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French bakery builds brand with packaging. 8



# 

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# Steeped

Importer's biodegradable cushions protect tea 18

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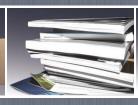
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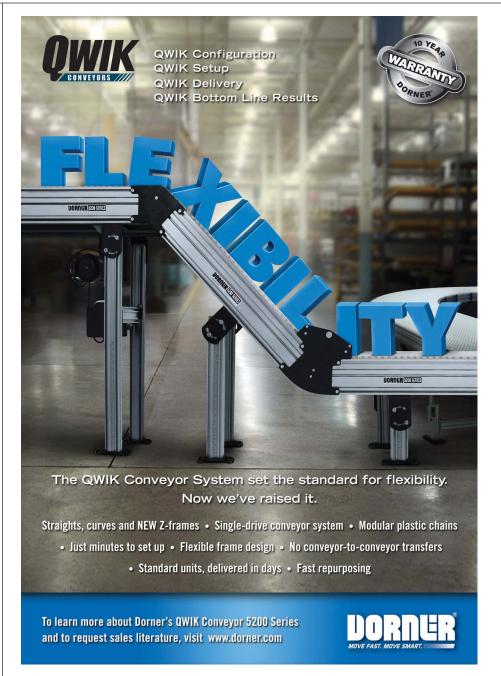


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#### Glass jars for cheeses create premium look

A new, elegant glass jar for cottage cheese and cheese products is a big winner for Traders Point Creamery. The Zionsville, IN dairy switched its cottage cheese and fromage products from square, flat-top plastic containers to glass jars with metal lids and shrink-sleeve labels in the fall of 2008. "This is a much more attractive package than our square, flat-top plastic container, and it draws attention to our awardwinning product inside," says Gail Alden, Traders Point Creamery's director of marketing, media and events. The International Metal Decorators Assn. certainly agrees. The metal closure, which was supplied by Crown Closures Americas, a business unit of Crown Holdings Inc. (www.crowncork.com), was named Best in Category among closure entries, recognized for its print quality and premium appeal at the association's 2009 conference.

Traders Point's closure features an image of a cow in a golden field, bordered by shades of dark green and a transparent light blue. The transparency of the border and lettering, paired with the photographic quality of the image, perfectly compliments the gold band and beige tamper-proof shrink

I can't sleep

sleeve that envelops the glass jar. The overall package presents a high-end look that is unique to the product category. The 8-oz jars are supplied by Stanpac (www. stanpacnet.com) and the shrink-sleeve labels are made by M PI (w w w m pilabels.com).





















## Coca-Cola jazzes up juice packaging

Coca-Cola Co., Atlanta, is rolling out a new visual identity for Miniute Maid and other key brands in its extensive juice family. The uniform packaging design, to be implemented across multiple brands and products worldwide, is part

> of Coke's comprehensive, strategic effort to expand its share of the juice category.

With more than 100 juice and juice drink brands available in 145 countries worldwide, Coca-Cola says its share of this fragmented growth category has nearly doubled over the past 10 years. Its readyto-drink juice and juice drinks business has blossomed from 1998 to 2008 at an annual growth rate of 11 percent. Based on extensive consumer research, the new visuals were developed to enhance brand

preference, improve shelf stand out, drive cost efficiencies and create consistency across a world-leading family of juice brands and

"The scale and magnitude of this worldwide rebranding effort is significant for our juice business," says Guy Wollaert, general manager, Global Juice Center, for Coca-Cola. "Our new,

uniform packaging design system unites key brands in our juice portfolio, including Minute Maid, Del Valle, Andina and Cappy, under a single, iconic brand identity."

Reflecting the historic logo and color scheme of Minute Maid, the leading brand in the juice portfolio, the redesigned packaging brings a cohesive, unified look and feel to the brand lineup. A modernized design builds on elements of the Minute Maid visual identity, including the black rectangle and white logotype lettering while adding a green horizon mark, refreshing fruit photography and natural imagery to underscore the juice brands as a source of delicious fruit.

The new design, which debuted in November to U.S. consumers, also creates a coherent look on shelf when packages are placed side-by-side to showcase the fruit. The flexible, streamlined packaging design was created in-house by the design group at Coca-Cola. The direction and vision were further brought to life by design firms Duffv & Partners (www.duffv.com) and CMA Deisgn (www.cmadesign.com). Consumers of other juice brands in the Coca-Cola family of juice beverages, such as Del Valle, Andina and Cappy, will experience the new designs in their local markets through 2010.

# aunch pad New Product of the Month

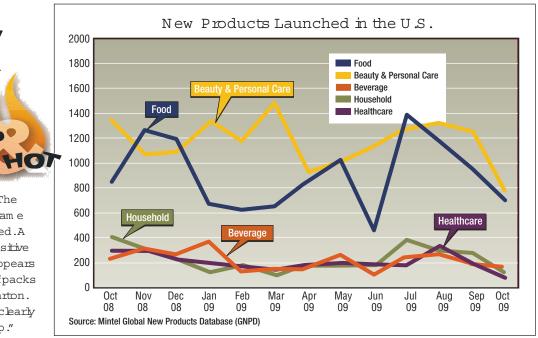
#### Sleep remedy calls 'help'

Help Remedies USA has an interesting package for its health-problem s relief products. The com pany offers ease in various areas: Allergies; headaches; sleeplessness, etc. It blister-packs 16 tablets in a perforated foil/film blister-card that fits within a specially designed holder. The holder is an injection-molded PP hinged framewith central

> be made from molded pulp. The blister-card fits inside the fram e and the package clips closed.A flexo-printed pressure-sensitive PP film piggyback labelappears on the back. A num berofpacks are multipacked into a carton. The sleep rem edy pack clearly

> > reads, "help Ican'tsleep."

sections that appear to



mintel.com/gnpd

# Sustainability in Packaging: Keps on Growing Live Webcast: Tuesday, December 15, 2009 • 2:00 PM ET

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Amy Zettlemoyer-Lazar Senior Director, Packaging & Supplier Diversity, Sam's Club & Co-Manager, Sustainable Value Network, Walmart Stores Inc.

#### **Speakers**



John Kalkowski Editorial Director, Packaging Digest & Converting



**Anne Johnson**Director, Sustainable
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# packaging personal care

Mascara tube looks more like a pen

Belvada, Montreal, a new name in mascaras, claims to have brought one of the biggest changes to mascara application in more than 50 years with the introduction of a new "one-handed" mascara wand. Marketed as Mascara Noir, the new lash definer will be sold initially to selected salons before rolling out to speciality stores.

HCP Packaging USA (www.hcpackaging.com)

worked closely with the beauty company to develop an industrial look to the mascara tube as well as manufacturing technology for the pen-style applicator. Belvada mascara has little resemblance to traditional wand applicators. Product application is controlled with fine precision, resulting in superior performance. The one-handed wand features a sliding mechanism that propels the brush out through a patent-pending double wiper seal system, ensuring smooth product delivery with no clumping or waste. Virtually no air is able to enter the formulation chamber during application, keeping the mascara fresh and free from drying out. The twist-off closure can be clipped onto a button at the bottom of the package when in use.

The Belvada mascara package is finished with a gunmetal metallization technology from HCP and white screen printing of the Belvada logo. Entrepreneur Dov Grossnass spent more than two years developing the packaging and concept.

# Airless pump ignites anti-aging cream

International direct sales firm Oriflame, a fastgrowing beauty products marketer, has chosen **Rexam's (www.rexam.com)** airless, neutral Prodigio™ recyclable lotion pump designed with



patented CleanPoint™ technology for its North For Men Total Age Control Cream. Oriflame, which launches 900 products annually, sells in 61 countries and derives most of its \$1.9-billion in annual sales from eastern Europe and Russia.

The dispenser has sleek, sculpted styling and a highperformance design that provides cleanliness, neutrality and end-

user appeal. For Oriflame, it was customized with a silver actuator and a matching "tank." The proprietary technology keeps the lotion exit point neat and free of messy buildup. The dispenser is fitted with PP and PE components. There's no elastomer or metal contact with the lotion.

# Fragrance flacons with a flourish

Two new perfumes from the Swiss company Mibelle Cosmetics have an elegant, tip-top look. The twin bottles' mountain peak design, provided by **Gerresheimer Group (www. gerresheimer.com),** needs no decorative additions. The bottles have a wide base and point at the top like a

mountain silhouette. The two flacons are identical apart

from their names printed on the front. The design was rigorously reduced to its essentials and stylized on a rectangular base. Viewed from the front, the glass bottles have a wedge shape and are wide at the bottom and narrow at the top. The sprayer is capped with a triangular crystal clear closure. The front and back form a soft flowing "flourish" as they fall away from the highest point. The crystal-clear glass bottles and the equally clear plastic hoods complement each other seamlessly to create a presentation. Even the fragrance inside appears as if it's a babbling mountain brook. The names of the two fragrances are screen-printed: in silver with a shimmer of powdery "snow," which contributes to the mountaintop theme.

#### Bold can shortens shaving time



Housed in a sporty, shaped aerosol package from CROWN Aerosols Europe, a business unit of **Crown Holdings Inc. (www.crowncork.com),** Sara Lee's Williams Confort Pro Mousse Crème promises more comfortable shaves while speeding up men's grooming routines by eliminating the need for aftershave.

"With such an innovative formulation—it's not a traditional foam or gel—special packaging was needed to ensure it dispensed properly and would retain its properties from start to finish," explains Frédéric Dauba, product manager men's care, Sara Lee, France.

The 150-mL steel container uses Crown's bicompartmented (BICAN®) aerosol technology,

which has a plastic inner bag that keeps product and propellant completely separate. This separation ensures the propellant isn't emitted during dispensing and prevents the product from coming in contact with the package itself, which helps reduce the likelihood that the product will dry out or harden, thus increasing its shelf life. To enable convenient product dispensing, the can has an ergonomic shape that works with special ribbing on the side of the container makes it easy to grip, even with wet hands. Metallic royal blue and red dominate the package design for a bold, masculine look.

#### New identity, design for New French Bakery

Since opening in 1995, New French Bakery, Minneapolis, has rapidly grown from a small neighborhood bakery to a national suppler of freshly baked artisan breads. The company bakes more than 700 varieties of conventional and certified-organic artisan breads and rolls and distributes them to customers across the country. Prepackaged Take & Bake products, with a three-day shelf life, are sold at supermarkets and retail outlets throughout the U.S.

Realizing that the recession provided an opportunity for increasing market share and profits, the company turned to branding and design firm **Duffy & Partners (www.duffy.com)** to redesign the bakery's brand identity and packaging. With an opportunity to differentiate the New French brand, the new logo and design language provide a graphic impact in the

chaotic visual arena of the market. The classic fleur-de-lis motif of the original logo has been transformed to a simple, sleek and straight-to-the-point look, with the name of the bakery front and center flanked by soft blue hues. Packaging for the take-home products introduce the shopper to the new branding with the bold, simple words, 'Take, Bake, Yum!' in bold letters. The packaging is supplied by Unisource Worldwide, Inc. (www.unisourcelink.com). The newly branded



## Opportunities abound for U.S. packaging companies

The global economy is not a perfectly round sphere. Like the earth's topography, it's filled with peaks and valleys. So, when the U.S. economy is in a valley, other countries may already be moving toward a peak. This means there are plenty of opportunities for packagers; the opportunities just may not be right under our noses. Recently, I had the chance to visit Thailand and tour a number of food-processing facilities and R&D centers. For Thailand, economic recovery is already well underway. This Southeast Asian country of 65 million people is one of the few developing countries that is a net exporter of food, which means that it grows enough to meet the needs of its own population and still export to the rest of the world.

> According to Thailand's Board of Investment, the country is the world's No. 1 exporter of rice and shrimp and is second in exports of chicken and sugar. When you eat shrimp, chances are it came from Thailand, which claims about a quarter of the U.S. shrimp market. The country also is a top-five producer of tapioca and sugar. Many of these products are processed into ready-to-eat frozen foods in conditions that meet the highest food-safety standards. And it's not all about food. Thailand also is the top exporter of rubber and the number-one producer of hard disk drives. Recognizing the need to build an infrastructure that can

support its burgeoning trade, Thailand has concentrated much of its development in its Eastern Seaboard, southeast of Bangkok, which has the country's largest airport, eight deep-sea ports, good rail and highway systems, as well as huge industrial estates that support thousands of manufacturing facilities, many of them owned by companies from outside Thailand. However, the Board of Investment also offers significant incentives for companies looking to do business in less-developed areas of the country.

In Thailand, we saw thriving U.S.-based food companies such as McCormick Spices, Jelly Belly, Kellogg's and Cargill. Other U.S. companies like Ford, Seagate and General Motors had major manufacturing facilities there, while international companies such as Tetra Pak and SIG Combibloc have significant operations to meet packaging needs across Asia. While visiting the food companies, we saw packaging equipment from a number of U.S. companies, such as Barry Wehmiller, Mettler-Toledo and others.

When I've spoken with packaging equipment suppliers about sales outside the U.S., many say they're still considering it. This is too bad. Right now, opportunities exist in Thailand and other countries for those who are bold.





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Axon Div. of Pro Mach, 513/831-8778. www.promachinc.com



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new UPS controller (and batteries), as well as buffer and redundancy modules are introduced in the 787 Series of advanced power supplies. The 787 Series modules minimize downtime by shielding complex automation systems and components from common disturbances such as voltage fluctuations, harmonic distortion and outages, the co. states. Encapsulated in a DIN-rail-mounted metal housing, every module includes



three LEDs and at least one signal-output-status LED. To ensure reliability, the modules utilize Cage Clamp® spring-pressure connection technology for fast, easy and maintenance-free terminations, says the co.

WAGO Innovative Connections, 262/255-6333. www.wago.us

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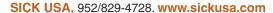
commissioning of devices

in the series' production, the co. states. The P84

bus voltage, making it more **B&R Industrial Automation** Corp., 770/772-0400. www.br-automation.com



Bar-code scanners The co.'s CLV650 bar-code scanners with autofocus technology and CLV640 barcode scanners with dynamic focus are easy to use, 1D scanners that feature simple setup, exceptional reading performance and flexible data-handling capabilities. The scanners are designed for high-performance barcode reading applications in the material handling and logistics markets. Compact in size, they use proprietary SMART (Modular Advanced Recognition Technology) code reconstruction algorithms and high-performance microprocessors, enabling them to read damaged and dirty bar codes. An autofocus feature, distance measurement technology and engineered optics give them a competitive advantage in applications where space is limited and large depth of field is required, the co. adds.







**Conveyors** Pop-up transfer conveyors are designed for smooth, quiet, trouble-free operation and can handle loads up to 250 lb, the co. reports. The conveyors utilize economical and compact motorized, roller-driven strands, eliminating noisy chain drives. There are no vertical guides or cam ramps used for positioning and no slides or bearings used in its construction, making it simple to maintain, the co. says. The light-duty model is available with urethane V-belt, urethane o-ring or chain strands, and heavier duty models are also available. The number of strands and stroke height can be customized to suit particular application needs. TKF, Inc., 513/241-5910.

www.tkf.com

Robot The IRB 120 six-axis robot has the functionality and advanced design features of the co.'s larger robots in an economical, lightweight model that has agility, accuracy and speed for a broad range of applications where a smaller footprint and profile are required, the co.

states. Weighing 55 lb, the robot has a standard payload of 6.6 lb, a vertical wrist payload of 8.8 lb, a reach of 580 mm, a bestin-class stroke of 411 mm and the ability to reach 112 mm below its base. ABB Robotics. 262/236-3710. www.abb.com



**Ethernet** The new EtherNet/IP is a member of the DeviceNet and ControlNet family of Common Industrial Protocols (CIP). EtherNet/IP can utilize the same set of predefined common objects, thus making communication between devices from different manufacturers easier. EtherNet/IP is an optional communication protocol for the SMVector drive and can support a nearly unlimited amount of nodes. Can be used on a single-point connection for configuration and control and permits devices to send and receive messages simultaneously, the co. states.

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www.motoman.com

features a compact design that easily fits underneath conveyors or controller cabinets and can be stacked to save on floorspace in material handling/palletizing applications. The controller is available with the compact MH5 and MH5L robot models, as well as the high-speed MPK2 and MPK4 picking robots. The controller provides patented multiple robot control capability of up to eight robots with one pendant, open communication and integrated cell control. It can accommodate two optional external axis servo amplifiers for seventh- and eighthaxis control. The robot controller features a Windows® CE programming pendant with color touchscreen, high-speed processing, a memory of 200,000 steps and 10,000 instructions, easy-to-use INFORM III programming language and a built-in Ethernet. Motoman, 937/847-6200.

**Vision sensor** The PresencePLUS® P4 IP68-rated, sealed Omni vision sensor features a compact, yet durable nickel-plated aluminum housing to withstand demanding washdown conditions with the use of an integrated ring light or lens cover. The vision sensor performs reliable, repeatable quality inspections in challenging automotive, assembly, food-handling, printing, pharmaceutical and packaging applications. Uses include label alignment inspection, color verification and matching, flaw detection, assembly verification and more. The vision sensor features a sealed, IP68-rated housing and its connectors withstand dust, moisture and washdowns. A nickel-plated aluminum housing in a compact form tolerates shock and vibration. Has enhanced inspection capabilities, including bar-code reading, OCR/OCV and bead inspection.

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





Vision sensor The Sharpshooter vision-based sensor has an advanced vision-sensing capability and adds 360-deg part rotation recognition, which allows infinite part-position recognition. All configured inspections are also compensated for parts rotation, minimizing the need to tightly fixture parts while reducing setup costs. The vision sensor's added output logic functionality provides the ability to link any tool or combination of tools to any output. This allows the inspection to be customized to any production situation where simple inspection results are not enough.

Balluff Inc., 800/543-8390. www.balluff.com



**AC drive** The PowerFlex 753 AC drive offers flexibility, ease of use and provides machine builders and manufacturers with a versatile motor control for general-purpose applications, the co. reports. The drive is suitable for applications including fans, pumps and conveyors. Its DeviceLogix control technology helps meet requirements for standalone applications by giving users control flexibility to combine inputs and/or outputs, as well as local logic functions, to determine the drive's behavior. Additionally, embedded safe torque off and safe-speed monitoring options help customers reduce overall system costs while helping to protect personnel and equipment and improve productivity.

Inline printer This inline UV printer has a 260 mm web width for installation on small- to mid-sized blister machines, both intermittent and continuous motion. The machine uses a one-size print drum, making it format-free regardless of index length changes. Quick color change is possible with an inking unit that removes complete with the anilox roller. Co. says accurate adjustments are made through electronic setup of

**Rockwell Automation,** 

Hapa & Laetus Inc., 973/983-2700. www.hapa.ch



Motor The ANT130-L direct-drive linear-stage motor offers long travel, smooth, cog-free motion and nanometer accuracy, the co. states. The motor employs a center-driven, noncogging, noncontact linear motor and encoder as the driving element. Because the linear motor is a direct-drive device, there's no backlash, windup or "stiction," the co. says. The linear motor drive also offers the advantage of higher speeds and accelerations as it reaches a peak unloaded acceleration of 1 g and a maximum velocity of 350 mm/sec.

Aerotech, 412/967-6854. www.aerotech.com





Includes feeding bin



Secondary level check



Easy access filter

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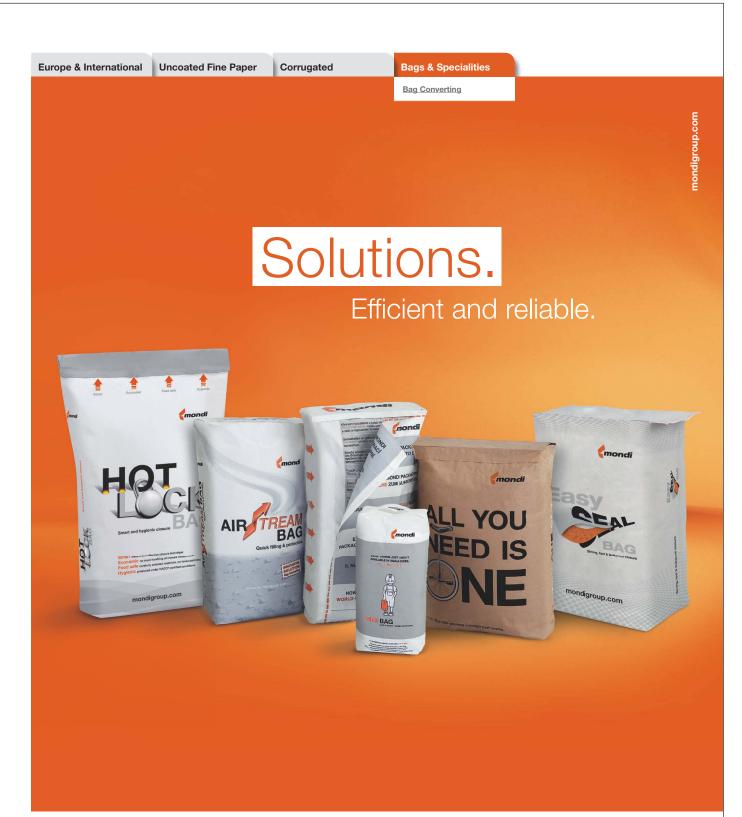
## new products equipment

Industrial PC The new C6915 series IPCs feature Intel® Atom™ processors and provide up to 1.6-gHz processing power with reduced energy consumption. The IPC is currently the most compact IPC available from the co., and it adds more scalability to the C69xx control cabinet PC series. The control cabinet series is available in different performance classes ranging from Intel® Celeron® M ULV 1.0 gHz (C6925) to Core™2 Duo 2.16 gHz (C6920). When IPCs from this series are paired with the co.'s control panel and DVI and USB connection or an Ethernet control panel, they become a high-performance

centralized control platform for machine builders and plant engineers, especially when used in conjunction with TwinCAT® automation software, the co. states.

Due to its two independent Ethernet interfaces, the C6915 is also suited as a compact central processing unit for an EtherCAT® control system.

**Beckhoff Automation**, 952/890-0000. www.beckhoffautomation.com



We offer a broad range of standard and specialized paper bag solutions. Our flexibility, know-how and advanced production technology allow us to offer novel and more economical solutions and to pull all the right levers to ensure existing solutions undergo quick, competent optimization and development. Mondi Bag Converting is committed to optimized production, consistent good quality and continuous R&D, notably with its

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For further information please contact: Mondi Packaging USA Inc

1140 Arbor Drive Romeoville, IL 60446 Phone: (630) 378-9886

Email: bags.US@mondigroup.com www.mondigroup.com





Metal detector For accurate inspection of intense product/effect foods, such as deli meats, ham and fresh poultry, CEIA THS21 metal detectors reduce waste and downtime resulting from false reject signals. Patent-pending CEIA metal-detection technology delivers high sensitivity to all magnetic and nonmagnetic metals, the co. says. The detector continuously tests and recalibrates itself to maintain stability and performance as its Auto-Learn system selects, displays and stores the optimal sensitivity settings for up to 500 products. This helps prevent changeover guesswork and inspection errors. Bluetooth connectivity eliminates the need to access the detector's interior for programming and data collection. Ethernet connection is also available.

**Heat and Control Inc.**, 800/227-5980.

www.heatandcontrol.com



# **new products**materials

#### Bottles & Closures



Glass bottles The Serena Collection of flint glass lotion bottles in 30-, 50- and 100-mL sizes all include 15-mm crimp finishes. The squat-shaped bottles are appropriate for cosmetics, perfumes, colognes and other fragrances, the co. states. This collection can be further enhanced with optional frosting, ceramic decorating and labeling, as well as a variety of closure options. O.Berk, 908/851-9500. www.oberk.com

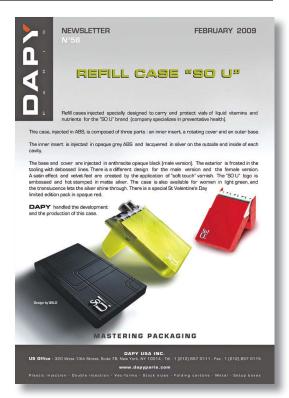
**Applicator** A foam swab tip applicator is a molded plastic component with a specially designed foam applicator adhered to plastic. A variety of different types of foams are available, depending on the composition of a customer's formula and the nature of the application. Many of the foam tips can also be offered in different configurations for specific applications. The applicator allows the user to activate the package with a gentle squeeze of one hand, rupturing the patented internal membrane. Another gentle squeeze then dispenses the contents onto the applicator tip. The rate and flow of the product is easily controlled by the user. The product is designed for large volume topical applications in a variety of markets, including cosmetic and personal care, health and beauty aids, pharmaceuticals, toiletries and spa products. This version is also ideal for industrial applications of lubricants, solvents and cleaning agents.

James Alexander Corp., 908/362-9266. www.james-alexander.com

**PET bottle** The PET lite 6.6 is currently the lightest PET bottle on the market for the 0.5-L size, the co. reports. The 6.6-g bottle proves more flexible when subjected to dynamic forces than conventional containers with reinforcements, the co. says. The top-loading figure of less than 30-kg was sufficient in drop tests and in simulated transportation, under normal road conditions, to prevent damage to containers.

Krones AG, 49 0 9401 702222.





Vial refill cases Vial refill cases, such as the custom examples created for "So U", carry and protect vials of liquid vitamins and nutrients. The ABS cases have inner inserts, rotating covers and outer bases. The base and cover are injected in anthracite opaque black while the exterior is frosted in the tooling with debossed lines. A satin effect and velvet feel are created by application of "soft touch" varnish.

Dapy USA, 212/857-0112. www.dapyparis.com



Aluminum packaging The co. manufactures assorted extruded aluminum packaging, and has earned top honors at the 2009 American Business Awards, it reports. Offers the evolutionary Coil-To-Can (C2C) aluminum container-manufacturing technology, a hybridized technology that marries the manufacturing speed and lightweighting of standard DI (drawn & ironed) beverage-can technology with the shaping technology originally available with heavier walled extruded aluminum containers. Because of their lighter weight, containers made via C2C use less fossil fuel throughout the logistics chain, producing fewer transport-related carbon dioxide emissions than heavier packaging formats, the co. says.

Exal Corp., 330/744-2267. www.exal.com

One-way key The KeyKeg is a oneway dispensing container for beer and other carbonated beverages. The keg offers many benefits including extra protection during transportation, reduced CO2 footprint, longer preservation, increased marketing opportunities and clear logistical cost reductions, the co. states.

Scholle Packaging, 708/409-4449. www.scholle.com



## new products materials

**Shipping boxes** Custom shipping and storage boxes for fragile items such as medical vials, bottles, microscope slides and optics feature



a rigid paperboard construction with two wire tabs that come up from the bottom half. The tabs fit through the top and fold over to secure the box. Strong and lightweight, the boxes come in several sizes and can be supplied with precut openor closed-cell foam inserts to cradle

and protect all types of fragile products during shipping and storage, the co. states.

Mason Box Co., 800/225-2708.

www.masonbox.com

Adhesive technology New CurePrime technology for converters uses 2-component urethanes for adhesive laminations. The product is a water-based primer and adhesion promoter that can be applied to plain and printed films prior to the adhesive lamination step. This results in adhesive that cures up to five times faster than normal without affecting the pot-life of the adhesive. Benefits of cure acceleration include improved productivity, quality determination within hours after lamination, less interactions between adhesives and inks, fewer changes for wrinkles and telescoping and no need for a hot room.

Mica Corp., 203/922-8888 www.mica-corp.com

Oval tubes The satiny finish of new soft-touch oval tubes is achieved by the application of a thin layer of PE to the outside of the tubes. The applied layer is extruded, not sprayed. The two-piece soft touch tubes are available in a variety of sizes including 16, 30, 35, 40, 45 and 50 mL. World Wide Packaging, 800/950-0390. www.wwpinc.com





Food-grade RPET EcoStar™, a food-grade RPET, is a multi-layer sheet with a virgin material outer layer for food contact and an inner layer (core) of recycled content. It offers a minimum of 35-percent post-consumer content. The material provides retailers with a viable environmental solution while showcasing a wide variety of deli foods, bakery items and fresh produce, the co. states. The co. uses the material for both its Fresh 'n Clear™ and Crystal Seal® lines of food packaging.

Placon, 800/541-1535. www.placon.com

**PET bottles** New 10- and 15-oz PET bottles are designed to hold steak sauce and similar table sauces. They are intended to replace traditional glass sauce bottles with lighter packaging that can reduce shipping costs. The bottles respond to increasing environmental protection concerns of retailers and consumers. The containers offer the upscale shelf presence of traditional glass bottles, and feature a round neck and squared lower area for easy handling, the co. states. They also incorporate a 28-mm TE neck finish to address consumer safety concerns and can be clear or molded in many colors.

Silgan Plastics, 800/274-5426. www.silganplastics.com









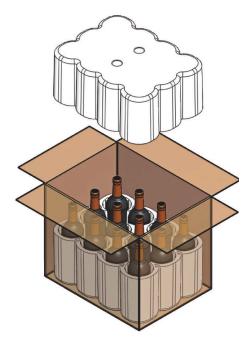
**Inks** The co. announces the availability of two black inks, PX-370A and SX-370A, certified as FDA-approved for incidental food contact for printing on porous food packaging materials, such as paper and paperboard. The inks are suited for printing variable information such as date codes, bar codes and lot numbers, as well as product information on the outside of bulk bags of flour, sugar, salt, petfood and other food products. Designed to be environmentally-friendly, the PX FDA-compliant inks print darker than competitors' inks, ensuring a bolder, high-contrast mark, and may be used with other manufacturers' drop-on-demand (DOD) ink-jet printheads, as well as with the co.'s own systems.

Matthews Marking Products, 412/665-2500.

www.matthewsmarking.com

Wine shipper An economical EPS wine shipping container offers cost-effective protection and thermal performance for wine shipments. The wine shipper, made of 90-percent air, is said to save wineries the worry of spoilage due to temperature changes in-transit. Also made from recycled content, the shipper can be sent back to the co. for recycling into new products. The co. offers shippers designed for single bottles, multiple bottles and oversized bottles of wine or champagne, in both EPS and molded pulp styles.

WineLoc, 866/896-1626. www.wineloc.com



Additive The CrystalClear™ additive 603192-PT improves upon standard PET UV technology by delivering greater package clarity, lower cost and all of the UV protection benefits that preserve product integrity, color, flavor and nutritional value. The PET UV additive has been compounded for performance and cost efficiency. A considerably smaller percentage of the additive provides the same level of UV absorption at lower cost because the amount of the additive required has been reduced. Ampacet Corp., 914/631-6600.

Ampacet Corp., 914/631-6600. www.ampacet.com





sophisticated packages and better represent its **SUSTAINABLE EFFORTS.** 

It's tea time for biodegradable

They help Rishi

organic teas in

Lauren R. Hartman, Senior Editor

For Rishi Tea, a Milwaukee-based importer, organic tea is its passion. It's what Rishi does best. The company imports tea certified under USDA-National Organic Program (NOP) or fair-trade regulations, directly from tea gardens and sells it to wholesale customers and consumers in the U.S. and internationally. With distribution in Korea, Scandinavia, Japan, Mexico, Guatemala and other locations, the teas are available in Whole Foods stores nationwide and in Canada, as well as specialty food shops, natural health food stores and in cafés and restaurants across the U.S.

Rishi blends various combinations of teas to produce the richest, most-complex flavors. At the same time, the company strives to flavors such as Peach Rooibos, Emerald Lily, Citron Green, Jasmine Pearl, Hoiujicha and even something called Dragon Well.

Rishi not only packages teas but it also offers a variety of tea-related products, such as teaware, tea sets, accessories, teapots, giftware and more fragile items that require an extra degree of cushioning.

Rishi's organic Fair Trade-certified line of products exemplifies its commitment to direct trade with farmers at origin. Partnering with other socially and environmentally committed organizations to educate consumers on the benefits

### We hope customers realize the importance and ease of living a cleaner life to protect and preserve our planet.

provide quality products while trying to be kind to the environment. The fine teas include: Lush African Rooibos; exotic Ancient Tree Tea; black tea; caffeine-free botanical blends; Chai green and refreshing iced tea; as well as Oolong, Pu-erh from China; white; organic and botanicals; and Yerba Maté—all in assorted exotic and enticing

of organic and sustainable living, the company has formed a team to execute its values into its daily business practices. "We constantly strive to implement changes that best represent our business practices," says co-owner Benjamin Harrison.

Rishi recently began using Cell-O® biodegradable air cushions from **FP Intl.** to protect,



brace and block the tea products in shipment and maintain its environmentally-friendly efforts. Part of FP's Green Family of environmental products, the cushions are 100-percent-biodegradable in the presence of micro-organisms, FP says, and are made to perform with a minimal carbon footprint.

Supplied to Rishi by FP's distributor, American Paper & Packaging, the cushions also eliminate humidity and infestation problems associated with biodegradable options such as starch-based packing materials. "We were actually one of the very first companies to use this cushioning," explains Ghazal Sheei, Rishi's marketing coordinator. "We didn't have many options when looking for environmentally friendly cushioning and FP was a trusted company we have worked with in the past. They were willing to go the extra step and provided a machine to help us evaluate the percentage of air each cushion requires."

Randy Green, marketing and sales administrator at FP, says his firm makes the cushions using a 100-percent-recyclable, single-layer blown LDPE film. The film contains a proprietary additive that allows the product to degrade in the presence of microorganisms within nine to 60 months.

#### Microorganisms are key

"The additive doesn't affect the performance or shelf life of the cushioning because biodegradation only occurs in the presence of microorganisms in landfills, home and commercial composting and other areas where they exist in nature," Green says. "The additive promotes the formation of a microscopic bio-film on the surface of the cushions, which attracts microorganisms. The microorganisms secrete acids and enzymes that breakdown the long polymer chains into smaller pieces, which they can then digest. This additive is used in numerous plastic products throughout the world."

Green goes on to say that the eco-friendly packaging products will biodegrade in aerobic



(with air) and anaerobic (without air) conditions. But they can also be reused indefinitely. The Cell-O cushions are printed with a "green" shipping message reflective of Rishi's own environmental philosophy.

Because they're 99-percent air by volume, the cushions take up less than 1 percent by volume of the original packaging when deflated. "The primary environmental benefit of air cushions is that after they're used and deflated, their size is reduced to a small fraction. We provide the conditions in which the cushions biodegrade as well as the timeframe. A statement is provided that reads, 'Biodegradable CELL-O® air cushions, biodegrade in nine to 60 months in the presence of microorganisms, reusable and recyclable.' We also provide a recycling log with the number four to indicate the type of plastic the cushions are made of for recycling."

#### **Reducing the carbon footprint**

Replacing some of FP's conventional cushioning products that do not biodegrade, Rishi wanted to reduce its carbon footprint as well as the amount of petroleum-based products its ships to customers. It also wanted a protective cushioning that could meet its "green" initiatives, says Alan May of American Paper & Packaging, which also provides Rishi with its corrugated shipping cases. "We were able to show Rishi that they could probably use less inner packing material than they used before and get the benefits of a biodegradable cushion," he says.

Primary packaging for the teas, which are either loose-packed, stick-packed, bagged or vacuum-packed, include round, white and dark brown metal tins sourced from China. The tins hold 1.5 to 4 oz. Other teas such as powdered iced tea in 5-qt pouches and Japanese Shencha green tea-leaf powder are filled into filter bags or single-serve stick-packs that are loaded into post-consumer-recycled paperboard folding cartons printed with soy inks by **Imperial Lithographing.** The paper stock, from **Lindenmeyr,** is made with 100-percent wind-energy on 80-percent post-consumer waste, processed chlorine-free with soy ink.

In many instances, the packages are also stamped with the USDA Organic seal, a kosher certification and other organic certification marks.

After FP introduced May to the new Cell-O biodegradable cushions, he shared the product's biodegradable details with Rishi, and the company decided to sample a roll of the new cushioning early this year.

After the tea is blended, Rishi hand-packs it on four assembly lines at its Milwaukee tea-production facility into the retail tins, which are hand-labeled at a packing station. Bulk items are bagged.

Sheei says that many of the loose teas are filled into the tins by hand and the Japanese teas and a few of the Chinese teas arrive at Rishi's plant Continued on page 20







could inflate enough to work well with its shipping cases, tea tins and cartons, Rishi soon ordered its first shipment of the material and companion equipment. Rishi produces its biodegradable cushions on-site, on-demand using FP's Cell-O EZ II machine, a semi-automatic tabletop system with a film-roll dispenser stand.

The machine uses preconfigured, perforated film rollstock that takes about 15 sec to load. A self-contained air supply allows the machine to produce small cushions at speeds up to 49 lineal ft/min and

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larger cushions at up to 32 lineal ft/min.

An operator loads the different teatins or cartons into a shipping case and then activates the machine. The machine automatically sets the amount of air fill and the seal temperature. FP says that one roll of 8-in.-wide Cell-O Double Cushion® 1.2-mil-thick film can produce continuous chains of perforated air cushions in various sizes. Two cushion sizes are offered: 8x14 in.; and 8x7.5 in. The cushions feed into a large mesh accumulating bin and are ready to use.

#### **Protect and preserve**

According to Harrison, Rishi's move to Cell-O biodegradable cushioning is just one step in the company's sustainability initiative. "Our transition to FP's biodegradable Cell-O air cushions was a clear and natural progression, inspired by our many other green efforts, including printing marketing materials on 100-percent post-consumer-waste paper that's chlorine free, composting used tea leaves and moving to environmentally sustainable packaging for our organic iced tea line," he says.

Packaging for the organic teas uses 100-percent-renewable wind energy and 50-percent post-consumer waste paper, Harrison points out. "We hope customers and businesses alike realize the importance and ease of living a cleaner life to better protect and preserve our planet."

With its upgraded packaging process, Rishi is steeped in satisfaction with the air-filled cushions. The amount of product it packages on a daily basis varies by the season, Sheei says. "We generally pack a lot more product in the winter months. The cushioning provides sufficient protection for our products, which means less damage. We are definitely pleased with our move to the biodegradable Cell-O cushions, but actually, we haven't yet had the need to compost any of the cushions," Sheei tells PD. "We reuse them as much as we can."

#### More information is available:

FP Intl. Inc., 800/866-9946.
www.fpintl.com
American Paper & Packaging,
414/462-8560.
www.americanpaper.com/contact.cfm
Imperial Lithographing Corp.,
800/726-3187.
http://imperial-vc.com
Lindenmeyr, 914/696-9300.
www.lindenmeyr.com



sustainability

Metrics are one of the hottest topics in sustainability today. There's an obvious reason for this: One only manages well what one measures. Yet results from the *Packaging Digest* and the Sustainable Packaging Coalition (SPC) 2009 Sustainability in Packaging survey indicate that less than 50 percent of respondents measure the sustainability performance of their packaging. In December, the SPC will release a new resource that might increase that percentage in 2010: Sustainable Packaging Indicators

terminology and provides recommendations for what to measure and what not to measure, including references to applicable international standards and protocols.

A key reason the SPC undertook the project was to respond to concerns about the proliferation of individual company sustainable packaging metrics and scorecards. Without a coordinated effort and guidance, measurement criteria could vary from one company to another, making the data-collection process time consuming and costly for suppliers and unintentionally

disrupting the supply

The Framework also attempts to address challenges associated

with measuring packaging sustainability. Because brand owners and retailers are often asked by stakeholders to provide packaging sustainability-related information and are best positioned to engage upstream supplychain partners in the collection of data, the Framework is geared for their use and needs. The indicators and metrics are also designed to facilitate data collection by any member of the supply chain, whether to measure progress against their own goals or to share relevant

information with downstream supplychain partners.

The SPC definition of sustainable packaging served as the

primary organizing principle for the Framework development because it establishes an objective set of criteria related to the sustainability of packaging and identifies which impacts and attributes need to be measured, why they should be measured and how as well as where the information should come from.

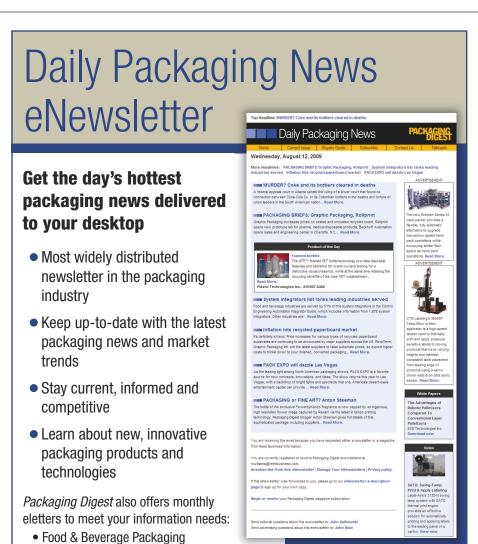
Selected metrics from the SP Metrics Framework also serve as the baseline for the Global Packaging Project (GPP), an initiative of the Consumer Goods Forum that seeks to standardize packaging sustainability measurement with a globally recognized set of indicators with common data request and data-collection protocols. The SPC will follow pilot testing of the GPP and will merge feedback into a Version 2.0 of the SP Metrics Framework so that metrics common to both sources will be consistent.

Author Katherine O'Dea is a senior fellow for the Sustainable Packaging Coalition (www.sustainablepackaging.org), a project of GreenBlue. For additional information, email spcinfo@greenblue.org

# SPC introduces Framework to gauge metrics in packaging sustainability

and Metrics Framework V1.0, available at www. sustainablepackaging.org.

The SP Metrics Framework is the outcome of an 18-month project that involved extensive research, stakeholder engagement and a comprehensive review process. Its indicators and metrics are organized into eight categories related to material use, energy use, water use, material health, clean production and transport, cost and performance, community impact and worker impact. Each module explains why the measurements should be made, defines each indicator as it relates to packaging, specifies the metric to be used, defines



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# **Packaging Integrator** of the Year

Packaging Digest recognizes **STONE TECHNOLOGIES INC.** for its work with packagers and industry standards

Jack Mans, Plant Operations Editor

New and advanced automation technologies, including vision systems, robots, motion control, high-tech PLCs and HMIs and sophisticated distributed-control systems, are having a dramatic impact on packaging equipment and operations. Combined with the move to completely integrated packaging lines and reduced engineering staffs, this is a demanding time for packaging companies. To meet these challenges, the industry has turned increasingly to systems integrators for its major packaging projects.

In light of this, last year Packaging Digest, in conjunction with sister publication Control Engineering, instituted its System Integrator of the Year award. This year, after reviewing the scores

of entries that were received, Stone Technologies Inc., Chesterfield, MO, has been selected as PD's "Packaging Integrator of the Year" for 2009.

The award was presented to Don Ulrich, president, for the company's accomplishments in the integration of automated packaging systems. The winner was chosen from a field of system integrators who had submitted examples of their work, with judging headed by consulting editor Vance VanDoren, who writes for both Packaging Digest and Control Engineering magazines.

Stone Technologies, which was founded in 1996, is a national systems integrator headquartered in St. Louis with resources in the Midwest and Southeast. It provides industrial automation and information services from conceptual design through commissioning for control and manufacturing operations management systems including electrical design and system development.

and packaging-line performance information within an organization.

#### **Selection criteria**

PD's panel of judges chose the winner based on essays submitted by each entry. Judge Walt Kozikowski notes, "Stone Technologies seems to cover all the bases with CSIA certification, written policies and customer satisfaction. They even try to improve the industry through work on ISA standards panels." Judge Tom Bullock agrees that Stone Technologies "exemplifies the CSIA-certified organization with its complete set of policies, procedures, and peer group audits."

Bullock adds, "Stone's technical competence is enhanced by encouraging engineers to obtain projectmanagement certification and to author technicalconference papers. This also encourages each engineer to become a technical expert on some subject critical

to the success of the business."

Judge Mark T. Hoske is impressed by Stone's quest for "raving fans," not just satisfied clients. He notes that Stone is still doing business with all 20 of the highest revenue clients it has worked for since 1996, averaging nine years of service and 50 projects for each. As a result, Stone has earned a profit every year and averaged a 20-percent annual growth rate.



'Efficiencies, uptime and throughput have increased from 80 percent to between 85 percent and 90 percent, resulting in \$100K savings in labor. Yield has gone up 5 percent to 10 percent; more cases get out the door per week.

> Stone Technolgies is focused on the consumer products, chemical and pharmaceutical industries. Its people have worked extensively in these industries and understand their respective challenges. Stone is a founding member of the Automation Alliance Group, a gold-tier certified member of the Control Systems Integrator Association (CSIA) and has qualified for the highest levels in Rockwell Automation and Wonderware systems-integrator programs.

#### **Packaging standards**

Stone Technologies is a leading contributor to the promotion and adoption of packaging and supporting-systems standards. They drive consensus, pave the road for quicker capital investment return and reduce the total cost of ownership. Thus, Kirk Weiss, senior project manager at Stone, is directing the OMAC (The Organization for Machine Automation and Control) manufacturing execution system (MES) definitions team, whose charter is to drive global solution commonality and reduce the costs associated with delivering actionable equipment

#### **CHEP** case study

In recent years, manufacturing has focused on improving efficiencies and producing more with existing capital equipment and human resources. Stone has been in the forefront of developing OEE (overall equipment effectiveness) systems, ranging from custom solutions using SQL (structured query language) databases and Web reporting to utilizing specialized software with custom features for database management and reporting.

Stone has formed an implementation team with a concentration on plant-floor efficiency, and it has implemented more than 30 successful OEE projects over the last five years in the consumer products, discrete manufacturing, and food/beverage industries.

The challenge with any OEE project is the data and the equipment modeling, as well as the reporting hierarchy. Stone has developed an approach to identify the owners and users of the system and then to fully define the system requirements with their involvement. CHEP USA is an example of Stone's





approach to these projects.

CHEP USA is a global leader providing pallet and container-pooling services to customers located in 42 countries. It manages the daily movement of 265 million pallets. In order to reduce operating costs due to transportation logistics, CHEP shifted the damage inspection of pallets from regional service centers to smaller, isolated sortation operations within its clients' warehouses, sending only those pallets requiring repair back to the service centers and keeping the serviceable pallets onsite for reuse.

CHEP also sought to outsource the operation of the sortation equipment to third-party vendors, who would be paid by the number of pallets they processed. This new strategy identified several challenges: how to remotely monitor and diagnose equipment problems; how to create an accurate and fair accounting of each vendor's productivity; and how to compare the performance of multiple vendors in multiple geographic locations.

CHEP had previously attempted to develop a system to meet its needs with an Australian systems integrator, whose system was not scalable to the large number of locations covering the multitude of time zones and localities, so the project was not extended. Stone Technologies was selected as the systems integrator for the second attempt at the project due to its expertise with advanced remote data collection and reporting systems.

#### Reporting capabilities

CHEP desired a flexible reporting solution that would easily allow operations, management and maintenance personnel to review the performance of the sortation facilities from any standard desktop/laptop within its enterprise without the cost

or complexity to install custom client-application software to each PC.

The proposed solution would need to allow the third-party operations vendors to access their own performance data; restrict their access to data from other vendors; and yet still allow CHEP personnel to quickly compare the performance of multiple vendors and sites. Stone developed a semicustom solution based upon

technologies from Microsoft and Wonderware that would satisfy all of the project requirements, yet be easy to scale to new facilities and be easily supported by CHEP's inhouse resources. Production data is accessed via one of two mechanisms: dynamic Microsoft Ajax webpage dashboards for realtime data or static user selectable time/date range Microsoft SRS (SQL reporting services) reports.

#### More information is available:

Stone Technolgies Inc.,
734/448-2014.
www.stonetek.com
Rockwell Automation, 414/382-2000.
www.rockwellautomation.com
Wonderware, a business unit of
Invensys Systems Inc., 949/727-3200.
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Accurate application optimizes adhesive usage

Comparison photo: Wheel pattern (L), EcoPattern technology (R)

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#### Renee Robbins, Control Engineering

Like the cereal aisle in the grocery store, the number of controller vendors and individual controller models available can present a daunting choice. Faced with so many options, many engineers simply go with what they or their predecessors have used previously. But that may not be the best choice for your application.

So Control Engineering, a Packaging Digest sister publication, asked application engineers and other experts from a dozen controller vendors to offer some of their expertise regarding what application-specific controller features to look for.

Here's a taste of what they had to say, arranged by application type. Expanded essays and links to customer case histories and white papers that provide more detailed instruction can be found at www.controleng.com.

#### What type of packaging machine?

Packaging machines generally can be placed into three classifications: all mechanical (GEN I); hybrid servo and mechanical (GEN II); and all-electric driven machines with full-servo designs (GEN III).

Designed from the ground up around what servos and controls can do to electronically synchronize the entire machine without the need for a line shaft and complex fixed mechanical cams, GEN III machines are virtually all electronic. These machines have significantly fewer mechanical parts and greater functionality, such as running multiple products and supporting automated changeover.

The all-electric system typically runs at higher speeds and is responsible for electronic synchronization,

complex camming, and high speed registration along with advanced high speed robotics capabilities. Therefore, it will require a faster controller (with a scan time of 50–100  $\mu S$ ) and very fast acting I/O—or, more likely, a motion control network to handle I/O update times

Memory of 1 MB or more also may be required to handle various product recipes that can be run on an individual packaging line.

#### What is the application?

Food and beverage packaging applications fall into a set of broadly-defined types and subcategories. Form/fill/seal machines, for instance, can be vertical or horizontal machines. Cartoners can be continuous or intermittent motion style machines.

Each application and its variants have certain requirements that will dictate what type of controller is selected, based on the amount of I/O functions, connectivity, and complexity of advanced capabilities.

#### What are connectivity considerations?

Connectivity can be for remote I/O between controllers or up to a Level II supervisory or a SCADA system. The decision on which network to use is predicated on personal preferences, customer specifications, availability of components, and regional concerns.

Controller to controller (C2C) communications can be accomplished through proprietary networks such as MelsecNet or DH+, or through open networks such as SERCOS II. Connection to SCADA usually requires Ethernet capability. Ethernet has emerged as a medium of choice for remote I/O and C2C communications as well.

#### Is scalability important?

Scalability is the ability to move up or down a PLC product line to easily add or subtract functionality. Some vendors have different software and hardware form factors for their lower- and higher-end PLCs; others have a unified line of software and hardware products. Both approaches have advantages.

Bosch Rexroth is an example of a unified line: It can scale from a GEN I to a GEN III machine by adding motion and other advanced functionality without negating previous engineering efforts and hardware purchases.

#### What software and programming functionality is required?

A low-end GEN I machine will probably only require ladder logic; a GEN III cartoner running at a high speed, using registration and robotics, will require advanced robotic function blocks and path planner capabilities. For the latter, look for a controller vendor that provides templates and out-of-the-box functions, such as functions to accomplish certain tasks such as temperature control or running a rotary knife. They allow greater programmer freedom than templates.

Ted Thayer, automation systems product manager, Bosch Rexroth Electric Drives and Controls, www. boschrexroth-us.com

#### **Automated guided vehicles**

AGVs are often used to transport heavy loads or explore hazardous areas. The controller you choose should:

Be capable of running multiple PID loops, for speed control as well as steering. Using digital counting, a controller could determine rotation rate or "turnover" of the AGV's wheels as it ascends a hill. The controller then can compare that data to the figures taken when the vehicle travels on flat terrain. As the controller sees the count drop, it knows that the vehicle must be slowing down, and then will send a command to "throttle-up" or accelerate the AGV.

Be flexible in terms of its I/O and data handling capabilities. The controller/system chosen should be able to process signals from infrared, radar, proximity, and other sensors used to detect obstructions or path debris. This lets the AGV be programmed for collision avoidance.

Support wireless communications. A wireless controller eliminates the need to repeatedly physically connect the vehicle for data acquisition, debugging, and control program modifications. A wireless interface could also gather operational data (engine oil, air, and water temperature, battery charge, etc.) from vehicle components via sensors. Most such applications operate over wireless Ethernet (wireless LAN or Wi-Fi), but use of wireless wide area networks (WWAN or cellular) is growing.

David Crump, marketing communications manager, Opto 22, www. opto22.com

#### **Pick-and-place robots**

A trend exists among machine builders—particularly within packaging and food processing industries—to embed robotic pick-and-place functionality into their machine designs rather than integrate stand-alone robots. A controller employing advanced mathematical algorithms is key to smoothly coordinating the robot's motion. Also consider:

**Processor power.** A controller that can run multiple robots as well as the other motion and logic functions of a packaging machine in a single program on a single processor is ideal. This eliminates the cost of a separate robot controller without resorting to multiple CPUs. In some cases, the entire control program can execute in the processor's cache memory to maximize program execution speed.

Tool center point functionality. Tool center point (TCP) represents a fundamental distinction between machine and robotic motion. In machines, motions are defined as a set of trajectories for each servo axis. Compared to robots, only simple kinematics are available. In robots, motions are related to the TCP and not to individual axes. Motions are defined by the target position and type of movement of the robot. The required trajectories for each motor must be calculated.

Kinematics. The Schneider Electric

robotic software library has a tool to perform complex control calculations automatically. The engineer can program cartesian motion just as he or she would for a conventional machine into an IEC 61131-3



conforming function block. Then a transformation function block performs all necessary kinematics, including true interpolation.

Additional features. A geometrical blending capability reduces cycle times by "blending" the path to optimize speed and distance traveled to reach the target point. Because robots can develop some G forces and too much can overcome a gripper's holding force on a product, look for intelligent acceleration monitoring.

Joe Krogman, project manager, Schneider Electric ELAU Packaging Solutions, www.elau.com

#### **Pump system**

For pumping systems, use

alternating relays as level controllers. Typically used in applications where the optimization of load usage is required, alternating relays equalize the run time of two loads through the use of control switches (float switch, manual switch, timing relay, pressure switch, etc.). Each time the initiating switch is opened, the output relay contacts change state, thereby alternating the two loads. Also, in the case of excess load requirements, an alternating relay can be used to add capacity. The control of multiple pumps also can be handled through use of alternating relays. Typical control methods include:

**Simple alternator.** This allows for the alternation of pumps to equalize wear. In a duplex or two-pump example, the first pump starts and runs; when the first pump stops, a second pump is selected for the next run-cycle. Alternators are available for duplex (two-pump), triplex (three-pump), and quadruplex (four-pump) operation.

Lead-lag operation. This method involves the selection of a primary or "lead" pump, and a secondary or "lag" pump to accommodate additional capacity. The pumps alternate; if additional capacity is not needed, the lag pump does not run but alternating action still occurs.

Designed for use in multiple load, triplexor and quadruplexor applications, alternating relays can perform both simple alternator and lead-lag operations. Control inputs can consist of floats or switches.

Once the mode(s) of operation, control voltage, and the number of pumps are understood, selecting the appropriate controller is a matter of comparing the requirements to available pump controllers.

David Bredhold, MS, application engineer, Eaton Corp., http://budurl.com/EatonPumpPanels

#### **New production line**

Selecting a controller for discrete factory automation traditionally starts with an I/O list of signal types and specifications. This list includes voltage, current and any specialty interfaces for safety, motion control, high-speed counting, temperature or smart devices. Next come other system attributes, including distributed networked I/O modules to reduce wiring and conduit, support for built-in software functionality to reduce programming time, and business system connectivity for production reporting.

Typical factory transfer lines and related production applications benefit from choosing an automation controller family that has a common engineering software framework that can accommodate system expansion over time.

Siemens Simatic S7 product line, for example, includes a variety of controllers for small, large, PC-based, distributed, embedded, and machinemount use (no enclosure required), and are all programmed with Step 7 engineering software. With such a controller, production line equipment Continued on page 26



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that remains physically unchanged for more than 10 years can be upgraded to increase efficiency and add specialty functions, such as integrated safety, within the controller.

This type of foresight into controller selection can be a competitive advantage, as demonstrated by the new production line put in at the Southland Tube steel mill.

The company chose a Siemens Simatic S7-400 controller with distributed ET200 I/O on Profibus and Profinet communications connecting networked drives and motor starters. This controller architecture (Siemens Totally Integrated Automation), and WinCC visualization software for the SCADA control room, saved significant time and money during engineering and startup. The controller choice provided the processing power and device network connectivity to automate more than 30 drives and 300 motors. With all controller, I/O, and smart devices sharing the same software framework, Southland

gained tools for configuration, diagnostics, and commissioning. Such an application could not be accomplished by combining many smaller standalone controllers.

Paul Ruland, Automation & Motion Division, Siemens Energy & Automation, Inc., www.sea.siemens.com

#### **CNC** machine tool

Engineers concerned with finding that controller "sweet spot" are trying to balance performance with budget. Also, the right controller isn't going to stay right forever, so they need flexibility to move as applications evolve and new markets are entered. Kays Engineering chose CX9010 and CX1010 Embedded PCs from Beckhoff Automation to control its CNC machine tools, partially so Kays can migrate to more powerful controllers as drilling technology evolves. Other considerations:

Processors & networks. Beckhoff's CX PAC line, for example, starts at the Intel IXP420 XScale 266 MHz



processor level and allows continuous upward migration to Intel Pentium M CPU, 1.8 GHz processors. As technology advances, the controller vendor also should incorporate new technology, such as energy-saving Intel Atom processors.

The processor also must be capable of handling the specific program software. Kays' EtherCAT-based motion system provides optimum speed and position control of the machine tool's axis slide.

**Software.** The software should support variants for machine tools, e.g., NC PTP, NC I and CNC editions. It also should include time-saving features for frequently used functions such as code libraries, 3D interpolation, flying saw, camming, electronic gearing. Whatever the application, it also should help optimize programming, add functionality, save engineering time, and help eliminate expensive mechanical and electronic components.

Corey McAtee, product manager, Beckhoff Automation, www. beckhoffautomation.com

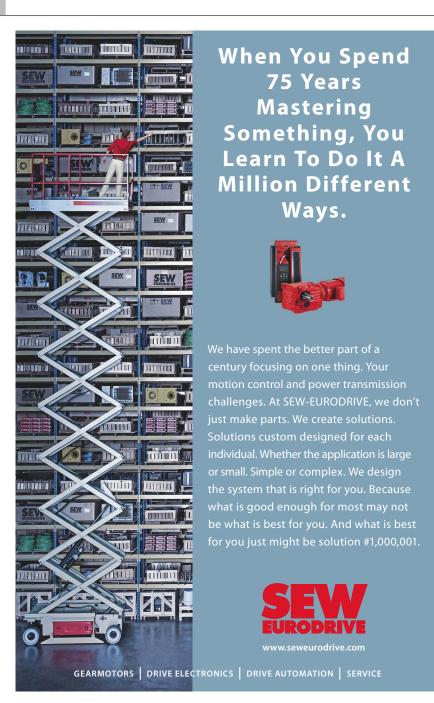
#### Simple batch applications

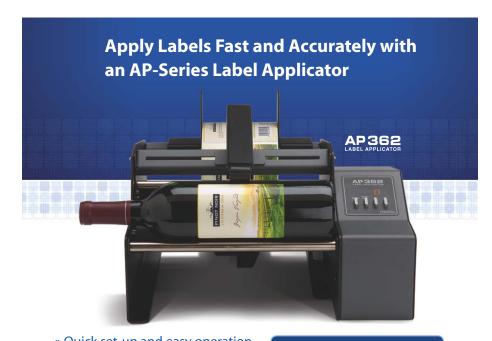
For simple batch applications, just about any controller will do and just about any programming language is applicable—if the process never changes. A batch process, however, rarely remains static, and that's the key factor engineers should keep in mind when selecting a controller.

In many batch processes, there are benefits to executing unit procedures directly in a controller: Reduced complexity; or improved availability; or speed of execution.

Select a controller that: 1) allows for increased batch execution availability by executing a complete single-unit procedure in a redundant controller; 2) increases throughput by reducing batch execution times and latency between application levels; and 3) offers improved operator usability through display integration and interactive instructions.

A process controller (or two) should be used, however, if the process expands and execution directly in the controller is not possible due to the size of the operation. Peer-to-peer communication





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between controllers allows for building a larger process.

Select a control environment that hosts all four levels of the ISA88 procedural model—procedure, unit procedure, operation, and phase-and supports online modifications for all elements of the batch automation solution. This means all four levels are authored and maintained in the same tool so users can change one element of logic, download it and track a version change for just that modified element. There's no need to increment the version of the entire batch automation strategy.

Joe Bastone, Honeywell Process Solutions, www.honeywell.com/sites/acs

#### **CNC** machine retrofit

A CNC retrofit typically upgrades the CNC, the servo motors and drives, the spindle motor and drives, and a portion of the associated wiring and related electromechanical components. Unlike rebuilding and remanufacturing, a CNC retrofit does not include any major repairs to the machine mechanics. Consider the following:

Error-proofing with custom macros. The flexibility required for high-mix manufacturing implies a level of programmability and, in fact, most CNCs incorporate some form of parametric programming. GE Fanuc calls this part programming feature Custom Macro B, and it is available on all current and many legacy controls.

#### Machine tool probing.

Manufacturers get concerned about the time required for machine tool probe cycles, but the truth is that they are faster and more accurate than an operator can be. They are consistent, eliminating operator measurement and data-entry time variation for a predictable task time. Add a machine tool probe system during a retrofit, or at least choose a controller that makes the machine probe-ready.

#### Expanded part program memory.

CNC part program memory space has traditionally been very limited, either by technology or cost. GE Fanuc controllers support a data server, which combines the features of



Ethernet communications and a very large part-program storage location. The approved, high-speed flash memory card for the data server can handle up to 1 GB of part programs.

Maintenance training. Machine crashes related to setup errors remain a source of downtime, so automate and error-proof as much of the process as possible. Controller diagnostic tools let operators troubleshoot and recover quickly when a problem occurs; for

example, diagnostics pages can provide a single, convenient location to monitor the status of the CNC, servo, and spindle systems.

#### Remote diagnostics, backup and restore

An Ethernet port can enable maintenance and industrial engineers remotely diagnose problems using a tool such as GE Fanuc's CNC Screen Display Function. Some CNC controllers incorporate automatic backup of files to flash memory, for one level of data security; GE Fanuc also offers Proficy Change Management for CNC.

Mark Brownhill, GE Fanuc CNC, www.gefanuc.com/products/family/cnc. A full white paper from GE about what to consider when doing a CNC retrofit is available at the Control Engineering Resource Center at http://controleng. resourcecenteronline.com

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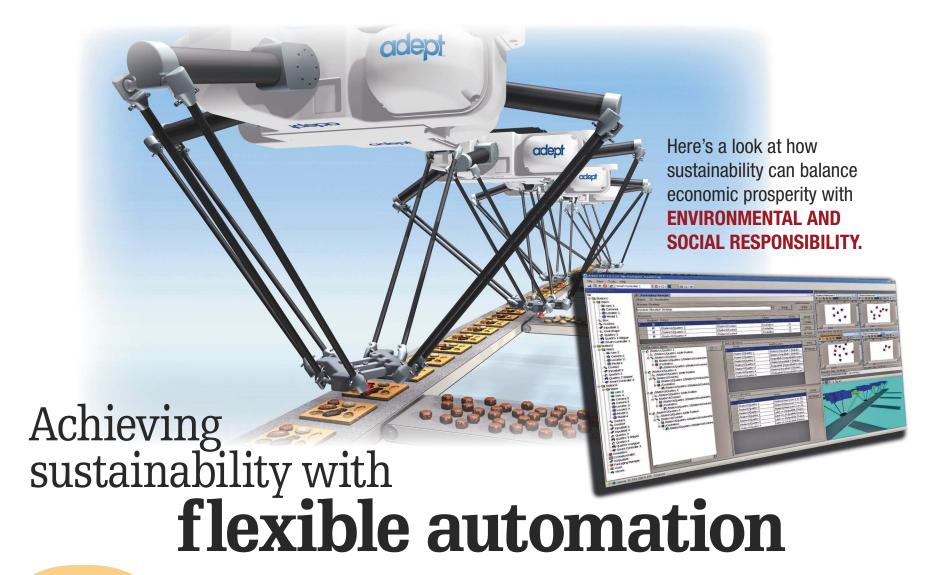


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Our need to preserve resources for the future means packaging's ultimate goal is achieving sustainability. Packaging sustainability balances economic prosperity with environmental and social responsibility. Packagers must find ways to preserve resources by minimizing environmental impact, energy consumption and adopt environmentally friendly packaging. Packagers also must address issues regarding the protection of products and employees by improving processes to minimize contamination, tampering and injuries. Coupled with these challenges, packagers must ensure their company's continued prosperity by maximizing production efficiency.

As packagers research and review their options to achieve the goal of packaging sustainability, they will find flexible automation to be a powerful and effective solution. Flexible automation will be vital for packagers to achieve a sustainable balance by addressing three strategic goals: Preserve, protect and prosper. Automation allows packagers to increase production, consistency and reliability while improving working conditions and allowing manufacturers to quickly change to more ecofriendly packaging materials and options. Let's take a more in depth look at each of these goals to understand what's driving this movement and how flexible automation addresses these issues.

#### Preserving the environment

Packaging accounts for almost a third of the trash in the U.S. According to the Environmental Protection Agency (EPA), paper, paperboard and plastics, most of which involve packaging in some form, constitute 46 percent of all worldwide municipal solid waste.

While packaging is necessary to protect products from contamination, spoilage, damage and tampering, it has an environmental impact.

Packagers in 2009 and beyond must review how to package their products and how the packaging affects the environment. The most obvious way is for packagers to produce less, which means reducing the quantity of materials and other resources used in packaging. Packagers should invest in packaging that weighs less, is smaller, uses recycled material and incorporates renewable resources whenever possible. By doing so, they will reduce waste, save on energy costs, lower shipping weights, cut production costs and offset price increases.

#### **Designs can lower impact**

Packagers are doing just that, by designing new formats such as concentrated forms of detergents requiring smaller packages, eliminating secondary packaging and replacing rigid packaging with flexible packaging (note Walmart's supplier scorecard, which requires strict adherence to sustainable packaging).

According to the EPA, Walmart anticipates that with its scorecard program in place, it will reduce packaging of a single toy line enough to save 3,800 trees, 1,000 barrels of oil and \$2.4 million in transportation costs in one year.

Many manufacturers are redesigning packaging

to be "smarter." But how can automation affect these trends? Flexible automation can deliver a process that helps preserve the earth's natural resources. It leads to the reduction of scrap and waste materials, allows for quick-and-easy changeover to environmentally conscious packaging materials, gives manufacturers the flexibility to handle less rigid, lightweight packaging and allows manufacturers to maximize space and time.

#### **Automation reduces scrap, waste**

"Manufacturers will need to take a hard look at reducing more scrap and waste materials if they wish to remain competitive," says John Dulchinos, president and CEO of Adept Technology Inc., a leading manufacturer and provider of intelligent, vision-guided robotics. "Robotics and automation in general are more efficient and reliable methods of handling and packaging products. Automated handling far exceeds manual handling in reliability and innately reduces scrap."

With all of the environmentally conscious packaging coming into the market, packagers will need the easiest and quickest way to change from one format to another. Fixed machines and manual handling simply cannot keep up. Robots with various end-of-arm tooling (EOAT) capabilities can easily adapt to various changes.

"Flexibility is key to getting the most out of automation," states Clay Cooper, vp of corporate development at Applied Robotics, a designer and manufacturer of EOAT and connectivity systems.

"With EOAT created for specific tasks and tool changers to facilitate safe, quick and accurate changeovers, packagers can optimize the use of their robots," he says. "Smarter tooling also allows for more flexibility. Grippers with easy programming, the ability to store many different programs and adjustable grip force that handles various sized parts to get the job done are oneexample."

For packagers to minimize their environmental footprint, they must maximize the use of space and time. Flexible automation, with its various configuration potentials (ceiling-mounted robots, multiple EOAT, etc.), allows manufacturers to produce more quickly. perhaps in less space than they currently use.

#### Package/product protection, safety

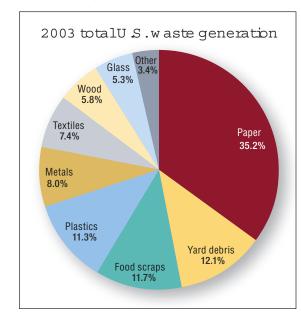
According to the Centre for Disease and Control and Prevention (CDCP), approximately 70 percent of all foodborne disease is due to viruses spread by direct or indirect contact with infected individuals. Every year, approximately 40,000 cases of salmonellosis are reported in the U.S. and about 600 people die of it, according to the CDCP. The U.S. Center for Disease Control (CDC) also reports that as many as 76 million illnesses are caused by food contamination every year in the U.S. Add in the effect of product tampering (consider the Tylenol poisonings in the 80s) and the statistics from OSHA that estimate about 60 repetitive strain injuries account for all "workplace illnesses." Packagers and manufacturers have to seriously review all methods of keeping their employees and products safe.

"We're hearing more and more concern from our customers about reducing human contact with product in the wake of recent contamination and tampering incidences," notes Bill Kaup, technical sales manager for automation integrator Oystar Jones. "Packagers using flexible automation can address most of the issues involving contamination, injury and tampering by virtue of automation's ability to reduce human contact on products being manufactured and packaged."

Tedious tasks such as picking and placing

products into packaging are ripe for repetitive stress disorders. Automation can accomplish these pick-and-place tasks faster and more efficiently, protecting employees and at the same time saving manufacturers costly medical compensation.

In addition, there's no doubt that humans



are innately carriers of disease. The less contact employees have with products—particularly consumable products—the better. Not only is this safer for consumers, it saves manufacturers and packagers the costs of product recalls that also can damage a company's reputation. Automating contact with products can help reduce the human contact equation and reduce incidences of contamination. Less human contact also reduces the probability of product tampering.

#### Preserve, protect, prosper

Finally, manufacturers must balance the goals of preserving and protecting with their economic prosperity. Whether the economy is good or uncertain, companies must maximize their packaging efficiency to ensure economic growth. To combat the rising costs of manufacturing, a careful analysis of how a company is using its current factory space is essential.

Maximizing valuable floor space is an efficient method of protecting profitability. It's a cornerstone behind the concept of lean manufacturing. The more one can produce in the same amount of space, the higher the profit potential.

The makeup of employees has been trending toward a more educated resource pool as the economy shifts away from less physical labor jobs to positions requiring greater mental labor. As labor rates continue to rise and packaging diversity multiplies within the wake of new eco-friendly packaging, manufacturers will need to find ways to increase production without increasing employees.

Flexible automation can give packagers and manufacturers the ability to increase production and flexibility. With advances in technology, robot costs are declining, while labor costs are climbing.

#### **Produce more at less cost**

"Automation has advanced significantly with regard to speed and reliability," says Gary Bartlow, director of sales, Americas, at Adept Technology Inc. "Back in the '90s with a vision-guided SCARA robot, we were packaging chocolates at 47 pieces/ min and [at that time,] that was unbelievably fast. With a parallel robot, that same task can be accomplished at 130 pieces/min and the cost of the robots themselves has dropped fairly significantly. So we're at nearly 2½ or 3 times the productivity for less money. Manufacturers and packagers alike can now produce more at less cost."

As requirements for shorter runs and faster cycle times continue to mount, packagers will introduce new products and packaging at much accelerated speeds. Automation can help accommodate those speeds as well as more new products and packages.

More information is available:

Applied Robotics Inc., 518/384-1000. www.appliedrobotics.com Oystar Jones & Co. Inc., 877/725-6637. www.oystar.rajones.com



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# Dairy labelers tackle the tough turf

Lauren R. Hartman, Senior Editor

The "Got Milk?" ad campaign is one of the most successful ever. While the campaign promotes milk in general, today's dairies produce a host of different milk options, from whole milk to 2-percent and skim as well as strawberry, vanilla, chocolate and banana. The milk packaging also ranges in size and configuration, from single-serve convenience bottles to easy-carry gallons. All of this means that consumer demand for variety has created a lot more opportunities for dairy operations. With this increased product demand comes increased packaging production demands.

And next to product quality, a dairy's key concerns are bottling line speeds, the operating environment and the bottom line. One major challenge is the filling side of dairies. They're usually cold and excessively humid, which can be taxing on equipment, especially label applicators. Along with the wet conditions, there's indirect contact with caustic washdown solutions and the various milk products. These factors create one harsh environment for most label-applicating equipment.

Cloverland/Green Spring Dairy, Baltimore City, MD, produces milk products, juices and tea for hospitals, schools, institutions, convenience stores, supermarkets and many other outlets on six bottling lines: Two lines run 1-gal containers; one runs ½-gals; a fourth combo line runs both, a fifth line is for 8-oz HDPE school milk containers and the sixth runs 16- and 32-oz bottles.

Cloverland supplies restaurants, airports and

hotels throughout Baltimore, Washington DC and Northern Virginia. The dairy currently operates 10 label applicators from **WS Packaging Group** to apply pressure-sensitive side-panel and wraparound labels to a variety of containers in different sizes (two labelers were installed on the combo line and on the lines running 1-gal and ½-gal bottles to apply both front- and back-panel labels).

WS Packaging also prints p-s container labels for Cloverland. The containers hold white or chocolate



One of several bottle labelers, above, was built with durability for use at Cloverland, and is able to easily withstand the cold, wet environment of the dairy.

milk, juice, flavored drinks or tea.

Cloverland wanted bottle-label applicators that are easy to operate and built to last. To boost its efficiencies, the dairy replaced a set of older blow-on applicators with WS's Roll-Tak 200 Dairy System and the RT-300 Wrap system, a high-speed machine with a wrap feature.

The RT-200 Dairy Systems were outfitted with an

A dairy can be a tough place for a label applicator. Thanks to side panel/wrap labelers in place at Cloverland Farms' COLD, WET MILK BOTTLING ENVIRONMENT, that's no longer a problem.

optional **Norwood Marking Systems'** AK-7 hot-stamping unit, which imprints a "sell-by" date directly on the labels before they're applied. The RT-200s apply side-panel labels to Cloverland's 1-gal and ½-gal dairy bottles at speeds of about 50 to 150/min while the RT-300 HS systems apply wraparound labels to school milk containers in a 16-oz size at up to 200/min and 8-oz school milk containers at up to 380/min. While these models can be used for roll-on, tamp, blow-on and tamp/blow applications, Cloverland uses them with roll-on labels.

"Dairies are typically very wet environments, which are not friendly to paper label materials and the machinery that runs them," acknowledges Doug Johnson, plant engineering manager at Cloverland. "Keeping water away from the equipment is important."

For WS Packaging's equipment division, which specializes in high-speed application equipment, overcoming environmental challenges such as Cloverland's began on the drawing table. "We design dairy labelers

specifically for this kind of tough environment," explains Todd Bogard, dairy sales manager for WS Packaging. "Our very first [labeling] machine was built for the dairy industry. Durable functionality is key for these customers. The machines stand up to the environment, yet are easy to operate and maintain."

#### No cookie-cutter setup

Depending on the specific model, the equipment reaches labeling speeds from 50 to more than 380

bottles/min, which is well within Cloverland's requirements. One of its lines that runs half-gal jugs exclusively, operates at 90 bottles/min, for example. "Dairy operations are all about production when it comes to setting up equipment," adds Kevin Bricker, senior account manager, with WS Packaging. "Cloverland gave us the layout for its facility and asked us to make the equipment fit. It's not a cookie-cutter setup. We had to customize some of the bases and stands on several of the applicators because they're positioned very close to fillers and walls. Cloverland designed the [bottling] lines, and we designed labeling equipment to address their space demands." Despite the tight footprint, there was no trouble integrating the labeling equipment and meeting Cloverland's production requirements.

#### **Durability is a must**

Like any manufacturing operation, efficiency is also crucial. Getting the product to market consistently and cost-effectively is a competitive advantage, says Johnson. Maintaining that competitive advantage ensures that Cloverland stays viable as a business, so it rates its operational efficiency on the basis of uptime rates and equipment setup time.

The WS labelers can be changed over

# Dairies are typically wet environments, which are not friendly to paper label materials and

machinery.

quickly and efficiently to run wrap labels for pint and half-pint school lunch/ institutional applications. Setup time takes about five min or less, Johnson says. "When we change bottle sizes, a mechanic is usually needed to assist, but it isn't something we do very often," he points out. "Outside of that, daily setup time is pretty short and straightforward. Once the machines are set on a particular bottle size, they repeatedly run well without any mechanic involvement. Label changes are routine for us and are performed by our operators."

Being able to respond to customer changes quickly has helped Cloverland keep its competitive edge. The dairy followed the industry's move to front and back labeling for 1-gal and ½-gal milk jugs. The prime label on the front is for branding-related information, while the back label now carries all of the products' nutritional and ingredient

requirements.

"We installed back-panel labelers on some of the bottling lines and the integration was seamless," WS's Bricker points out. "While the additional label adds another consumable to the operational mix, we've been able to maintain the same line speeds."

Another move by Cloverland to stay competitive involves special on-pack promotion labels, for cobranding efforts and instant-redeemable coupons. The company installed a dedicated WS label applicator in-line to accommodate the additional on-pack materials.

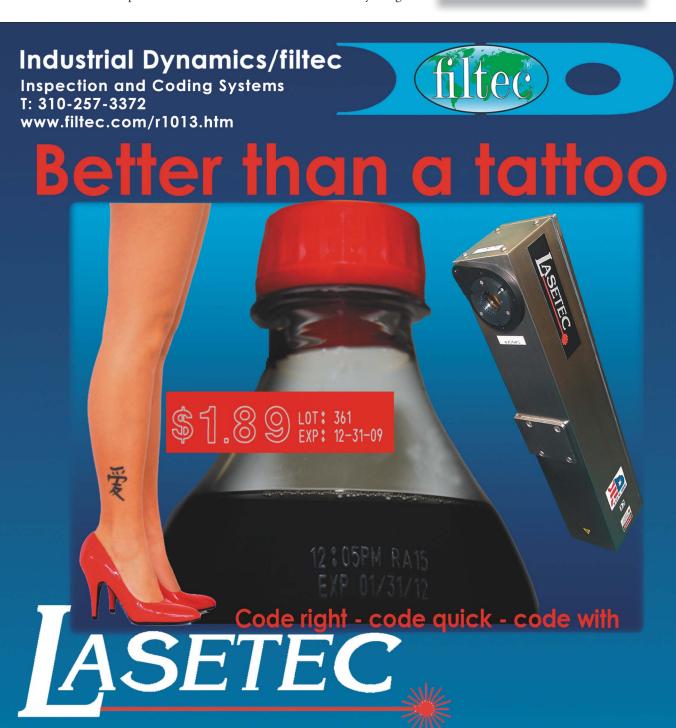
All the labeling equipment went into the dairy's production facility in Baltimore. And along with the easy operator setup, the equipment design yields further operational efficiencies in the form of cost-effectiveness due to minimal power requirements (120-v AC, 15 amps).

The Roll-Tak's user-friendly design

accommodates is much appreciated, Johnson says. "From a reliability standpoint, each lablere had subtleties we had to learn. But once mastered, the labelers have become very reliable."

#### More information is available:

WS Packaging Group Inc., 877/977-5177. www.wspackaging.com Norwood Marking Systems, an ITW co., 800/626-3464. www.itw-norwood.com



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Clean but dramatic packaging mirrors the esthetic of the products in A&P's Green Way **PRIVATE-LABEL** line.

# Simple design aims for sophisticated tastes

#### Linda Casey, Associate Editor

Historically, many private-label packaging designers have updated packaging with some sort of well-established equity element to help consumers identify which major brand a product is comparable to. This practice has become so much the norm that suppliers of private-label packaging often have grown to expect this when starting a new project with a retailer. "The expectations suppliers have of retailers is very little," says Doug Palmer, vp of Own Brands, The Great Atlantic & Pacific Tea Company Inc. (A&P). "They [suppliers] expect us to be followers of national brands and, more or less, take a wait-and-see attitude and follow the national brand leader."

When A&P, Montvale, NJ, created its new Green Way private-label product line, it demanded high-quality packaging with high-end design that helps the private-label line stand apart from the national brands instead of mimic them.

Palmer explains, "In the case of Green Way and Via Roma and some of our other brands, we're actually stepping out on a limb and saying, 'No, we're going to lead here."

To help achieve this goal, A&P enlisted the help of **united\*dsn**, a design agency that has worked on more than 30 global and domestic branding assignments for Pepsi and has helped Colgate on developing its personal-care brands.

#### Five pillars of the brand

The Green Way packaging design project began with A&P creating initial guidelines for the overall branding. "When we design a brand like this, we create some initial guidelines for where we want the architecture to go," says Palmer. These guidelines, says Perry Seelert, partner at united\*dsn, included five

pillars onto which the Green Way brand was built: A new brand umbrella; simplification; visual language; transparency; and a voice beyond the package.

#### • New brand umbrella

The new brand would encompass organic, natural and eco-friendly products. "Doug saw that there was more power in creating an umbrella that expressed all of these three segment concepts within the brand," says Seelert. "His thinking was that these segments represented close affinities that would be better understood and branded together for the A&P consumer."

#### • Simplification

"The second idea that we felt was important to incorporate was an overriding simplification," says Seelert. "Especially the simplification of language, where most people didn't understand the verbal Wheaties. But if you think about simplistic packaging like this, it really stands out in a sea of confusion."

The white package backgrounds are enhanced by the Green Way logo, which Perry calls the "Funky G." With its green color, the logo emphasizes the brand's connection with the earth in a modern way.

According to Seelert, this visual language "strives to do the exact opposite of most organic brands, where there is the stereotypical farm, dirty fingernails and exaggerated oneness with the earth."

#### Transparency

The brand aims for transparency about A&P's efforts to bring more organic, natural and eco-friendly products to its customers. But it also is designed to avoid preaching to consumers.

"There is also an apologetic language that exists

# When we design a brand like this, we create some initial guidelines for where we want the architecture to go.

SPINACH, TOMATO & CHEESE

nuances between fluorocarbons, biodiversity and geobiofuels. This is the Whole Foods consumer who gets this. A&P didn't want to intimidate consumers and even employees, so there is a conscious and continuing effort to explain the Green Way brand initiative in straightforward terms."

#### • Visual language

Palmer also saw the simplication of the packaging design to be an important way to enhance shelf appeal. "We created very simple, white backgrounds because they really stood out. Everything else around them highlights the simplicity," says Palmer. "To the consumer, walking down a cereal aisle is like walking down a row of color. It's rainbow after rainbow, and it's very confusing to pick out Fruit Loops versus

today, asking you to buy on principle rather than buy organic because of its natural beauty," Seelert explains. "We strove to change that, matching the verbal simplicity with a clean, minimal approach showing the innate beauty of the ingredient."

#### • Voice beyond the package

The fifth characteristic of the brand is what he describes as a voice beyond the package, which carries the branding elements used in the Green Way product line's packaging to other marketing venues, including the web and billboards. On the packaging, the organic and natural messaging is done with a lighthearted approach that continues throughout the brand marketing. "There has been enough guilt-loaded moralizing with other brands," Seelert remarks.

#### Simplicity and sophistication

Many of these branding elements are evident in the Green Way frozen pizza line. The pizzas are natural, organic foods that are packaged in recycled paperboard that has 80-percent post-consumer fiber. Simple language is used to describe the pizza; ample white space is employed to offset the text; beautiful photography is used to emphasize the natural beauty of the simple ingredients; and three nutritional facts are highlighted on the front of the package.

While the product and its packaging aim for simplicity in design, both are targeted at consumers with sophisticated tastes. In addition to the highend photography featured on the pizza's packaging, there's elegant type treatment with copy in both realist san serif fonts and a font with light serifs with varying stroke widths. The pizzas are imported from Eat Better s.r.l., a contract food manufacturer and packager in Modena, Italy that makes the pizza according to the Neapolitan tradition.

"There are rules in Italy for what makes a real Neopolitan pizza, a pizza from Naples," Ivan Manfredi, sales manager for Eat Better, explains. "There's even an association in Italy that dictates what three things makes a real Neapolitan—real Italian pizza: The dough must be made without preservatives and must be raised for at least 24 hours; the dough also must be stretched by hand; and the pizza must be baked in a wood-fire oven."

Using simple ingredients, Eat Better mixes and kneads pizza dough daily. The prepared dough is cut into balls and dusted with a fresh layer of flour before being placed in a humidity-controlled room to proof for 48 hours.

After the dough is leavened, it is kneaded again into balls with additional flour and left to proof for two more hours. To prepare the balls of dough for hand stretching, they are first mechanically pressed. But the final stretching of the dough is done by hand. "When you make raised pizza dough, you are creating bubbles of gases inside the crust," Manfredi explains. "If you press only by machine all the bubbles disappear, of course, because you push them out. If you press by hand, you don't ruin what the leavening—all the results from raising the dough for two days. You can see the difference

organic pizzas—our crust is totally different.

The dough is covered with a tomato-based pizza sauce before it is conveyed onto the stone tiles in a wood-burning oven made of firebricks. "The wood gives the pizza a certain flavor," says Manfredi. "A little smoke and the way they're cooked makes them taste much better."

The pizzas are treated with UV rays as a food-safety and quality measure. Cheese and other toppings are added to the pizzas before they are cooled in a refrigerated cell and then are flash-frozen at -30 to -35 deg C for 25 to 30 minutes to achieve a biologically critical control point equal or less than a core temperature of 18 deg C. The pizzas then undergo metal detection as well as an additional UV treatment before being shrink-wrapped.

#### Standards and packaging

Eat Better sources the package printing for its customers, including A&P, which sends the artwork via CD to the copacker. Because the copacker adheres to the USDA National Organic Program's guidelines, A&P is able to both identify the product as organic with type and use the USDA Organic seal on the front of the paperboard carton

The copacker has the cartons printed locally in Italy and delivered as flats. Eat Better mechanically forms the cartons, into which the shrink-wrapped pizzas are placed. Filled cartons are sealed with hot glue. In accordance with the A&P aim of transparency with product and packaging information, filled and sealed cartons are coded using open date codes. This type of coding uses calendar dating versus proprietary codes that consumers may not understand.

The cartons are mechanically case-packed, and the packed cases are labeled with pertinent information such as the batch number, the pizza variety and date codes. A robot is used to palletize the cartons and wrap the pallets.

#### **Good first impressions**

A&P reports that in-store demos of the privatelabel pizzas have been received well.

"Customer feedback



# Branding a private lane to growth

Founded in 1859 by George Huntington Hartford and George Gilman, The Great Atlantic & Pacific Tea Co. Inc. (A&P) started as a single store on Vesey St. in New York City, selling tea, coffee and spices at value prices. In 1880, the retailer claims that it introduced the first private-label product—a baking powder. By the 1920s, A&P had opened its own factory, packaging facility and bakery to support its Sunnyfield private-label bacon, butter, flour and cereal and Sultana private-label canned goods, peanut butter and jams.

Today A&P is headquartered in Montvale, NJ, and operates 435 stores in eight U.S. states under the store banners of A&P, Waldbaum's, A&P Super Foodmart, The Food Emporium, Super Fresh Pathmark and Food Basics. The retailer reports annualized total sales volume of \$9.5 billion for the 2008 fiscal year ending February 28, 2009.

What has remained the same is the importance of private-label products to A&P's business strategy. The retailer has created an expansive private label grocery program—Own Brands—which comprises more than 10 brands.

In April 2009, the retailer launched a new privatelabel line to join the Own Brands program. Green Way debuted with more than 200 products that address consumer demand for organic and eco-friendly products that are high-quality yet affordable. The Green Way line comprises products such as juices, whole wheat bread, home cleaning items, canned tomatoes and frozen foods, including the line of imported, stonebaked, organic pizzas featured in this article.

is overwhelming," remarks Palmer.

#### Source of pride

It also has become a source of pride for A&P's co-manufacturer and packer. "When people realize that we are the producer of A&P organic pizza, they give us compliments because they really like the product," Manfredi remarks. "The product now is doing very well. I think we're selling around 20,000 pizzas every five weeks, which is very good."

Manfredi credits the successful launch to the product, the packaging and the relationship Eat Better has with A&P. "Working with A&P is very nice, because they are open to new product ideas," says Manfredi. "Whenever we want to present a product idea, A&P is always available to listen to us and give us the opportunity to arrange a big meeting with 10 people testing our product. Not all of the time are the product presentations successful. But the opportunity to present something is special, because not all of the supermarket chains in the U.S. are so available to listen—especially when you are from another country and maybe don't speak the language that well."

Eat Better says that it hopes the success of the Green Way frozen pizza line will help it pave the way for its other organic, Italian foods onto A&P store shelves.

#### More information is available:

united\* dsn, 917/267-2857. www.uniteddsn.com Eat Better s.r.l, 39 059 439 6459. www.eatbetter.eu



The multi-pocketed clamshell packages are thermoformed at a rate of approximately 3,000/hr.

Safe and secure

Home-safety device debuts in a POCKETED CLAMSHELL PACKAGE that provides secure containment for its multiple components.

#### Linda Casey, Associate Editor

Listen to Rick Harpenau, owner of In-O-Vate Technologies Inc., talk about the countless news articles that he has read about dryer fires and you'll soon learn why this inventor was compelled to create LintAlert. "It was just phenomenal all the property damage, injuries and loss of life that were happening because of dryer fires," says Harpenau. "It was obvious that there was nothing out there that provided notice to a homeowner that lint buildup was costing them in dollars and safety."

Harpenau devoted three years to the research and development of the device, which uses pressure differential technology to detect a blockage or restriction in the vent system. But before he could debut LintAlert to a worldwide audience of thousands of industry professionals at the 2009 National Hardware Show in Las Vegas, he would need to create packaging that would securely hold the multi-part device.

#### A real-world packaging education

Harpenau began the packaging project by getting a real-world education on electronics packaging design and its trends. "I went to stores and actually bought a lot of products and studied what was attractive, what worked for me and what most people did," he recalls.

After examing several packages, Harpenau determined product photos would be an essential part of the graphic design. He took all product photos himself and worked with In-O-Vate's vp of marketing, Todd Peach, to incorporate the photos into the card design.

"Todd's very strong in the marketing and the artwork parts of our business, and he has contributed a lot to this project," remarks Harpenau. Peach's experience includes more than five years as vp of sales and marketing at BankSys Management Inc.; more than five years as director of strategic marketing at AdQuest Solutions; in

**Keeping in mind the importance of** retailer environmental scorecards such as Walmart's, the LintAlert PET clamshell was designed to hold a multi-part device in place securely and attractively. addition to serving as advertising director for Trans World Publishing. In these positions, Peach primarily oversaw the graphic design work versus executing it but he became heavily involved in the design and garnered plenty of experience with Adobe Systems graphic design programs. Using his experience with Adobe InDesign, Peach created the printed card design for the

package. Executing the artwork internally enabled Peach and Harpenau to easily tweak the design until they felt all design elements from product

photography, models used, type and layout were

precisely what they wanted.

For the structural design of the clamshell package, Harpenau brought in a thermoformer partner to refine and prototype package designs. This did not go as smoothly as the graphic design process. "We were not happy with their prototypes," Harpenau remarks. He ended that relationship and began searching for a new packaging supplier partner via the Internet.

Simple to Install

in Night Light

#### Finding the right partner

In his research, Harpenau came across VisiPak, a global manufacturer of extruded and thermoformed packaging and a copacker. He liked the robust size of VisiPak's operation and the fact that it also

could do the copacking. "One of my goals was to be sensitive to the labor involved in packing the different elements of the device and keep costs down," Harpenau comments. Because VisiPak would be copacking the device, it would be able to optimize the package design for efficient packout right from the start.

#### **Modeling and prototyping**

Using Pro/Engineer 3D CAD/CAM/CAE software from **Parametric Technology**, VisiPak developed two packaging concepts for In-O-Vate. Three-dimensional models generated from Pro/Engineer were presented to Harpenau, who chose

#### Danger from the dryer

According to the National Fire Data Center, U.S. Fire Administration, U.S. Department of Homeland Security, analysis of data 2002 to 2004, there are an estimated 15,600 fires that require a fire department response. These fires caused approximately 15 deaths and 400 injuries annually.

The leading cause for ignition of dryer fires, according to the center, is improper operation and maintenance, including a failure to remove highly flammable lint from a dryer's traps, vents and surrounding areas. The center estimates that this "failure to clean" accounts for 70 percent of operational deficiencies that lead to dryer fires.

one of the designs to be built as a prototype.

Harpenau used the prototype to review how the product fit in the package and made changes accordingly. "For example, he changed the position of one of the components that fit inside the packaging," says Phil Brewer, director of product development for VisiPak.

#### **Designed for changing needs**

After only three prototypes and one month of collaboration, the design was finalized: A thermoformed clamshell with multiple pockets that



Each LintAlert component is hand-packed into the many pockets and sections of the custom-designed PET clamshell. The clear package enables easy viewing of the product while the printed card serves as a branding vehicle.

woul protect the different components.

To keep costs down for the initial run, the first run of packages were manufactured in a rigid PVC. from **Klöckner Pentaplast of America Inc.** 

Keeping in mind the importance of retailer environmental scorecards such as Walmart's, the LintAlert clamshell was designed to allow VisiPak to manufacture future packages in PET, an option that VisiPak reports LintAlert will use for future clamshells

#### **Protective pockets**

Manufactured on a **Sencorp** Series 2500 thermoformer at a rate of approximately 3,000/hr, the clamshell has multiple pockets that protect all three major LintAlert components.

The contoured alarm, with its three-prong plug extending from the back, occupies both sides of the clamshell in the closed package. This requires

the clamshell to have a pocket in the front of the package that hugs the module's contours, and an additional pocket in the back to isolate and secure the three-prong plug.

The multi-part SmartTap fitting goes into another contoured pocket on the back of the package, which provides containment for the small parts used in the fitting. A 6-ft-long section of flexible tubing, which is used to connect these two components, is coiled into another special section.

#### **Pack-out process**

All product components except the flexible tubing, which VisiPak manufactures using extruders from **Davis Standard**, are shipped to VisiPak from their manufacturers. In addition to the package and tubing, VisiPak provides the printed card through its partner, **CardPak**. Continued on page 36



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**Automation** 

Once VisiPak has all components in-house, it first loads the components onto wooden pack-out trays. Each tray contains all the components needed to pack one clamshell.

These trays are then moved to six-person manual pack-out lines. Operators manually place components into clamshells, ensuring proper placement in all the special sections . Filled clamshells then are conveyed to a **Cosmos Electronic** RF sealer.

Sealed, filled packages are manually case-packed. Operators generate case labels using software from **Loftware Inc.** before hand-palletizing them. An automated stretch wrapper by **Wulftec Intl.** secures pallet loads before they are shipped to In-O-Vate.









Cooled tubing, extruded, top left photo, exits the extruder. An RF sealer, top, is used to close the clamshells. Handpacked cartons, above, are conveyed to a palletizing area.

#### In time to win awards

The clamshell packaging project was completed in time for Harpenau to debut the product as planned at the National Hardware Show, he says. There, LintAlert captured three awards: Homewares Show Awards; the 2009 New Product Launch Spotlight award; and a 2009 Retailers Choice award.

#### More information is available:

VisiPak Div., Sinclair & Rush, 800/922-9391. www.visipak.com Klöckner Pentaplast of America Inc., 540/832-3600. www.kpfilms.com Adobe Systems Inc., 800/585-0774. www.adobe.com CardPak Inc., 800/824-3342. www.cardpak.com **Cosmos Electronic Machine Corp.**, 631/249-2535. www.cosmos-kabar.com Davis-Standard, LLC, 860/599-6372. www.bc-egan.com Loftware Inc., 603/766-3630. www.loftware.com Parametric Technology Corp., 781/370-5000. www.ptc.com Sencorp Inc., 508/771-9400. www.sencorp-inc.com Wulftec Intl. Inc., 877/985-3832.

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Pharma Tech Industries' pouch filling operation in Royston, GA, above, includes a clean room equipped with a horizontal form/fill pouch machine for prescription unit-dose ingestible powders. An in-line x-ray system, below left, is also included in one of the clean rooms in Royston.

# Pharma CP knows how to 'take a powder'



#### Lauren R. Hartman, Senior Editor

Pharma Tech Industries (PTI), Royston, GA, is a contract manufacturer and packager of cosmetics, pharmaceuticals, OTC healthcare powdered products, medical-device and personal care products that serves approximately 14 customers worldwide, most of which are based in the U.S. Customers include Johnson & Johnson, Schering-Plough, Chattem and Novartis, and all of its clients are in the pharmaceutical or OTC market.

PTI could be considered the largest contract manufacturer, packager and outsourcing services provider of powder products in terms of capacity. recently added four ISO 8 Level (Class 100,000) clean rooms to its two production facilities to accommodate new products and maximize its **POWDER-HANDLING EXPERTISE**.

Contract manufacturer/packager Pharma Tech Industries

A family- and key-employee owned company in busines for more than 35 years, PTI also develops products, technology transfer and turnkey manufacturing systems for pharmaceuticals and personal care products.

PTI produces more than 300 SKUs from its two vertically integrated, Food and Drug Administration-registered cGMP facilities. One is in Royston, GA and the other in Union, MO, totalling more than 360,000 sq ft. PTI's packaging services include in-house container molding, pouch and bottle filling, cartoning, labeling, powder blending, single and bicomponent injection molding, injection/blow-molding, compression molding, profile extrusion, custom mold design and mold maintenance and part prototyping. Currently, the company posesses a whopping 26 injection molders, four compression molders, five profile extruders and 15 cotton swab-packaging machines.

Most products are contained in foil pouches from 2.5 to 40 g or in HDPE bottles in sizes from 1 to 30 oz. The company molds the HDPE bottles and labels and fills them with products such as baby powder, cosmetic talc or bath powder.

The company molds its bottles separately from packaging operations and the bottles are put into a work-in-progress (WIP) holding area before being

loaded onto the packaging lines. The bottles are either decorated or labeled on the lines or during the molding process.

PTI uses **Fette America** tablet presses to produce effervescent tablets. Its two production facilities are equipped with full-service microbial and analytical laboratories for on-site product testing. PTI also has what it calls technology-transfer capabilities with global pharmaceutical clients and others.

Recently, it was able to successfully transfer production equipment for an effervescent denture cleanser being produced in Puerto Rico and installed new, improved processes that allowed the customer to benefit from reduce costs, tighter quality controls and faster speed to market.

#### **New level of performance**

To meet customer and industry specifications for new business and to package products sensitive to temperature, humidity or products with special formulations that have tight manufacturing/ packaging controls, in January and August of 2009, the company completed the installation of its first ISO 8 Level (Class 100,000) clean rooms—two were added to its Royston facility for filling pouches and one to its production plant in Union, MO, for primarily filling bottles with powder-based Continued on page 38



Above, in PTI's Union, M0, production facility, an auger powder filler integrated with a capper runs tall personal-care powder bottles. Top right, a pouching system in the Royston operation handles effervescent tablets with ease. PTI's production lines can generate tablet packages at speeds up to 4,000 tablets/min. Right, topical powders are pouched and cartoned on a line featuring a speedy horizontal form/fill/seal machine.

products. No floorspace was added to the facilities, but internal modifications were made.

"We are packing some products now that are new to us, and they prompted the addition of the clean rooms," says Edward (Tee) Noland, Jr., PTI's director of business development. "These include new ingestible powder drug products. One is an OTC laxative and the other is a prescription product for reducing cholesterol. We wanted to pack these in a separate and controlled packaging and manufacturing environment.

#### Clean rooms expand capabilities

"Adding the clean rooms allowed us to expand our capabilities for pharmaceutical customers," explains Noland.

Specially engineered with positive pressure, HEPA filtration and humidity-monitoring systems, the clean rooms have highly-sensitive controls that closely regulate and monitor both temperature and humidity. No paperboard or carton board is allowed in the rooms. Products enter and exit the rooms in different ways—either manually by pallet tote or by forklift.

"In Royston, some of the equipment was refurbished and some is new, and in Union, all of it existed before we added the clean rooms," he says. "We didn't use a systems integrator for this project. Our engineering staff chose the equipment."

Outside of the clean room environments, PTI operates several packaging lines at the two plants





to keep up with demand. Each line runs multiple products, package sizes and configurations but certain products require dedicated equipment or dedicated contact parts that meet certain customer requirements, Noland points out. "And obviously, flexible changeovers are always important for us. Each changeover is different depending what's involved. But if we're changing from one product to another, a detailed cleaning validation must be performed, which can take eight to 16 hours."

There are three bottling lines in the Royston operation, three tablet-pouching lines and three form/fill/seal pouching lines. One of the bottling lines, for example, starts off with a **Ronchi Mario** Rotomatic centrifugal bottle unscrambler that orients bottles on a high-speed powder filling line.

The plant also has unit-dose pouch filling lines, and compounding and blending areas for powder-based products. The compounding/blending room has an area dedicated to preweighing and product sampling. "That's used to follow batch formulas of a product," says Noland. "The equipment in this station is mostly weigh scales. There's one preweigh room that supports the clean room but it's not physically connected to the clean room."

Royston's three integrated pouch-filling lines for ingestible prescription powders and OTC products run pouch sizes from 1.5 to 17 g. These include a line in one of the clean rooms that's outfitted with **KHS** "Bartelt" horizontal form/fill/seal pouch machines that pack prescription



A metal detector is used on an OTC topical powder line in Royston that runs nonmetal and nonfoil pouches; other packaging lines that run metallic pouches are equipped with x-ray detection systems.

drugs including unit-dose ingestibles in flexible pouches from film rollstock. These lines include checkweighers from **Mettler-Toledo Hi-Speed.** Two Model XS1 checkweighers from Hi-Speed are used for gross weight verification and two Micromate checkweighers are on a non-cleanroom pouching line. Two Hi-Speed Checkmates and a Hi-Speed Checkmate 2 are equipped on the bottle filling lines. There are also three **Siebler Romaco** pouching lines (one of which is new) for effervescent tablets and a new, in-line Smartchek 300 x-ray system from **Mettler Toledo Safeline** on a cleanroom line

running foil-based pouches of powders.

There are also cartoners from KHS, seven Nordson hot melt gluers, case packers from BVM Brunner and new metal detectors from Thermo Fisher on a line running nonmetal and nonfoil pouches of OTC topical powder. "We use the x-ray system to actually detect foreign matter with larger particle sizes than the particles that go into the pouch," Noland points out. "The metal detectors are on a pouching line (not in the cleanroom) that runs an OTC topical powder. This product doesn't have foil in it, so we can use the metal detectors, which find metal only."

Currently, secondary packaging is handled outside of the cleanrooms and adjacent to them.

Shipping cases and product loads are moved around the plants manually. "Eventually, we will be installing conveyors from the cleanrooms into the secondary packaging areas directly through the wall," says Noland.

In the Union, MO, production plant, there is one KHS Bartelt pouching line and four high-speed bottling lines. The bottling lines feature equipment such as **All-Fill** auger powder fillers integrated with **Kaps-All** cappers.

Packaging line speeds at the two plants range from 30 to 180 packs/min, depending on the products they run, which is consistent with the company's standards, Noland tells *PD*. The tablets are packed at 4,000/min. The PTI staff





Versatility, flexibility and a nimble staff are some of the crucial elements to PTI's pharmaceutical contract manfacturing/packaging success. Above top, an auger filling/capping line runs personal-care powders in Union, MO. Bottom, tablet pressing at PTI's Royston plant, also includes an inline pouching machine running effervescent tablets.

has significant background and experience with packaging equipment of this kind, Noland says, because the company has used such equipment to fill OTC topical powder sample pouches in the past. "We have owned similar equipment for more than 10 years."

#### A pleasing outcome

The company is pleased with the outcome of its clean-room additions and packaging line upgrades. As PTI president Carl Oberg states, the powders, which include laxatives, cholesterol-lowering ingestible powders, diabetic control ingestible powders, topical medicated powders and much more, aren't always easy to work with.

"Powder shares some of the material characteristics of solids with flow characteristics more like liquid, and it has a long-standing reputation for causing distinctive processing challenges," continues Oberg. "Powder filling requires material uniformity, consistency and an even flow during the filling process and when particle size variations occur, it can in some instances, cause a significant amount of particulate to become airborne."

Having the flexibility and versatility of running various types of packaging lines with equipment upgrades helps to keep PTI nimble. Now that it offers specialty clean rooms, PTI can accommodate more customers and continue to stay on top of the powder market while controlling costs.

We're driven by what our next piece of business will be and what the timing is," Noland explains. "We hope to get more involved in the tableting of OTC and prescription products and see our focus in powders continue to bring other opportunities that may use similar equipment. We're pleased with our upgrades. They allow us to get into other classes of products (new drug applications [NDAs] and prescription ingestibles), which opens up new opportunities for us. We're excited to have more capacity to offer technologies such as tableting and effervescents production, which we didn't have before. Competitors focus on more narrow areas, so this gives us more capability to cross-sell. Our tech-transfer and engineering know-how let us look into areas beyond our current focus."

#### More information is available:

All-Fill Inc., 800/334-1529. www.all-fill.com BVM Brunner, GmbH, 49 0 712 191650. www.bvm-brunner.de

Fette America Inc., 973/586-8722.

www.fetteamerica.com

KHS USA, 941/359 4000. www.khs.com

Kaps-All Packaging Systems Inc., 631/727-0300. www.kapsall.com

Mettler Toledo Hi-Speed, 800/836-0836.

www.us.mt.com

Mettler-Toledo Safeline, 813/889-9500.

www.us.mt.com

Nordson Corp., 440/892-1580. www.nordson.com Ronchi Mario S.p.A., 39 02 950881. www.ronchi.it

**Siebler Romaco,** 49 0 721 4804 0.

www.romaco.com

Thermo Fisher Scientific Inc., 800/227-8891. www.thermo.com



w.packagingdigest.com

Female entrepreneur and chocolatier Janet Shimada finds harmonious balance in **CANDY PACKAGING** that's eco-friendly as well as delectably designed and crafted.

#### Linda Casey, Associate Editor

DECEMBER 2009 PACKAGING DIG

Cadeaux Chocolates, a woman-owned and operated, Seattle-based boutique confectioner, has redesigned its chocolate boxes—moving from an acetate box with a pressure-sensitive label to a more eco-friendly paperboard carton with a hand-crafted versus homemade look.

The new packaging utilizes a **Forest Stewardship Council**-certified, 80 percent post-consumer fiber paperboard, which required close collaboration between Janet Shimada, owner of Cadeaux Chocolates; print services provider Scott Hill, principal at **Evolution Press Inc.**; and graphic designer Kelly Pensell, principal/strategist for **Graphiti Associates Inc.** 

The eco-friendly attributes of the packaging are an extension of the strong values espoused by Shimada, who has used her chocolate business to build relationships with other female entrepreneurs, who also are mothers, and to inspire her own son through her example.

#### Addressing the high-end market

In addition to completing the Maître Chocolatier Program in France from Ecole Chocolat, Shimada has trained at the Culinary Institute in America in Hyde Park, NY; the Notter School of Pastry Arts in Orlando, FL; the Callebaut Academy in St. Hyacinthe, QC; and L'École Culinaire du Grand Chocolat in Tain L'Hermitage, France. The chocolates she creates are rich, beautiful, high-end confections, but the original candy packaging did not properly address

this market she was trying to reach.

Adding to this branding challenge was a packed schedule since Shimada not only operates Cadeaux Chocolates, but she also is a psychiatrist and mom to a 10-year-old son. But like the three princes of Serendip, Shimada finds assistance for her problems by keen observation in all her surroundings.

#### **Acting upon serendipity**

One of the school mothers whom Shimada had befriended at her son's school also is an entrepreneur. When Shimada noted that one of the female entrepreneurs had a beautifully designed logo, she was quick to inquire about the designer. With the aim of creating a new logo for Cadeaux Chocolates, Shimada contacted Graphiti Associates.

"What I quickly realized was that just having a logo, until it was really integrated with the packaging, wasn't going to be enough to give her a good solution," says Pensell, "so I presented the logo in the form of packaging: It was just a simple wrap for that acetate box."

The wrap was offset-printed by Evolution Press on 70-lb **Neenah** Classic Crest permanent pressure-sensitive stock, and it perfectly reflected Shimada's personal style preference for clean, modern design and her appreciation for the Japanese aesthetic, while speaking to the appropriate high-end market for her candies.

#### Branding via visual, tactile cues

Pleased with the redesign of the label for the acetate box, Shimada came to Pensell and Hill when she wanted to launch a new nine-chocolate offering. Hill
had just
learned
learned about
Mohawk Renewal,
a carbon-neutral and
processed carbon-free
paperboard manufactured
with wind power, from his
paper supplier West Coast
Paper. He suggested Renewal
vellum as a tactile branding element
hinting at the lush, luxurious texture of
the chocolates.

To visually extend this branding message of luxury, Pensell created a package design that used generous swatches of three **Pantone** spot colors, inspired by Shimada's chocolates and the golden color of a gingko leaf (a popular tree in Japan) in autumn.

#### **Printing and packing cartons**

While a vellum finish can impart a lush feel to a sheet, the texture, historically, has been associated with several printing problems, including ink laydown and post-press performance.

Pensell helped alleviate one of the potential problems by designing the cartons with spot versus process colors, thus eliminating any potential

The carton, left, incorporates widely varying areas of ink coverage neighboring each other and scores through dark print. Right, Shimada places a chocolate inside a candy cup into a box. Providing secure containment of Shimada's delicate chocolate truffles, the box snugly holds all inserts, including the candy tray and cups.





problems with dot reproduction. The design did incorporate large areas of heavy ink coverage, though, and this was a concern to Evolution Press staffers as they set up their **Heidelberg** GTO 52-4 for the run.

The Renewal board accepted the linseed oil ink beautifully, says Hill, with even coverage throughout the large areas of dark brown ink and without offsetting onto the neighboring print areas. While he was pleased with the printed results, he still was concerned about how the paper would perform post-press. "We were concerned that once the sheet was scored and folded up, it would crack," Hill recalls. A crack through one of the heavy ink coverage areas would result in a high-contrast line

from the 91-bright white stock showing through the dark brown imaged area.

To finish the sheet,
Evolution Press used a steel-rule die on a Heidelberg cylinder to score and die-cut. The single-ply constructed paperboard finished cleanly, preserving the integrity of the heavy ink coverage areas during scoring and when manually formed by Shimada during the packout process.

To complete a box of chocolates, Shimada inserts into the paperboard carton a sheet of richly colored wax paper, a candy insert tray and candy cups, which are sourced from **The Revere Group**.

#### Wrapping up future capacity

While Shimada finds both her work as psychiatrist and a chocolatier rewarding, she says the chocolate work has helped forge a special connection with her son. Shimada explains: "When people ask my son what his mother does, he tells them that I'm a chocolatier. He completely forgets that I am a physician because he really bonds with that and he loves to give me feedback on my chocolate. To me, it's been very important in my mothering to emphasize to my son how he can follow his inspirations and his creativity." For example, her son has an interest in photography and many of the photographs accompanying this

article were taken by him.

Her son isn't the only fan of Shimada's work.

Since starting the

company in 2007, Shimada has been wowing food experts. Her milk chocolate ganache with vanilla bean truffle has won top placement in *Seattle Metropolitan Magazine*'s ranking of local chocolates, and *Seattle* magazine named her gold-flecked bittersweet chocolate its 2008 Most Valuable Truffle.

As her business grows,

Shimada is looking to upgrade her packout processes. She hopes that automating some of the chocolate packing processes will allow her to continue to hand-craft her chocolates as her business volume grows. At time of publication, she was investigating automation options for wrapping her chocolate bars.

#### More information is available:

Mohawk Fine Papers Inc., 800/843-6455. www.mohawkpaper.com

Evolution Press Inc., 206/783-5522. www.evolutionpress.net Forest Stewardship Council, 612/353-4511. www.fscus.org Graphiti Associates Inc., 206/770-5726. www.graphiti.com Neenah Paper Inc., 678/566-6500. www.neenahpaper.com Pantone LLC, a subsidiary of X-Rite, 866/726-8663. www.pantone.com

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# Air-cooled induction sealers

Cooking oil producer Catania-Spagna
INSTALLS FIVE AIR-COOLED INDUCTION SEALERS
running 3-L and 2.5 gal HDPE bottles of oil.



Jack Mans, Plant Operations Editor

New air-cooled induction-sealing systems from **Enercon Industries** are having a big impact at cooking-oil producer Catania-Spagna, Ayer, MA. By replacing water-cooled induction sealers with five air-cooled systems, Catania-Spagna has eliminated water usage, and also reduced its energy requirements because of the elimination of the water recirculators required on the former water-cooled units.

In addition, according to Steve Sampson, vp of operations, the air-cooled systems have reduced downtime, maintenance and the amount of defective product. Overall, Catania-Spagna saved thousands of dollars a year since upgrading the sealers. "We also struggled with rust and corrosion from the water recirculator, and it had to be flushed on a regular basis. Now, our downtime is practically nonexistent," says Sampson.



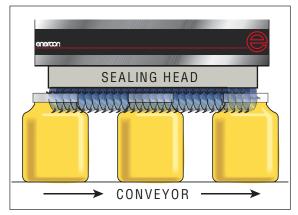
#### Two main sealing components

The late Joseph O. Basile started Catania-Spagna, an oil-processing and packaging company, more than 100 years ago in 1900. It packages and processes cooking oils ranging from vegetable to fine olive oil, servicing the retail, restaurant, bulk and export-food industry. Four generations after its founding, while still providing its customers with the same service, quality and reliability, its

## Our downtime with the air-cooled induction sealers is practically nonexistent.

methods and packaging technology have evolved with the switch to the air-cooled units.

Induction-sealing technology comprises two main components, the power supply and the sealing head. When energized by the power supply, the head produces an electromagnetic current, called an eddy current. The capped bottles enter the electromagnetic current and the oil of the innerseal generates electrical resistance



Catania-Spagna installed air-cooled induction sealers on its gallon line and jug-in-a-box line, sealing HDPE containers ranging from 3 L to 2.5 gal. The sealers use universal sealing heads, which gives them the flexibility to run containers with cap sizes ranging from 20 to 120 mm without having to switch sealing heads.

that heats the foil.

The hot foil, in turn, melts a polymer coating on the innerseal. The heat, coupled with the pressure of the cap, causes the innerseal to bond to the lip of the container. The result is a hermetic seal. To avoid overheating of the induction head and other components, the sealers must be cooled, which was originally done by water. Enercon developed heat sealers that use air instead.

#### **Five air-cooled induction sealers**

Catania-Spagna operates four packaging lines to keep up with demand, two of which rely on induction-sealing technology. It started using equipment from Enercon in the 90s, when it installed the water-cooled systems.

After more than a decade of use, Catania-Spagna decided that it was time to upgrade. "Our 2008/2009 initiative was to go green, and we started by replacing our water-cooled induction sealers with air-cooled systems," says Sampson.

Catania-Spagna chose Enercon's Super Seal<sup>TM</sup> air-cooled systems, which support a gallon line and a jug-in-a-box line, sealing HDPE containers ranging from 3 L to 2.5 gal. They use universal sealing heads, which gives them the flexibility to run containers with cap sizes ranging from 20 to 120 mm without having to switch sealing heads.

With a century of packaging experience under its belt, Catania-Spagna knows how important progression is in the packaging industry. It continues to apply innovative packaging solutions allowing it to keep an edge by delivering the same quality product to its customers at competitive prices.

#### More information is available:

Enercon Industries, 262/250-3142. www.enerconind.com.

## system integration

The last 10 installments of this column have reviewed the results of the Packaging in Automation survey, conducted jointly by Packaging Digest and Control Engineering magazines (see www.packagingdigest. com/automationresearch). The last two columns in this year-long series will address what could be the study's most significant finding—how well integrators do their jobs.

The 644 packagers who responded to the survey were asked to rate their integrators' performance

automation needs and being able to satisfy them with well-implemented, well-supported technical solutions are the very reasons for automation system integrators in any industry. A successful system integrator must be able to select the best hardware and software for the purpose: Products that are commercially available, compatible with a client's existing automation systems and production equipment and capable of meeting the client's automation objectives.

Savvy system integrators understand what their

clients say they want to accomplish and understand

what their clients actually need. That means not only

clarifying the objectives of the automation projects the

clients themselves develop but identifying potentially

that means talking the client out of a project that may

not generate an adequate return on investment. Some

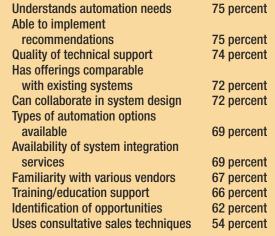
enough time and funding, but system integrators who

integrators claim they can automate any task, given

profitable projects they didn't think of. Sometimes,

#### turn down a project that would be more trouble than it's worth. Sometimes the best solution to a packaging operation is a pair of human

hands, and an experienced packaging integrator should be able to determine if that's the case.



are truly looking out for their clients' best interests will Consulting Editor Vance J. VanDoren, Ph.D., P.E., contributes articles on process control, advanced

control and systems integration and edits Control Engineering's annual Automation Integrator Guide.

### Packaging integrators make the grade

overall and in specific areas. A whopping 90 percent said that in general, system integrators do meet their needs. An equally impressive 80 percent reported they were somewhat likely (52 percent) or extremely likely (28 percent) to continue working with the integrators they've worked with before.

So what exactly do the integrators do to deserve such high marks? Between half and three quarters of the survey respondents said they were satisfied with system integrators in each of the 11 areas they were asked about (multiple responses were allowed; see chart on this page).

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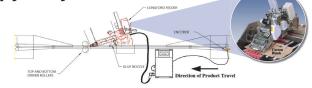
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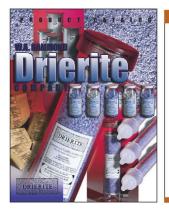


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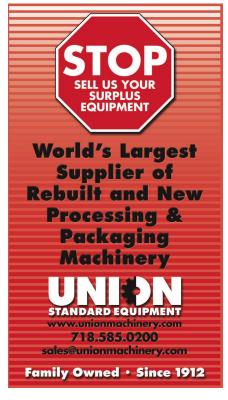
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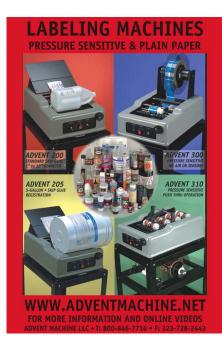
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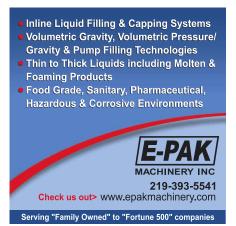
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## newsmakers

#### **MOVERS & SHAKERS**

**Bosch Packaging Technology** 





Dale Sprosty Clear Lam Packaging Inc.

appoints Henk Hoogendoorn national sales manager, vertical form/fill/ seal

Shuttleworth Inc. appoints Jim Zurawski technicaloperations manager. Clear Lam **Packaging** Inc. hires Dale

Sprosty as vp of sales and marketing for thermoformed products. Ball Corp. promotes John

A. Hayes to president, Raymond J. Seabrook to executive vp and CEO, global packaging operations, and Scott C. Morrison to senior vp and CFO. Haves will remain chief Ball's operating officer and will join Ball's board of directors. Morrison will remain treasurer.

Tompkins Assoc. hires systemsexpert Kevin Hume as a principal with the supply-chain informationtechnology team.

Bunting® Magnetics Co. hires David Briggs and Clint Pitts as service technicians in its metal detection



Michael Exner Smurfit-Stone

department. **Smurfit-Stone** appoints Michael Exner senior vp and general manager, Containerboard Mill Div. The National Frozen & Refrigerated

Foods Assn. hires Jeff Rumachik as senior vp. TricorBraun names G. Douglas Bolen

as vp of information systems. Solvay Chemicals Inc. appoints Paul Bradley business manager for specialties peroxygens. Bradley will manage the NAFTA wet chemicals, peracetic acid and aseptic packaging

PMMI elects four new members to its board of directors: Ben Garvey, general manager, Garvey Corp.; Sharron Gilbert, president and CEO,

Longford Equipment Intl. Ltd.

**Mold-Rite Plastics Inc.** 

Septimatech Group Inc.; Timothy McCarthy, vp, Kinsley Inc.; and Michael A. Senske, president and CEO, Pearson Packaging Systems. Oystar A+F names Christoph Giese manager.

Orbis Corp. names Mark Gorzek vp of finance.

Master Packaging Inc. names Fred Crowe president and chairman of the board.

Metabolix Inc. and Archer Daniels Midland Co. appoint Stan Haftka director of business development. Europe, for their joint venture, Telles. The International Hologram Manufacturer's Assn. elects Adam Scheer its chairman. He is marketing director of authentication solutions for

the AOT business segment at JDSU. Teknor Apex Co. appoints Gregory J. Anderson technical manager and Elizabeth Ponte sales representative in its recently established Bioplastics Div. **Tegrant Corp.** hires Jeff Christiansen as vp of sales.

#### **GROWING & GOING**

**Printpack** opens Printpack (Suzhou) Packaging Co., a new production facility in Suzhou, China. A. Schulman Inc. establishes a

masterbatch facility in western India. Nadella signs Industrial Sales Management to distribute its linear guides and motion control components and provide local applications support throughout North America. MonoSol LLC expands its global manufacturing facilities.

#### **BUYING & ALLYING**

Schneider Electric establishes a technology partnership with B&R and partners with Vishay Nobel for weighing and force measurement. Illinois Tool Works Inc. acquires Hartness Intl.

Mocon Inc. partners with Hemetek Techno Instruments, Mumbai, India, to establish a certified testing lab there. Berry Plastics acquires Superfos Packaging Inc.

Closure Systems Intl. opens a plasticclosure plant near Bangalore, India.

#### **CALL FOR ENTRIES**

**DuPont Packaging** calls for entries to its 22nd DuPont Awards for Packaging Innovation competition. Entry forms for the packaging competition and guidelines are available at www. packaging.dupont.com. The deadline for entries is Feb. 12, 2010.

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## www.packagingdigest.com



### Bamboo packaging

Dell will begin shipping its Dell Inspiron Mini 10 and Mini 10v netbooks in packaging made from bamboo, a highly renewable material, that serves as a great alternative to molded paper pulp, foams and corrugated often used in packaging.

www.packagingdigest.com/dellbamboo

Dog drink

Dog lovers looking to give a healthy treat to their pooches can now find one in handy aluminum cans. New Petrol is a dog treat beverage introduced in 12-oz Rexam SLEEK cans.

www.packagingdigest.com/dogdrink

#### A case of mistaken identity Eye on Packaging blog

Ever reach for your favorite brand and grabbed the clever house-brand imitation instead? So do a few million other people, costing big-brand marketers more than \$2 billion in sales in the U.S. www.packagingdigest.com/copycat

## Innovative cubed beverage bottles Excellence in Packaging blog

The most common packaging for beverages may be the glass or plastic bottle, but they present a problem in the supply chain: Cylindrical containers prevent the optimal use of freight volume during transportation. Some creative containers aim to eliminate this disadvantage. www.packagingdigest.com/cubed

### Illinois Tool Works acquires Hartness Intl.

Hartness Intl. will become a wholly owned business unit of ITW and part of the company's consumer packaging group. www.packagingdigest.com/itwhartness

### Coke "AVATAR" packaging

The Coca-Cola Co.'s Coca-Cola Zero brand has partnered with Twentieth Century Fox on a major global promotional campaign for James Cameron's epic-adventure film *AVATAR*.

www.packagingdigest.com/avatar



Here's what readers of packagingdigest.com are saying:

Even in the most advanced societies and economies, there is a great percentage of the population that does not read or care to read, so a strong and immediate symbol becomes their way of searching for and purchasing packaged merchandise. In less advanced societies and economies, this fact is even more important to understand and utilize. *Ernest, in response to blog post "The joy of bats and other fun critters."* 

#### This would look guite different if the survey interviewed Walmart suppliers.

Gaylen, in response to "Majority of businesses will stand pat on sust<mark>ainability, says</mark> survey."

Great article, thank you! It's nice to read about who is doing what work and what materials they are using and why.

Pam, in response to "Antoine Amrani Chocolates launches with premium branding."





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