unit in Chanel’s signature black with silver embossing of the logo and is produced by **Rexam Closures & Containers** (www.rexam.com/closures).

There’s more. The jar is placed into the base of a two-piece setup box supplied from Chanel’s operation in France that seats a foam platform with a cutout that receives a spatula. Inside the cover is black flocking to protect the gleaming closure and to add a feel of luxury. The setup box and a fully illustrated, 22-page color booklet then are inserted into a reverse-tuck folding carton that **Cultech, Inc.** (www.cultech.com) prints in champagne, black and white (a contrast for the UPC code). Widro notes that the booklet cover and folding carton are printed using the champagne color over a silver, Mylar-coated board to give them a custom metallic look.

Still another double gold award winner gets lucky twice in the same category: fragrance. From New York City-based Liz Claiborne Cosmetics and Lucky Brand Cosmetics comes Lucky Number 6 fragrance lines for men and women (**C**), which debuted respectively in August and October.

The packages are submitted by **Standwill**



A.



B.



C.

Packaging (www.standwill.com), responsible for primary container labels, and **Hirschhorn + Young Graphics** (www.hirschhornandyoung.com).

For the 100-mL package of men's eau de toilette judged in the competition, arresting graphics and structural daring pair with a tongue-in-cheek approach to winning acceptance. Carton copy urges the consumer to "Become a man of magnetism and mystery" and wear the product so "...an air of prosperity will be yours."

Resembling an apothecary bottle but rendered in a deep crimson by Saint-Gobain Desjonquieres is the glass container fitted with a Rexam pump sprayer with a metal clip and a decorative black cord tie preventing accidental actuation. For the face label by Standwill, a graphic includes a fancifully wrought dragon. Printing is on 60# Kromekote®, from **SMART Papers** (www.smartpapers.com), in red, gold and black with embossing, plus matte and gloss finishes for extra-dimensional visual impact. All product data appear on the rear label, also printed by Standwill, to the same specifications.

The outer reverse-tuck carton, produced by **Shorewood Packaging** (www.shorewoodpackaging.com), uses the same graphic approach against a repeat-pattern background, banding the dragon graphic in an embossed gold ribbon. Also printed and embossed at the edge of the dustflap and wrapping down the main display panel is a seal with the Lucky Number 6 logotype and the Chinese symbol for the number six.

For the women's collection, including eau de parfum, body milk and shower gel, the somber, dramatic graphics of the men's packaging are replaced by branches with flowering plum blossoms against a pearl-shaded sky. These effects are captured especially effectively on the embossed, reverse-tuck folding cartons by Shorewood.

On the shower-gel's 200-mL plastic bottles from **M&H Plastics** (www.mhplastics.com), two of the Standwill full-body labels use the branches hung with lanterns, printed on a white 2.5-mil polyolefin film in four-color process with spot colors, a matte finish and a rainbow hot-stamp foil.

Copy for all three packages reflects the same intriguing touch as for the men's line. It ranges from "Your elegant scent will attract

Continued on page 48

Executives experience a green color outlook for 2008

Bernard Abrams, Contributing Editor

Packaging evolving along a green eco-pathway is becoming a mainstay of the marketplace. It will have an even greater impact two years from now, the audience at the New Jersey Packaging Executives Club's Package of the Year presentation meeting in November in East Hanover, NJ, was informed.

In disclosing the details of AmpaVision 2008, a global spectrum of packaging colors that are expected to influence marketers today and consumers two years from now, **Ampacet** (www.ampacet.com) color insight manager Linda Carroll presented a comprehensive palette based on socio-economic, religious and political trends and influences. Ampacet manufactures lines of color and additive masterbatches.

Under the umbrella of packaging delivering a green message, Carroll cited carbon as "today's currency," with earthy, natural, organic shades, with water color and energy as underlying themes.



She also anticipates strong undertones of yellow and brown as interesting colors within this palette, with shades including cool copper, cracked carbon and mineral and gold ingot lacking brassiness showing great potential for use in package planning.

As part of the periodic presentation on directional color palettes based on research of consumer purchasing patterns across various industries, Carroll's choice of micro- and macro trends also draws

on her experience with the internationally famed **Color Marketing Group** (www.colormarketing.org) in determining trends affecting the way consumers perceive packages and products.

Thus, she was able to cite a movement toward "eco-nomics over economics" as an overriding theme as a macro trend. Another she labeled "techfusion," a symbiosis of nature, technology and structural design, with a repurposing of old-world craft with rapid prototyping, where technology becomes the messenger rather than the goal.

Within this context, the dominant colors she predicted include a metabolic blue with silver overtures, steeled grayish silver, liquid twilight gloss with a hint of lavender and a crafted coral coupled with silver, all of these a distinct shift away from the currently popular metallic reds, blues and other whole colors.

A related macro trend she discussed was a way of getting rid of what is excessive in life, itself linked to the minimalist drama of effortless chic. In packaging, she said, this translates into eliminating oversized containers "and excessive use of label real estate."

Effortless chic also speaks of elegance and efficacy, which gets into "the dark side of chic mystique," she said, personified by the street styles of the Anna Sui line of Goth clothing design. It also means a palette of luxury blush colors on a white base, an introspective deep blue/purple blend and "barely there," a whisper of pink and color.

Another macro trend she anticipates is what she described as a societal shift consisting of four components. The first is a religious resurgence here and elsewhere, particularly through evangelism in the U.S. translated into lavenders, blues and other serene shades, backed up by a shifting global power base, grounded in earthy browns. The third is a combination of ethnic diversity and integration, in which groups retain their identity, expressed in a vibrant orange enveloped in red and, finally, what Carroll calls the "quiet riot," a vibrant raspberry base, with a champagne sparkle bubbling under the surface.

More information is available:

Ampacet Corp., 888/267-2238. www.ampacet.com.

Color Marketing Group, 703/329-8500. www.colormarketing.org.

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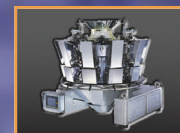
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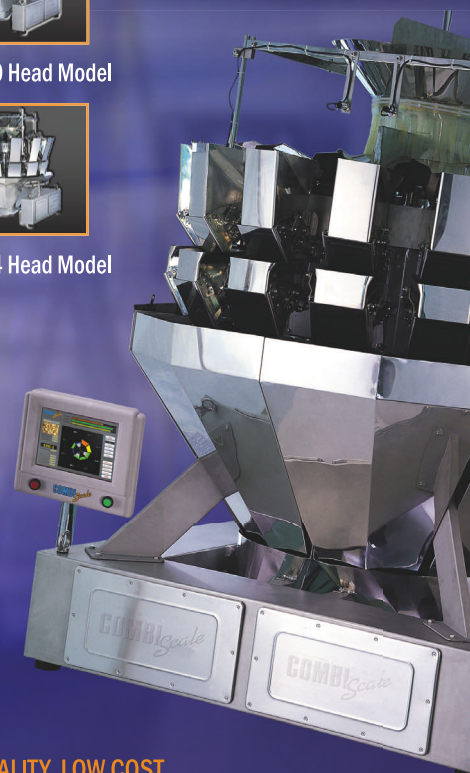
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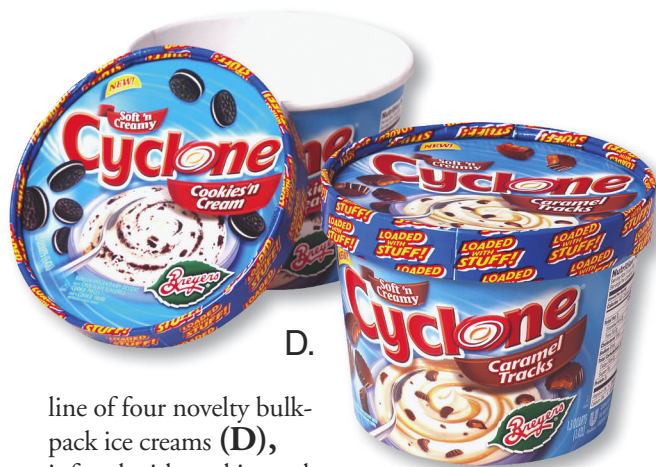
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many," to "Your soft skin reveals a strong mind" and "Good things come to those who shower." Liz Claiborne marketing director Lisa Hershkowitz tells PD that the colors and symbology are meant to convey life that is in balance and harmony—the essence of an opulent philosophy.

Yet another winner of two gold awards is a familiar, 2-pc cup for ice cream that follows a growing trend to mix-ins, adding ingredients to a creamy ice-cream base. The top package in the food/beverage and impact category is the Breyers® Cyclone



D.

line of four novelty bulk-pack ice creams (D), infused with cookies and candy pieces, from Unilever Foods North America for second-quarter 2006 debut.

The design system by **Smith Design** (www.smithdesign.com) is for the lids and sidewalls of containers for Caramel Tracks, Cookies & Cream and (not submitted in the competition) Choco Chip Cookie Dough and Chocolate Fudge Brownie.

The approach is the same: Against a creamy, swirling, ice-cream background, a maelstrom of appetizing solid ingredients is caught up. A spoon graphic suggests the consumer might want to try the indulgent treat, while the Breyers leaf logotype is a familiar assurance of quality.

Because of the way ice cream is displayed at point of sale, the lid is used as billboard, clearly communicating that the ice cream is loaded with "good stuff." Printing on the lid and cup is in six colors and is done by offset lithography. The packager declines to name the package supplier.

A package focused on a specific retail outlet captures the gold award in the pharmaceutical/medical device category. The package is for a dietary supplement in effervescent tablet form (E), offered in a new pink-grapefruit flavor in a larger size aimed specifically at clubstore sales.

Launched just more than a year ago is Airborne® Formula pink grapefruit in an innovative rigid PP vial just shy of 5¾ in. long. Marketed by Airborne, Inc. of Tarpon Springs, FL, the vial holds 18 tablets—eight more than the original package marketed nationwide in food, drug and mass-merchandise outlets, PD is informed by Airborne senior vp of operations Alex Terranova.

Sanner of America, Inc. (www.sanner-usa.com) injection-molds the vial, decorating it via offset printing in four colors plus a lacquer overcoat. Sanner also injection-molds the tamper-resistant low-density polyethylene stopper closure, which has a chamber containing a desiccant, a spiral spring that applies pressure to the tablets, protecting them from damage through the distribution cycle, and a breakaway ring that deters in-store testing.

Sanner notes that the package format is very popular in Europe, though less so here versus foil packets. The company claims the Airborne package offers a lower cost per tablet than foil unit-packs, since the vial is a stock size, and the package provides improved graphics space and better impact protection. The stopper is also a stock component. Not judged in the competition is the folding carton.

Terranova says the vial is doing very well at the retail level, with sales becoming "airborne."



E.

More information is available:

Cultech, Inc., 732/225-2722. www.cultech.com.

Embatherm, +33 4 78 0624 96. www.embatherm.com.

HCT Packaging, Inc., 908/203-8610.

www.hctpackaging.com.

Hirschhorn + Young Graphics, Inc., 212/246-4695.

www.hirschhornandyoung.com.

M&H Plastics, 540/667-3865. www.mhplastics.com.

New Jersey Packaging Executives Club, 856/722-1122. www.NJPEC.com.

Rexam Closures & Containers, 812/867-6671.

www.rexam.com/closures.

Saint-Gobain Desjonqueres, 212/753-4200.

www.saint-gobain-desjonqueres.com.

Sanner of America, Inc., 856/988-6465.

www.sanner-usa.com.

Shorewood Packaging, 212/508-5693.

www.shorewoodpackaging.com.

SMART Papers LLC, 800/443-9773.

www.smartpapers.com.

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Open from 1 to 8 p.m. on Thursday and Friday, the show is co-located with Medical Device Puerto Rico, which serves the medical-device-manufacturing industry on the island and offers equipment, technology and services for the manufacturing and packaging of medical devices, as well as with Supply Chain & Logistics Puerto Rico, an event designed for professionals who want to source solutions and technology for procurement, inventory management, warehousing, material handling and transportation.

Interphex Puerto Rico also includes a comprehensive conference program both days, from 9 a.m. to 12:20 p.m., featuring regulatory issues, manufacturing technologies, packaging, facilities/engineering and biotechnology tracks. Topics include retrofitting containment to existing process equipment, aseptic techniques, integrating automation and electronic batch recording, x-ray inspection of packages and more. Exhibit registration before Jan. 12 is free. After that date and on-site exhibits-only, admission is \$50; conference fees also increase after

Jan. 12. For more information and registration details, visit www.interphexpuertorico.com.

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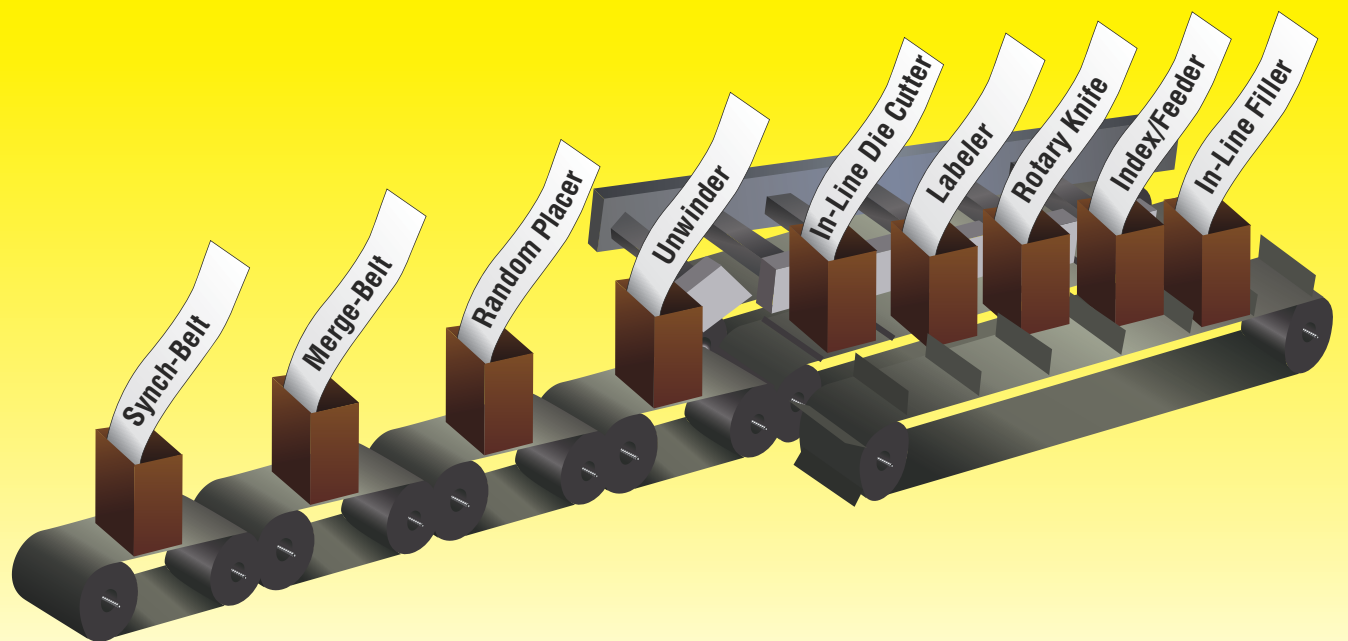
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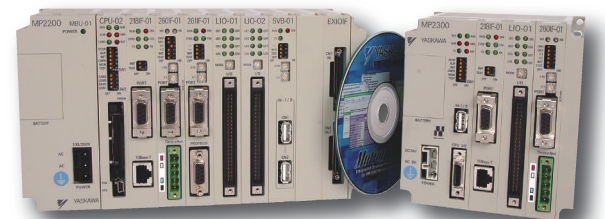
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New bags are beauts

Schuil Coffee celebrates 25 years with a new look that is bold but friendly. Colors and graphics differentiate between product categories.



Jack Mans, Plant Operations Editor

Schuil Coffee Co., Grand Rapids, MI, is celebrating 25 years as an independent, family-owned specialty coffee roaster with a bold new look. Led by president and owner Greta Schuil, Schuil Coffee Co. has introduced new packaging that is not only attractive, but also customer-friendly. It utilizes both color and graphics to easily differentiate between the product categories: Specialty Imports, Dark Roasts, Flavored Coffees and Schuil's proprietary Great Lakes Gourmet Coffee line. Schuil Coffee Co. is also expanding on its product lines, adding new flavored and nonflavored varieties, such as Captains Choice dark roasted coffee in the Great Lakes Gourmet Coffee line and Caramel Apple-flavored coffee in a new seasonal line of Autumn coffees, and is reintroducing its best-selling Holiday coffees.

Schuil Coffee Co., one of the first specialty coffee roasters in the country, was started in 1981 by Greta Schuil's parents, Garry and Gladys Schuil, long before "lattes" became a household word. Schuil Coffee Company is expanding its wholesale distribution of carefully roasted arabica beans to supermarkets, gourmet stores, coffee houses and other coffee retailers from the Great Lakes region into other regions nationally. It prides itself on the quality of its processes and the freshness of its products.

"Schuil Coffee Co.'s original packaging, designed twenty five years ago when we opened our doors, was innovative for that time, featuring a valve bag and different-colored labels to indicate regular and decaffeinated coffee," says Schuil. "But, with the explosion of gourmet coffee packaging in the mid to late 1990s, we realized a change was needed. In the early 2000s, we hired an agency to create updated branding for our product. Unfortunately their packaging efforts were unsuccessful, so the project was tabled. Eighteen months ago, we did an extensive search, and we selected the Newhall Klein agency [Newhall Klein, Inc., USA (www.newhallklein.com)], located in Kalamazoo, Michigan."

Schuil coffee produces more than 100 skus in basically two package sizes—a 12-oz typical folded-top bag and a 1.25-oz sealed-top pouch that contains enough coffee to produce one pot. Both packages were redesigned as part of this project. The products are divided into four categories,

each with a dedicated color and design theme; the Specialty Import line is in green with a coffee leaf and bean design, the Dark Roast line is in orange with a sun design, the Flavored line is in purple with an aroma design, and the Great Lakes Gourmet line is in blue with a nautical design. Each of these categories has products in both the 12-oz and 1.25-oz sizes. There are also seasonal Autumn and Holiday products that are initially being offered in the 1.25-oz size, whose packages were also redesigned, but are not part of these categories.

In addition to the design firm, Schuil Coffee Co. worked extensively with its current packaging suppliers in its redesign. **Pacific Bag, Inc.** (www.pacificbag.com) produces the 12-oz bag, and **Belmark, Inc.** (www.belmark.com) produces the film

graphic pattern for each category, so the products within that category would become meaningful and easily identified, but the umbrella design would be consistent across the entire line. Schuil also has some specialty products that are outside the main categories, and their packaging also had to fit into the overall scheme."

Schuil's two main packaging types presented a challenge. "The two types of packages are made from different materials, and the pouch is flexo-printed, while the bag is gravure-printed," says Klein. "We welcomed working with both suppliers to make sure the finished product for both types of packaging matched. With the 12-oz bag, we had to know where the degassing valve fell, so we could produce the artwork in a way that it didn't interfere visually. For the



The redesign has been a tremendous success. We just introduced the new packages in September, but the response from buyers and store owners has been overwhelmingly positive.

for the 1.25-oz pouch, which is produced on a vertical form/fill/seal machine. "My suppliers were fantastic," says Schuil. "The new design was a collaborative effort by the Newhall Klein agency, Adriane Sagal and Lori Sytsma here at Schuil, Pacific Bag, and Belmark and myself. I can't rave enough about how great they all were during the redesign."

This was Newhall Klein's first project with Schuil. "Schuil had always had white packaging, which her customers recognized, and Greta wanted to retain some of that equity and continuity," says Newhall Klein's president and owner, Rexroth has developed a method called "LOSTPED" that can help with sizing and selecting linear motion systems. To learn more about this, go to www.packagingdigest.com/info/374 Sandy Klein. "Schuil has four main categories of coffee, and we designed a color and background

pouches, we had to know where the repeat fell to make sure that there was no graphic overlap."

While this was a cooperative project with both packaging suppliers involved throughout, Schuil decided to concentrate on the 1.25-oz single-pot pouch first. "Belmark is a domestic producer with offices right here in the Midwest, while Pacific Bag gets its material from Asia and is located in Washington, so we decided to finish the pouches first," says Greta Schuil. "Because continuity of color was essential, but challenging, it made the most sense to me to complete the project with Belmark domestically before getting into the final stages with Pacific Bag."

Belmark's pouch material consists of a reverse-flexo-printed, 48-ga polyester outer layer laminated to

a 48-ga metallized polyester laminated to a 1.5-ga polyethylene inside layer. "Printing the material for the four main categories was pretty basic," says Belmark's business manager Jeff Dowd. "Each of those take five colors—three Pantone colors and two white. The material for the holiday products is much more complex, with some items requiring nine colors. Color consistency is a crucial requirement for Schuil, and the colors tend to get darker as the print run progresses, so we regularly check the printed material with a spectrophotometer and correct the ink to maintain uniformity."

Like the pouch material, the bag, which is produced by Pacific Bag, is also made from laminated material. The outer layer is a 48-ga clear polyester that is reverse-gravure printed. The next layer is a 28-ga foil followed by an inner layer of easy-opening material consisting of linear low-density pe containing compounds that provide the easy-opening capability.

An interesting graphic feature of the bag design is a dot pattern that is dense at the top and decreases as the pattern goes down the bag. "This was a challenge, because it was difficult to demonstrate what the finished design would look like," says Pacific Bag's technical director Bill Wolters. To satisfy this need, Pacific Bag's film manufacturer engraved a gradient dot pattern on the outer edge of the cylinder for the bag material to illustrate what this would look like. They then produced press proofs from which Greta Schuil selected the dot gradient she wanted on the bags.

"Schuil coffee has four main categories of products, so we produced four different cylinders, each of which has the design for one category and

the Schuil logo," says Walters. "Each category has ten to fifteen different products, and Schuil applies a clear label that contains the product name. You really can't tell there is a label, unless you look very closely, and it is very cost-effective because it minimizes the number of cylinders required and the number of different bags they must keep in inventory."

The bags also contain a one-way degassing valve that allows gas from the coffee to leave the bag, but prevents air

from entering. "One of the great things about Pacific Bag is their degassing valve," says Schuil. "This was critical to us because it allows the gas to escape and still maintains the freshness of our coffee." The valve, which consists of a molded pe body and a rubber gasket, contains a drop of silicone oil that creates a seal. Pressure inside the bag causes the valve to open.

"The redesign has been a tremendous success," says Schuil. "We just introduced the new packages in

September, but the response from buyers and store owners has been overwhelmingly positive."

More information is available:

Belmark, Inc., 920/336-2848.

www.belmark.com.

Newhall Klein, Inc., USA, 269/544-0844.

www.newhallklein.com.

Pacific Bag, Inc., 800/562-2247.

www.pacificbag.com.

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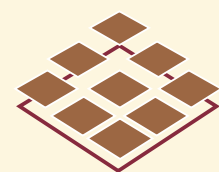


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Did you know?

- Voltaire is rumored to have had a 50-cup-a-day coffee habit.
- History has it, that when coffee was first introduced in Italy, Italian wine merchants, their wine sales threatened by coffee,

appealed to the Pope to ban it. However, Pope Clementine VIII requested that some coffee be brought to him so that he could try it. He liked the aroma so much that he tasted it and then proceeded to baptize coffee and pronounce it a Christian beverage.

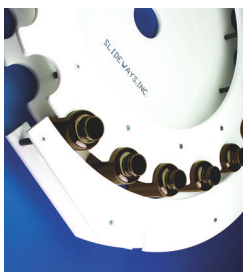
- All coffee is grown within 1,000 miles of the equator.
- The first European coffee was sold in pharmacies in 1615 as a medical remedy.
- Coffee is actually a fruit.

new products equipment

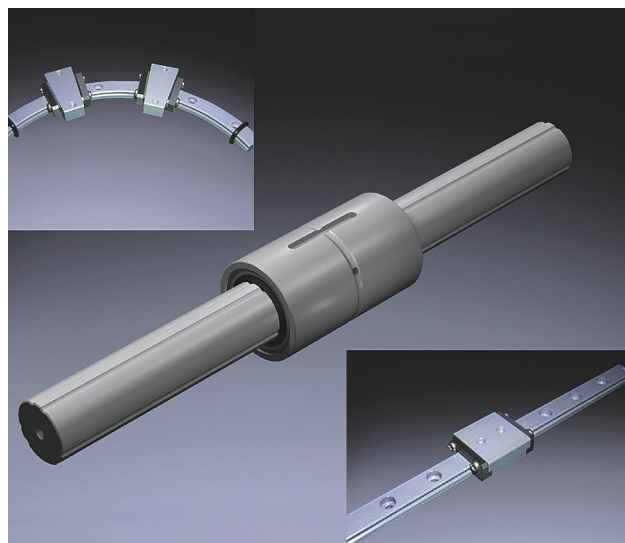
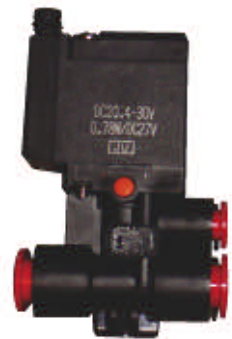
Modular belt Snap Link™ pinless-design, side-flexing plastic belt modules reportedly snap together for easy maintenance and reliability. The co. says key features include a 1½-in. pitch, tight turning radii as low as 1.42×belt width and excellent cleanability, plus reduced conveyor downtime, minimal spare part stock need and openings kept minimal for increased safety. **uni-chains Mfg., Inc.**, 800/937-2864. www.unichains.com

Plastic components

Custom-engineered and machined plastic components, including starwheels, chutes and manifolds for pharmaceutical and food applications, are introduced. Materials said to be used include HDPE, PVC, UHMW antistatic plastics and Lexan®, with ±0.001-in. accuracy, depending on material and configuration. **Slideways, Inc.**, 800/298-7543. www.slideways.com



Poppet valve The Series VFD is said to be a direct-operated poppet valve for use in zero-pressure accumulation conveyor systems, which, when incorporated with the system's control logic and sensors, controls the air pressure used for roller actuation and braking to create space between products on the line for efficient, damage-free transport. **SMC Corp. of America**, 317/899-4650. www.smcusa.com



Ceramic components Application demands, the co. says, have spurred the design of a line of ceramic linear-motion components, including LM guide Types RCR, RSR and HCR, plus ball-spline Type LT. LM and ball splines are cited as exceptional for use in medical and semi-conductor manufacturing equipment. **THK America, Inc.**, 847/310-1111. www.thk.com

Adhesive cartridges

A line of 200-, 300-, 400- and 600-mL adhesive cartridges are claimed to offer an economical choice with a robust, uni-body design, a rugged connection between cylinders and a generous lead-in for piston insertion. The patented snap-off closure is said to be molded in one operation of either PP or nylon.

TAH Industries, Inc., 609/259-9222. www.tah.com



Robotic case packer

Said to feature the OPM Group's TLA suspended robot allowing a very small footprint and total access to the complete line is the new 3-Functional case packer, which reportedly opens folded case blanks, groups and loads products and tape-seals the case (hot-melt is optional) at up to a 20/min output. Electric panels are overhead for space savings and improved operator access, the co. says. **Sympak Group**, 847/247-0233. www.sympak-usa.com



Photoelectric sensor SA1E miniature photoelectric sensors with background suppression have been introduced by the co. for adjustable 20- to 200-mm sensing ranges, said to detect regardless of color or reflectivity. The switches are available in 2m cable or M8 connector, and with a choice of NPN output, PNP output, light ON and dark ON options. The switches are UL/C-UL-listed, CE-marked and IP67-rated, the co. says. **IDEC Corp.**, 800/262-4332. www.idec.com/usa

Monitoring relay

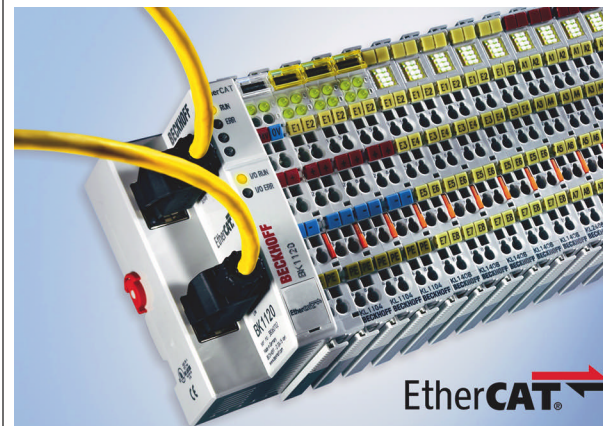
The SR103AM debuts as a dual-channel safety monitoring relay, reportedly providing control reliability and maximum configuration flexibility. The co. says the relay will accept 24 VAC/DC, 115 VAC or 230 VAC power, is designed for single or dual N/C inputs or dual solid-state inputs from a safety light curtain, and is BG-approved, carries the CE mark and is UL- and C-UL-listed. **Scientific Technologies, Inc.**, 800/479-3658. www.sti.com



Robot arm A SCARA 4-axis robot arm has been introduced, which reportedly houses four Allen-Bradley® servos and runs on RS Logix™ 5000. The robots, the co. says, use Servos Interface®, are compatible with ControlLogix®, CompactLogix® and SoftLogix® controllers and will be customizable and available in clean-room stainless-steel. **AFAST Robotics, Inc.**, 701/237-4077. www.afastrobotics.com

Asynchronous control

For its new Model 940 PositionServo drive, the co. releases the asynchronous control. The co. says this makes it compatible with its G-motion line of asynchronous gear motors, providing the advantage of a single source for closed-loop vector solutions while allowing continued use of asynchronous motors, driving them with a full-featured servo drive, combining cost-effectiveness and with higher levels of precision and accuracy. **ACTechnology Corp.**, 508/278-9100. www.actech.com



Bus coupler Any of 200+ distributed I/Os from the co.'s KL family can now integrate into ultra-high-speed EtherCAT systems via its new BK1120 bus coupler, the co. says. The BK1120 reportedly provides a clear path for next-generation industrial Ethernet implementation while offering complete backwards compatibility with existing co. I/O systems. **Beckhoff Automation LLC**, 952/890-0000. www.beckhoffautomation.com

Inverters

The SJ200-2 and L200-2 Series of inverters is announced as having numerous incremental enhancements added for extraordinary power and flexibility for unprecedented performance in a low-cost micro-drive. The SJ200-2 is said to employ "intelligent sensorless vector control" for high starting torque applications where speed regulation is primary; the L200-2 is called a global variable-frequency drive solution suited for fan, pump, conveyor and other applications. **Hitachi America, Ltd.**, 914/524-6615. www.hitachi.com

Robot The M-430iA/2F high-speed, intelligent 5-axis robot is designed to handle primary food and packaged products at rates to 120 cycles/min on a continuous basis while using visual line tracking. The co. says the robot has a clean design with no food-particle retention areas, so it resists bacteria growth and rust; has a hollow arm to avoid air line and electric cable exposure; is manufactured with food-grade grease and USDA-certifiable parts; and has an IP67 rating, enabling it to withstand the caustic food-industry cleaners used in washdowns.

FANUC Robotics America, Inc., 800/477-6268.
www.fanucrobotics.com



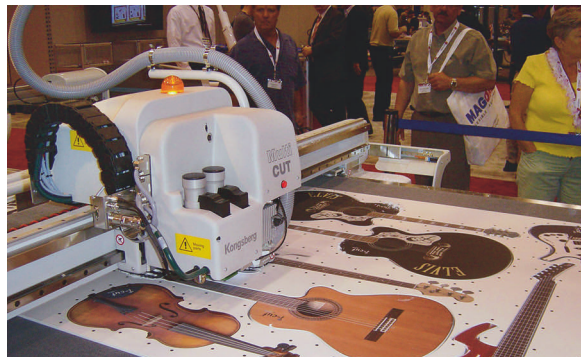
Digital press The SprinG³ makes its debut as the co.'s third-generation 6-color thermal-transfer digital press, reportedly delivering superb print quality, faster printing speeds and a wider substrate range for more demanding applications. The co. points to improved proprietary printheads and related software, a SpotBoard electronic card for plug-and-play USB connectivity even to laptops, and the enhanced Flex-Print™ system for digital hot-stamping to an automatic, 0.1-mm registration accuracy.

Matan USA, Inc., 716/631-3770.
www.matanprinters.com



Cutting table workflow An update, the I-cut® 6.2, is released for the I-series of Kongsberg tables I-XE and I-XL to help achieve exact registration for digital finishing machines used with digital presses for short-run packaging and other materials. The co. says that combined with tighter integration between the I-cut and the table, the updated version delivers better support of routing and milling, a report module for distortion readings and an Adobe® Illustrator® plug-in for automatic placement of optimal I-cut register marks.

Esko North America, 937/454-1721.
www.esko.com



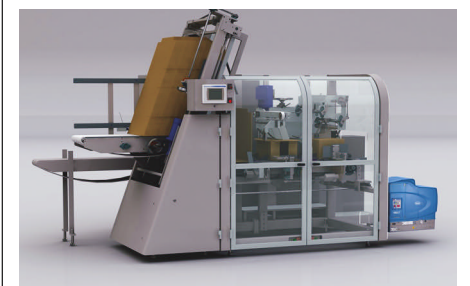
Robotic feed placer The new Delfi robotic feed placer is a vision-guided system using Delta robots capable of speeds to 400 parts/min with delicate handling that places product directly into the lug chain of a wrapper with no product guiding required. The co. offers a choice of vacuum-cup end-effectors or light-touch grippers, with randomly positioned and oriented products placed with precision and 5-min changeover with inexpensive change parts.

Doboy, Inc., 715/246-6511.
www.doboy.com

Vf/f/s machine The Vertek Jr. makes its debut as a simple and compact—at 4 ft tall—vf/f/s machine that reportedly interfaces with any type of filler.

Said to be rated to 50 cycles/min and handling bag sizes from 1 to 5 in. W, the machine comes with a servo motor, a stainless-steel construction, PLC controls and large memory storage, the co. says.

WeighPack Systems, Inc., 514/422-0808.
www.weighpack.com



Case/tray packer Aimed at low-volume packagers' needs is the Invex™ low-speed case/tray packer, described as incorporating the flexibility of electronic motion controls in an economical, 12-case/min, small-footprint format. The co. praises the unit's smooth, quiet operation, reduced maintenance time and lower cost, with fewer jams and fast, repeatable changeovers, since motors are readily programmed, plus faster startups for greater throughput.

Douglas Machine, Inc., 320/763-6587.
www.douglas-machine.com

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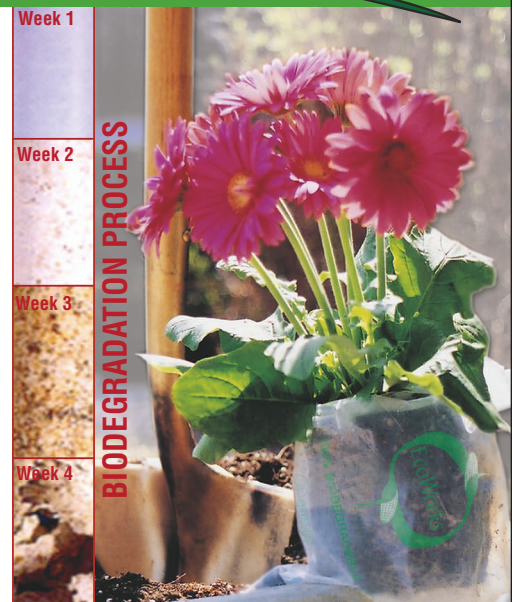
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Day One – Wednesday, March 7, 2007

| | |
|-------|---|
| 8:15 | Registration and refreshments |
| 9:00 | Opening remarks from the chair Anne Johnson, Director, SUSTAINABLE PACKAGING COALITION, US |
| | Market drivers |
| 9:15 | Sustainability in packaging: a retailer's goals, objectives and challenges <ul style="list-style-type: none">•Expectations from sustainable packaging and its suppliers•Trends in retail packaging and sustainability at Wild Oats•Retailer's role in promoting sustainable packaging•Strategies for reducing, reusing and recycling Jim McConnell, Manager of Store Supplies and Services, WILD OATS NATURAL MARKETS INC, US |
| 9:50 | Gaining a seat at the table: incorporating environmental considerations into the packaging development process <ul style="list-style-type: none">•Design guidance: where to get it and how to communicate within an organization•Building the business case•Criticality of cross-industry dialogue•Addressing inertia through the opportunities of innovative design Jay Edwards, Program Leader, Environmental Packaging Platform, KRAFT FOODS GLOBAL, US |
| 10:25 | Morning refreshments |
| 10:45 | Packaging's contribution to a sustainable society <ul style="list-style-type: none">•Cradle-to-cradle thinking in the supply chain•How sustainable distribution makes policy on sustainable consumption and production work•Monitoring the progress towards sustainability•How the supply chain can help consumers live more sustainable lifestyles Anders Linde, Chairman, INCPEN, UK |
| 11:20 | Sustainability: an extraordinary tool for sound business decisions <ul style="list-style-type: none">•Adding value with sustainable packaging•Profit opportunities for the packaging supply chain•Matching the company's message and packaging strategies•Sustainable packaging as a survival strategy Ed Klein, VP, Environmental Affairs, TETRA PAK, INC, US |
| 11:55 | Lunch will be served for speakers and delegates |
| | Sustainability strategy and the packaging supply chain |
| 1:00 | Sustainability in the supply chain: implementing the three pillars at a raw materials company <ul style="list-style-type: none">•The supply chain's role in sustainable packaging•Focusing on better materials•Cross-industry collaboration Susan Homan, NA Marketing Manager, Biopolymers, DUPONT PACKAGING, US |
| 1:35 | Sustainability in packaging: a cosmetic company's perspective <ul style="list-style-type: none">•Use of Life Cycle Assessment (LCA)•Ecodesign•Case studies Felipe Maranzato, Environmental Impact Model Specialist, NATURA COSMÉTICOS SA, Brazil |

| | |
|------|--|
| 2:15 | Educational opportunities and needs regarding sustainable packaging <ul style="list-style-type: none">•Integrating the concept of sustainable packaging into educational programs•Making sustainability part of the thought process when packages are developed•As companies rush to be sustainable, they need to understand the impact throughout the entire supply chain•Ensuring truly sustainable packages through education at all levels Dr Sara Risch, Director and Professor, School of Packaging, MICHIGAN STATE UNIVERSITY, US |
| 2:45 | Afternoon refreshments |
| | Implications for packaging technology |
| 3:00 | Sustainable packaging: meeting the challenge with pressure-sensitive labels <ul style="list-style-type: none">•The need for biodegradable label materials•The challenges of producing a pressure-sensitive film label•Development of a cellulose-based solution Dr Mike Taylor, Business Development Manager, INNOVIA FILMS LTD, UK |
| 3:35 | Green inks and solvents: is it possible or cost prohibitive? <ul style="list-style-type: none">•Traditional inks and implications for environment•Developing new inks and solvents with sustainability in mind•Naturally-based inks and bio-solvents in packaging•Ionic liquids as alternative solvents•RFID inks and their sustainability John P Vogel, Product Manager for Commercial Flexo, SUN CHEMICAL COMMERCIAL DIVISION, US |
| 4:10 | Packaging requirements and sustainability from a brand owner's perspective <ul style="list-style-type: none">•Understanding market demands•Supply chain considerations and commercial viability•Future outlook Michael Maggio, Global Packaging Director, JOHNSON & JOHNSON, US |
| 4:45 | Comprehensive product stewardship in new product development <ul style="list-style-type: none">•Comprehensive benchmark of packaging solutions•Product stewardship from social and economic point of view•Product portfolio development•Future outlook Olivier Muggli, VP, R&D and Technology, ALCAN PACKAGING, Switzerland |
| 5:20 | Protective shipping boxes for retail order distribution shall and can be environmentally friendly <ul style="list-style-type: none">•Shipping boxes shall be protective because logistics have accelerated•Shipping boxes used for retail order distribution get out of the distributor's control after delivery, and therefore can alter the brand's image if the wastes are badly disposed of•Cost impact of processing the waste•State of the art low cost protective boxes for retail order distribution•Review of the sustainability regulation in major industrial countries•Trends for shipping boxes in retail order distribution Bernard Dominici, Territory Sales Manager, B+ EQUIPMENT, France |
| 5:55 | Closing remarks from the chair |
| 6:00 | Drinks reception All speakers and delegates are invited to a relaxed and informal drinks reception to network and discuss the day's proceedings |

Day Two – Thursday, March 8, 2007

| | |
|-------|---|
| 8:30 | Opening remarks from the chair Anne Marie Mohan, Senior Editor, PACKAGING DIGEST, US |
| | Material choices for sustainable packaging |
| 8:40 | Balancing the P's with the R's: a food producer's perspective on sustainable packaging <ul style="list-style-type: none">•Understanding packaging must haves, should haves and like to haves•Incorporating sustainability initiatives•Considering emerging alternative materials•Sustaining a long term plan Mark Gerhart, Sr Manager, Package Innovation, HJ HEINZ, US |
| 9:15 | Producing sustainable packaging in a sustainable manner <ul style="list-style-type: none">•Sustainable production methods are possible and necessary•How natural cellulose fiber based packaging is sustainable and is supported by infrastructure•Examples of how new thinking and new technology is being brought to the market all the time Martin Aleksis, VP, Marketing and Sales, PAKIT INC, Canada |
| 9:50 | The impact of RFID tags on the recycling of corrugated containers <ul style="list-style-type: none">•Potential environmental media impacts of RFID tags in the recycling process•Desktop evaluation of the identified impacts•Pilot plant testing of the potential critical impacts•The expected effects of RFID tags on corrugated fiber recycling Wayne Huttle, Director, Environmental Support Programs, SMURFIT-STONE CONTAINER CORPORATION, US |
| 10:25 | Morning refreshments |
| 10:50 | Sustainability in papermaking: a renewable resource <ul style="list-style-type: none">•Sustainable fiber resources•Design of recycling-friendly paper products•Adding value through sustainability•Supply chain's role in sustainable packaging•Innovation in materials and technology Mike Heldman, Fortress Brand Manager, INTERNATIONAL PAPER, US |
| 11:25 | A sustainable transformation: from wire to wax to sustainability <ul style="list-style-type: none">•The product life cycle of fresh poultry packaging: a brief history•Industry progress in addressing sustainable elements of corrugated retail poultry packaging•Current state of fresh poultry packaging•Existing issues regarding non-sustainable corrugated packaging in current fresh poultry packaging•The final steps taken to complete an industry-wide transformation Pete Bugas, National Account Manager, INTERSTATE CONTAINER, US |
| 12:00 | Increasing the use of sustainable packaging through the application of barrier performance enhancement treatments: a step in the continuum <ul style="list-style-type: none">•Advances in sustainability: biodegradability vs other routes to sustainable solutions•Recyclability as a natural extension of renewability•Improving barrier properties of renewable materials to meet packaging needs•Priorities in the continuum of sustainability•Examples of successful solutions John Homoelle, Director of Technology, New Business Development, MICHELMAN, INC, US |
| 12:35 | Lunch will be served for speakers and delegates |

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| 1:35 | Research frontiers in fiber-based packaging: <ul style="list-style-type: none">•Performance requirements•Materials available•Biodegradable plastic considerations Douglas Marcero, Director, Global Product Stewardship Services, MEADWESTVACO CORPORATION, US |
| 2:10 | Developing a sustainable portfolio <ul style="list-style-type: none">•What does it mean to be sustainable in packaging?•How to create sustainable packaging solutions without compromising performance through:<ul style="list-style-type: none">- Partnering with the customer- Material selection- Supplier choice- Good business practice•Lessons learned•Trends and future direction Jeff Pristera, R&D Project Manager, ALCOA KAMA, US Dave Broocke, Environmental and Regulatory Affairs Manager, ALCOA PACKAGING AND CONSUMER GROUP, US |
| 2:45 | Sustainability and metal packaging <ul style="list-style-type: none">•Progress in materials and processes•Integrating sustainability into design•Sustainability in metal packaging•Developing the potential of metal•Innovation and sustainability in metal packaging Peter Heyes, Director Metals Technology, CROWN HOLDINGS, INC, UK |
| 3:20 | Glass packaging <ul style="list-style-type: none">•Consumer perception of glass packaging•Sustainability of glass packaging•Outlook for the glass industry Kevin Stevens, VP Sales and Marketing, NA, OWENS-ILLINOIS, US |
| 3:55 | Afternoon refreshments |

Waste chain management and assessment

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| 4:10 | Integrating environmental considerations into packaging design <ul style="list-style-type: none">•Issues and challenges faced by companies•Review of material recycling rates•Overview of material assessment tool (MERGE) and Wal-Mart scorecard•Other tools to measure the greenhouse gas (GHG) impact of purchasing, manufacturing and waste management actions Angela Leith, Senior Policy Analyst, Office of Solid Waste, EPA, US |
| 4:45 | Life Cycle Assessment (LCA) <ul style="list-style-type: none">•Overview of LCA studies for a range of products•Measuring environmental impact•Key issues and limitation of LCA•Case studies Dr Olivier Jolliet, Professor, UNIVERSITY OF MICHIGAN, US |
| 5:20 | Close of conference |

Conference registration form

For further information visit www.intertechpira.com

Sustainability in Packaging Two day Intertech-Pira conference, Wednesday, March 7 – Thursday, March 8, 2007

Pre-conference workshop: **How to Make Your Packaging More Sustainable: Actions You Can Take Today!** Tuesday, March 6, 2007, 1:00 – 5:00 pm

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new products equipment



Stick-pack f/f/s The RA/KG4 is a compact, high-speed stick-pack f/f/s machine reportedly capable of a 1,000-pouch/min output with precision, servo-driven sealers reducing material use by forming fin seals or overlapping longitudinal seals. The machine is said to be easy to clean and maintain and is fully compliant with GMP guidelines for simple validation. Applications include powder, pellets, granulates and piece goods.

Sigpack Systems AG, +41 52 674 8928.

www.sigpacksystems.com



Controller A new controller has been introduced as a standalone system when connected to HP printheads and the co.'s standard printers. The co. says the controller features an LCD display with a keypad and compact flash card storage for up to several hundred messages, controls up to four HP print stalls and up to eight Xaar 128 printers and two Xaar 500 printers, and can communicate via Ethernet and RS232.

HSA USA, 732/324-0800.

www.hsausa.com



Stretch wrapper The RS-6000 rolls out as a 20-sec stretch-wrapping system that reportedly provides the highest capacity in the industry at 180 to 200 loads/hr. The co. says the automated system uses the RS-6000 Ring-Straddle™ design, a unique, patent-pending delivery system that wraps loads with 50-ga film, prestretched 250 percent or more without film breaks, that speed-wraps so quickly, almost all film recovery occurs on the load for high containment force and reduced film use.

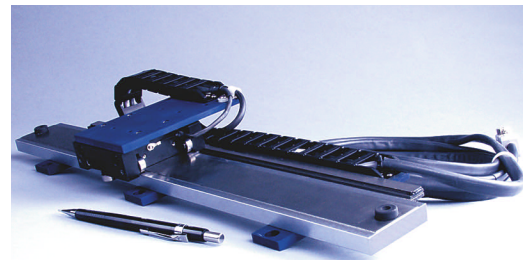
Lantech.com, 800/866-0322.

www.lantech.com

Stepper motors New closed-loop linear stepper-motor stages with an integral linear encoder reportedly feature resolutions to 0.00004-in. (1 micron), repeatability to 0.0004 in./ft and accuracy to 0.001 in./ft. Rated to 118 in./sec and acceleration to 5 Gs, the series is available in travel lengths to 144 in. and forces of 6 lb (27 N), 10 lb (45 N) and 20 lb (89 N), the co. says, with uses including assembly, sampling and inspection operations, robotics, pick-and-place, medical and optical.

H2W Technologies, Inc., 888/702-0540.

www.h2wtech.com



Hot filling For a wide variety of hot food and nonfood products, the co. introduces hot-fill lines reportedly featuring heated filling machines that maintain 1-deg accuracy at temperatures to 210 deg F. The co. says options include either insulated hoppers, jacketed and insulated hoppers that accept plant-supplied hot water or self-contained, hot-oil heat systems with multizone control to heat the entire filling flow path, plus many hopper agitator options.

Hinds-Bock Corp., 877/292-5715.

www.hinds-bock.com



Metal detector The debut of the IQ³ variable-frequency metal detector promises a higher degree of accuracy and flexibility than was previously possible, according to the co. The IQ³ does this, co. says, by analyzing product affect, including temperature, moisture, salt content, speed, packaging material and other factors, reviewing a broad band of frequencies and quickly offering the right one for the specific application, removing operator error from the equation.

Loma Systems, Inc., 630/681-2050.

www.loma.com



Air technology Leveraging the applications experience of its inverters, motors and compressors, the co. says it achieves air purity via incorporation of oil-free rotary screw, oil-less scroll and oil-free vortex blower compressor technologies, incorporated into many market applications, such as medical, food and beverage, pharmaceutical and electronics.

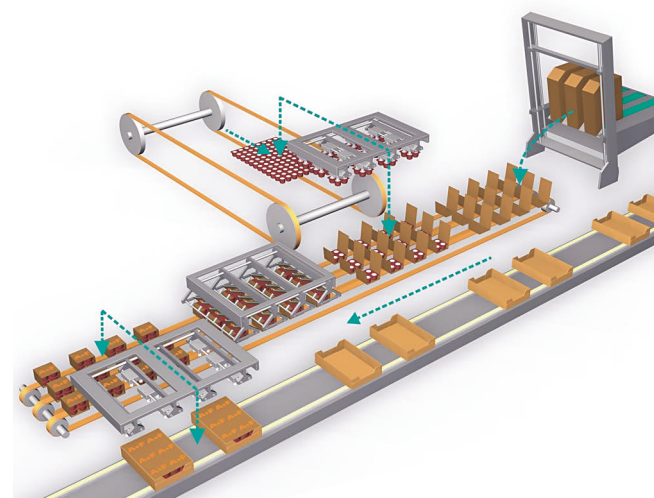
Hitachi America, Ltd., 914/524-6615.

www.hitachi.us

Sleeve/packer The A+F SetLine sleeving/packing system is introduced to combine sleeving and case-packing technology into one, space-saving, cost-effective solution, the co. says. A unique hybrid design, powered by a two-axis robot, is said to reach speeds to 300 sleeves/min and 60 cases or trays/min. Sleeve styles are said to range from wraparound, over-the-crown, drop-through and unique clip sleeve, with shipper designs including wraparound cases/trays, display shippers, RSCs and other styles.

IWKA Packaging USA, 732/536-8770.

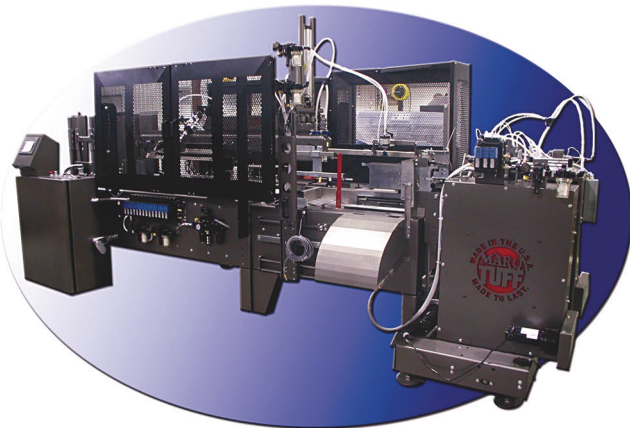
www.iwkapackagingusa.com





Linear actuator The ZBX Series anti-backlash assembly debuts, described by its manufacturer as an ideal linear actuator for design operations requiring precise positional accuracy and repeatability at a minimal cost. The standard unit is said to use a patented, self-lubricating polyacetal nut that is radially preloaded on a 303 stainless-steel screw. The co. says damping qualities make it suitable for vertical applications requiring noise or vibration control.
Kerk Motion Products, Inc., 603/465-7227.
www.kerkmotion.com

Vertical cartoner Developed specifically for jars and bottles is the new MAV50, a vertical intermittent cartoner. The co. says the machine's design and construction are distinguished by advanced ergonomics and facilitate the actions of operators and safeguard cartons with a patented structure to avoid contact of static parts that may abrade cartons. The opening mechanism vertically positions the longitudinal folds, and a pick-and-place system is used to pack the cartons.
Marchesini Group, 973/575-7445.
www.marchesini.com



Case erector Described as the culmination of 30 years' experience with this type of machine is a new, high-performance case erector with a ladder specifically developed to be the most cost-effective for the two-piece half-slotted container. The co. says the newer design features easy adjustability within a wide case range, optional PLCs on request, tape and/or glue sealing, top and bottom flight lugs and a top and bottom chain-drive transfer system.
MARQ Packaging Systems, Inc., 800/998-4301.
www.marq.net

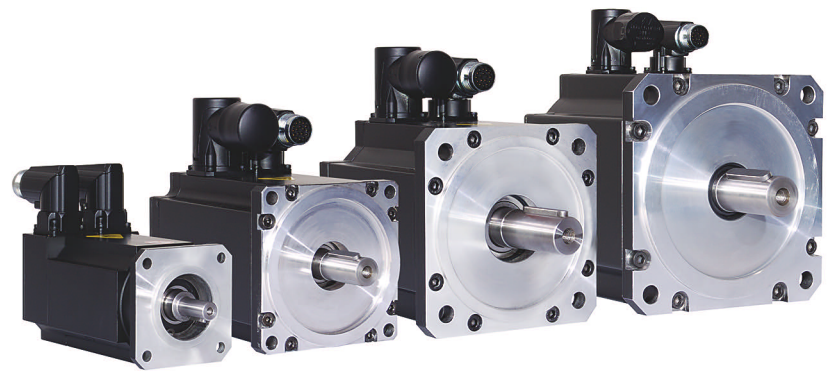
Robots For functions including welding, cutting and measuring applications, the co. has introduced three robots. The KR 100 HA has a 2,600-mm reach and a 100-kg payload capacity; the KR 100 L90 HA has a 2,800-mm reach with an additional arm extension of 200 mm and a 90-kg payload capacity; and the KR 100 L80 HA has a 3,000-mm reach, an additional 400-mm arm extension and a payload capacity of 80 kg. All are said to reach an extremely accurate path repeatability of about 0.1 mm.

KUKA Robotics Corp., 866/873-5852.
www.kukarobotics.com



Servo motors The MUS series of brushless servo motors is introduced by the co., which says it fits them with high-flux-density neodymium iron boron magnets to reduce rotor inertia for higher performance, with higher peak torques for acceleration and deceleration. The series, the co. adds, covers a torque range from 380 w to 3.5 kW, all in a small package size for space-constrained applications.

AC Technology Corp., 508/278-9100.
www.actech.com



Sensor support The G3 Series of touchscreen HMIs is introduced by the co. to support Banner Engineering's PresencePLUS® vision sensors. As a result of joint development, the co. says the series can now conveniently allow a machine operator to deliver specific vision sensor controls while seeing exact images of the entire sensing area on the G3's display. With its multiple-protocol Ethernet port, the G3 can connect to the vision sensor, as well as to PLCs and PCs simultaneously. The G3's Web Server provides a virtual HMI that can be accessed remotely from any standard web browser. For added flexibility, the G3 can be configured to serve custom HTML pages.
Red Lion Controls, Inc., 717/767-6511.
www.redlion.net



Models C-50 & C-100

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new products



Bag former For bag-in-box constructions, a new machine has been designed to produce form-fit liquid bags from film for top, bottom and gusset webs. The co. says the machine, finishing with a cube shape, incorporates fitment and cap-insertion stations, the latter for use with any style cap and fitment, noting it is built with the SCADA system, monitoring performance and efficiency to ensure repeatable process controls and optimum performance.

GN Packaging Equipment, 905/670-0383.
www.gnpak.com

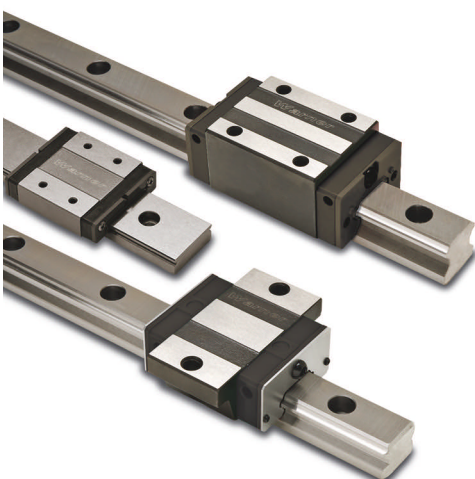
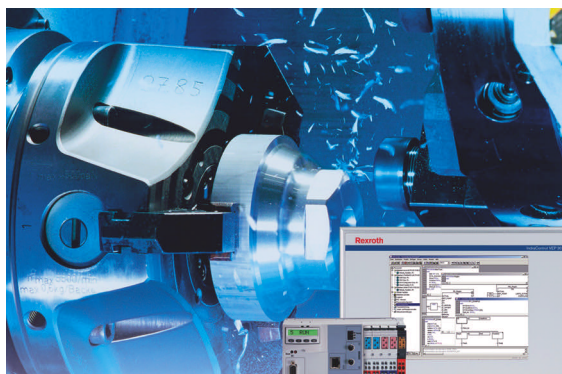
Robot The DA20 dual-arm robot is said to provide high-speed motion with two 6-axis arms for enhanced, human-like flexibility of movement. The co. notes that the robot has a 20-kg payload, a 756-mm reach per arm and ± 0.1 -mm repeatability. Its controller features a robust PC architecture, Windows® CE programming pendant and easy-to-use INFORM III programming language, with safety features in compliance with ANSI/RIA R1506-1999 and Canadian safety standards.

Motoman, Inc., 937/847-6200.
www.motoman.com



CNC platform The IndraMotion MTX Compact is introduced as a CNC platform for high-production machining centers, handling systems or auxiliary units, aimed at providing high performance in a very small footprint while improving cycle times and parts quality. The co. says it controls up to eight axes in two NC channels with a fast IndraLogic PLC, with the ability to process up to 200 NC blocks/sec and with a 30-block look-ahead rate.

Bosch Rexroth Corp., 847/645-3600.
www.boschrexroth-us.com



Linear guideways A series of linear guideways debuts with lube-retaining endcaps and sealed bearing blocks, which, the co. says, reduce friction, assuring quiet, accurate operation. The ATH Series is designed for the heaviest loads, the ATE is cited for precision measuring equipment, the ATM pairs a miniature size with ultra-high accuracy, and the ATH E2 is self-lubricating, the co. says.

Warner Linear Guideways, 800/234-3369.
www.warnerelectric.com

INDUSTRY happenings

Visit www.packagingdigest.com/info/events for more event information.

Jan. 24-26 Flexible Packaging Assn. Safety and Environmental Summit. TradeWinds Island Grand Resort, St. Petersburg Beach, FL. 410/694-0800.
www.flexpack.org

Jan. 30-Feb. 1 Package Design 2007 Conference & Technology Center. Sheraton World Resort, Orlando, FL. 610/935-2183. www.packstrat.com

Feb. 1-2 Interphex Puerto Rico.

Puerto Rico Convention Center, San Juan, PR. 888/745-2529.
www.interphexpuertorico.com

Feb. 4-6 Nova-Pack Americas.

Ritz Carlton Grand Lakes Resort & Hotel, Orlando, FL. 609/466-9191.
www.schothland.com

Feb. 12-15 WestPack 2007. Anaheim Convention Center, Anaheim, CA. 310/445-4200. www.westpackshow.com

Feb. 21-22 RFID Smart Labels USA.

Marriott Copley Hotel, Boston, MA. 44 1223 813703. www.smartlabelsUSA.com

Feb. 22-23 The Future of

Nanoplastics 2007. Hilton Palacio del Rio Hotel, San Antonio, TX. 207/781-9610. www.intertechusa.com/conferences

Feb. 27-Mar. 1 Packaging Strategies 2007. Renaissance Vinoy Resort & Golf Club, St. Petersburg, FL. 610/935-2183. www.packstrat.com

Feb. 28-Mar. 2 Flexible Packaging Assn. Annual Meeting.

Fairmont Turnberry Isle Resort & Club, Aventura, FL. 410/694-0800.
www.flexpack.org

Mar. 6-8 2007 Sustainability in

Packaging. The Doubletree Castle Hotel, Orlando, FL. 207/781-9610. www.packagingdigest.com/info/sustainable

Mar. 16-18 10th International Molded Fibre Product Seminar. Town & Country Resort, San Diego, CA. 414/527-4829.

Mar. 24-27 Snaxpo. Westin Diplomat Resort & Spa, Hollywood, FL. 800/628-1334. www.snaxpo.com

Apr. 16-17 FUSE: Brand Identity & Package Design. Pier 60, Chelsea Piers, New York City. 212/661-3500, x3151.

Apr. 24-26 SouthPack 2007. Georgia World Congress Center, Atlanta. 310/445-4200.

www.southpackshow.com

Apr. 24-26 Interphex 2007. Jacob K. Javits Convention Center, New York City. 888/334-8704.
www.interphex.com

May 1-3 World Batch Forum Conference. Tremont Suites Hotel, Baltimore, MD. 919/314-3970.
www.wbf.org

May 2-4 International Assn. of Diecutting and Diemaking and Foil Stamping and Embossing Assn. Odyssey. Midwest Airlines Center, Milwaukee, WI. 800/828-IADD.
www.iadd.org

May 15-17 Packaging Summit & Conference. Donald E. Stephens Convention Center, Rosemont, IL. 262/782-1900. www.pkgs Summit.com

May 15-18 TOTAL Processing & Packaging. National Exhibition Centre, Birmingham, UK. 203/840-4800. www.totalexhibition.com

June 4-7 CMM Intl. Donald E. Stephens Convention Center, Rosemont, IL. 603/891-9469. www.cmmshow.com

June 12-14 EastPack 2007. Jacob K. Javits Convention Center, New York City. 310/445-4200.
www.eastpackshow.com

June 26-29 ExpoPack Mexico. Centro Banamex, Mexico City. 703/243-8555.
www.expopack.com.mx

July 15-17 Cosmoprof North America. Mandalay Bay Convention Center, Las Vegas. 646/932-1955.
www.cosmoprofnorthamerica.com

Sept. 18-20 HBA Health & Beauty America. Jacob K. Javits Convention Center, New York City. 212/600-3351.
www.hbaexpo.com

Sept. 26-29 Labelexpo Europe. Brussels Expo, Brussels, Belgium. 44 20 8846 2700. www.labelexpo-europe.com

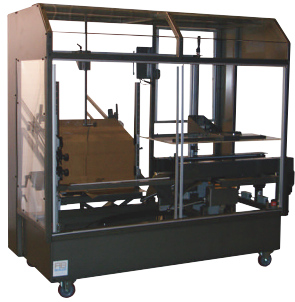
Oct. 7-10 International Baking Industry Exhibition. Orange County Convention Center, Orlando, FL. 619/298-1445, x108.
www.IBIE2007.com

Oct. 15-17 PACK EXPO Las Vegas. Las Vegas Convention Center, Las Vegas. 703/243-8555. www.packexpo.com

Oct. 24-27 Worldwide Food Expo. McCormick Place, Chicago. 202/220-3549. www.worldwidefood.com

info showcase

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MOVERS & SHAKERS

Bosch Rexroth Corp. promotes Berend Bracht to president and CEO. He was



Berend Bracht
Bosch Rexroth Corp.

formerly CEO of Bosch Rexroth China and head of the company's U.S. industrial hydraulics operation. **Amtcor PET Packaging** adds William Featherstone as vice president,

sales, Beverage Division, and Kim Houchens as vice president, product development for North America. **Domino Printing Sciences, plc** appoints Kirsten Telfer as group software director and Chris Beesley as program director.



Jim Dalton
Davis-Standard, LLC

Davis-Standard, LLC announces that Jim Dalton has returned to the company in the position of district sales manager, blown film.

Multisorb Technologies promotes John F. Solomon to market leader, specialty foods. He will be responsible for expanding Multisorb's business in food packaging markets, including organics and natural foods.



John F. Solomon
Multisorb Technologies

Huston Patterson Corp. promotes Tonya Kowa to director of sales, Special Products Div. She will be responsible for sales at Sigma Graphics, Huston Patterson's special products division in Ottawa, Ill.

Kliklok-Woodman adds Phil Vrana as strategic account manager—vertical form/fill/seal systems to develop sales in northeastern U.S. and Canada.

Graham Packaging Holdings Co., the parent company of Graham Packaging Co., L.P., names Warren D. Knowlton chief executive officer. Knowlton will



John Caporaso
Technical Help in Engineering and Marketing

also join Graham Packaging's board of directors. Philip R. Yates is retiring as CEO but has agreed to continue with the company as chairman of the board.

Technical Help in Engineering and Marketing

(T.H.E.M.) hires John Caporaso as vice president, New Business Development.



Bruno Carrer
Advanced Vision Technology, Ltd.

Advanced Vision Technology, Ltd. appoints Bruno Carrer as Canadian sales manager for its label and packaging business throughout Canada.

GROWING & GOING

Eriez Magnetics breaks ground on a 30,843-sq.-ft. expansion of its Erie, PA, plant. The expansion will enable the company to make some of its large magnets and systems in-house.

Beckhoff Automation establishes subsidiary in Brazil. Beckhoff Automação Industrial Ltda. is based in São Bernardo do Campo, São Paulo State, Brazil.

Co.Ri.M.A., Marchesini Group's Siena-based company, constructs new 6,000-sq-m plant costing about 5 million Euros.

International Paper sells its beverage packaging and Arizona Chemical businesses for combined proceeds of approximately \$985 million.

IPL, Inc. sells technology and expertise for manufacturing its reusable SmartCrate™ containers to Reliance Industries Limited, one of India's most powerful industrial conglomerates.

Metabolix, Inc. builds a facility to produce 110 million lb of biodegradable Natural Plastic annually as part of a joint venture agreement with Archer Daniels Midland Co.

Thermo Electron Corp. and Fisher Scientific Int., Inc. merge to create Thermo Fisher Scientific, Inc. The new company has approximately \$9 billion in revenues and 30,000 employees.

BUYING & ALLYING

Domino Printing Sciences plc acquires Easyprint A/S based in Karlslunde, Denmark. Easyprint specializes in the design, manufacture and distribution of innovative thermal transfer over-coding equipment.

Sonoco acquires Clear Pack Company, a privately-held, vertically integrated manufacturer of thermoformed and extruded plastic materials and containers. Sonoco company Sonoco-Alcore, S.a.r.l. acquires the remaining interest in Demolli Industria Cartaria S.p.A.

Barry-Wehmiller Companies, Inc. and **Hayssen Packaging Technologies, Inc.** purchase Sandiacre Rose Forge, a division of Molins PLC. Sandiacre will be integrated with Hayssen to form HayssenSandiacre

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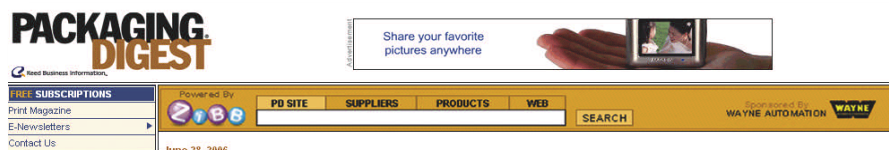
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Food industry, consumer groups spar over how FDA should handle functional-foods health claims

The food industry urges federal regulators to allow broader health claims on energy drinks, power bars and other so-called functional foods amid criticisms from consumer groups that those claims can be misleading.

Sustainable Packaging: The California Sustainable Winegrowing report reflects increased adoption of 'green' practices

The report indicates that 1,165 vineyard and winery enterprises in the CSWA program have evaluated their sustainable practices for 33 percent of California's 522,000 total winegrape acres, and 53 percent of the state's total annual wine production of 273 million cases.

Heinz partners with Trivial Pursuit to promote '80s trivia game

New ketchup packets being distributed by the H.J. Heinz Co. will feature hundreds of 1980's trivia questions as part of the Pittsburgh ketchup maker's new promotion: the Heinz Ketchup Trivial Pursuit Contest.

Food irradiation is again up for debate

Two high-profile E. coli outbreaks this year have some in the food business wondering, once again, whether it's time to go nuclear. For decades, many food-safety experts have argued that irradiation, zapping food with high-energy rays to kill microorganisms, could avert hundreds of deaths and perhaps millions of illnesses each year.

Plastic packaging sector in cost, volume squeeze

Major U.S. plastic-packaging companies are facing a double squeeze—falling demand for their products and lowered margins due to the high cost of raw materials, according to a new report.

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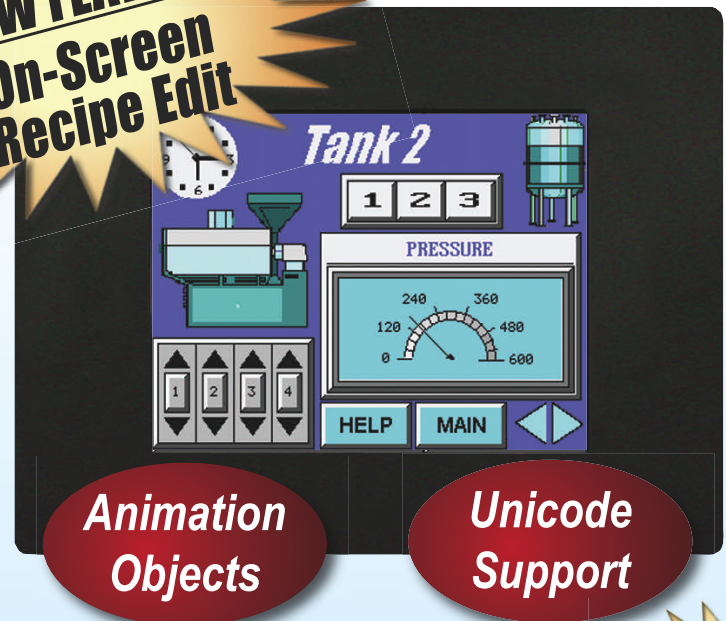
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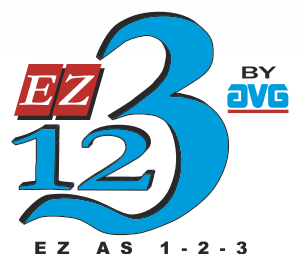
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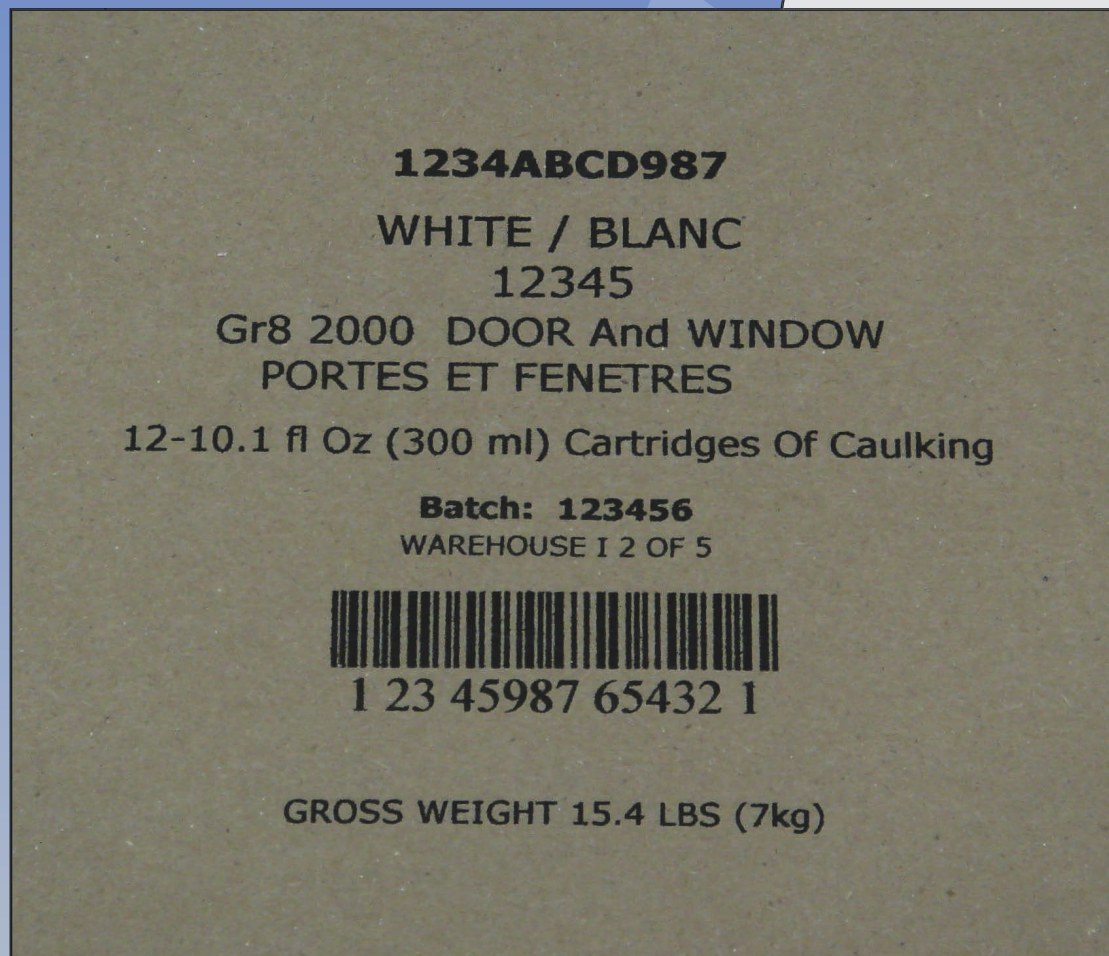
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