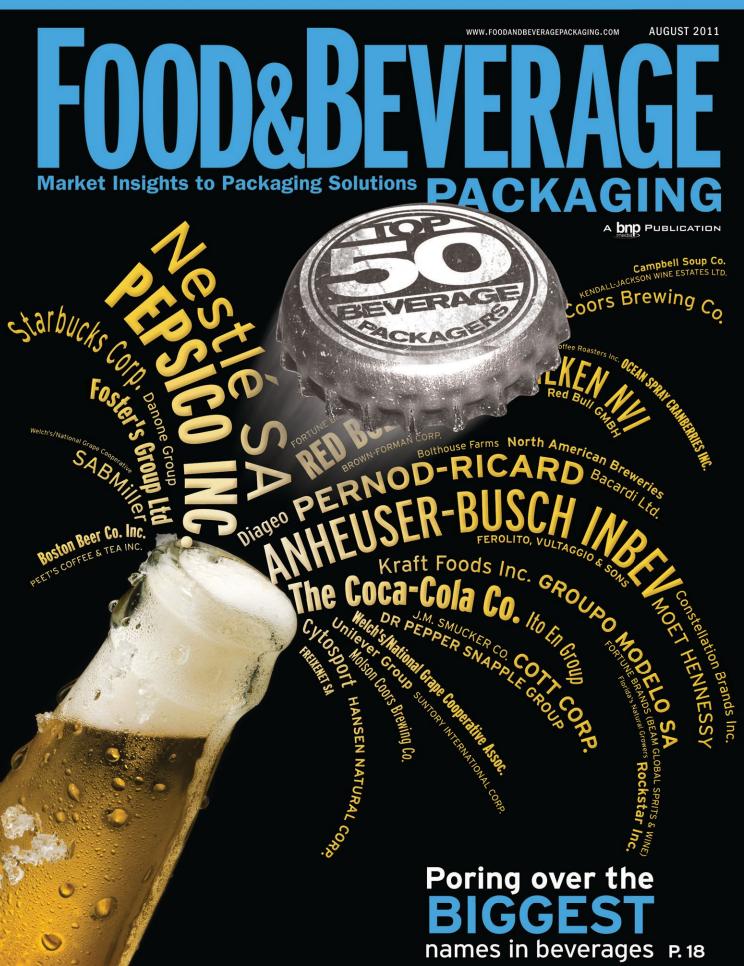
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08/11

COVER STORY 18 Caps off to the

Top 50 Beverage Packagers

Our annual review anchored by the exclusive Top 50 Chart takes a snapshot view of the beverage industry in companies, revenues, brands, subsegments, and "Chief Packaging Officers" to go with industry highlights.



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Editor'sNote



PACKAGING IS **EVERYWHERE** EVEN WHERE IT ISN'T SUPPOSED TO BE

or those of us in this business, including on the editorial side, packaging is a way of life all of the time. Or at least 24/7 six days a week as a former colleague infamously wrote.

Certainly that's done while shopping, of course... who doesn't like to window shop for new packages while shopping for whatever?

Or while reading newspapers. For me, it's a weekly ritual on Sundays to peruse the FSIs-Free Standing Inserts-looking for new products of interest and those with innovative packaging.

Or while watching television. I recall the commercial for Miller's Vortex bottle around Super Bowl.

For this issue's cover feature I interviewed PepsiCo's Denise Lefebvre, VP, Global Beverage Packaging, about market drivers, one of which she identified as sustainability (see cover story, page 18). But she qualified that by adding, "I would tie that into localization. Consumers are really about getting to authentic products that are local to them and that they know where everything came from."

Truth be told. it's impossible NOT to have PACKAGING.

Her comment linked directly to a unique kind of store, in.gredients, set to open soon in Austin, TX, billed as "America's first nopackaging grocery store." It asks shoppers to bring their own containers to shop for items from dry bulk items and dairy to beer

and household cleaners. It will feature predominantly local and organic foods; the founders claim that out-of-season produce and processed foods contribute to unhealthy eating and energy waste.

"Truth be told, what's normal in the grocery business isn't healthy for consumers or the environment," says in.gredients co-founder Christian Lane.

Truth be told, it's impossible not to have packaging. Besides providing a catchy tagline, I think what was meant was that there's no primary packaging used per se.

More accurate, but far less marketable.

Lane confirmed for me that packaging does indeed play a role: Although primary packaging is eliminated on the store side, bulk bagin-boxes and bins remain in vogue. "We will repurpose and recycle any of the packaging coming into our store," Lane notes.

Yes, packaging is everywhere, even at a no-packaging grocery store.

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PACK EXPO Las Vegas 2011

(September 26-28; Las Vegas Convention Center) will be the most comprehensive resource for food processors in North America in 2011.

ith more than 1,600 exhibitors, PACK EXPO Las Vegas 2011 is the only food processing show in North America where food and beverage manufacturers can discover solutions across the supply chain to address critical issues like:

- Food safety
- Sustainability
- Shelf life
- Freshness
- Lean manufacturing
- Machine-to-machine communication
- Flexibility

For food processing attendees, having both packaging and processing technologies all in one place doesn't just make it faster and easier to find



solutions for the whole manufacturing line, it broadens their sourcing horizons.

Integrated Solutions

An increasing number of brand owners are taking a unified approach to processing and packaging and reaping significant benefits including:

- Streamlined production
- Increased output
- Minimization of energy consumption or waste
- Improved sustainability
- Enhanced efficiencies
- Greater automation

This total systems approach also allows processing and packaging teams to better understand what product or packaging changes can feasibly run on the line. Communication between food processing and packaging operations also helps to assure that any new machinery added to either line is equally adaptable to future changes. Having machinery that can be adjusted or replaced all at the same time helps to minimize downtime and keep the pace of production.

The Processing Zone at PACK EXPO Las Vegas 2011 will address the trend of integration at a greater level. This special area of the show will highlight the latest processing technologies for a range of market sectors including food, beverage, baking and snack, meat, dairy and produce. Food processing attendees will find additional examples of these technologies throughout the exhibit halls.

Added Value at PACK EXPO Las Vegas 2011

PACK EXPO Las Vegas offers more opportunities to food and beverage processing professionals than any other trade show in North America. PMMI is collaborating with several industry partners to facilitate value-added programming around PACK EXPO and add an extra layer of depth for food manufacturers.

Partnership with Anuga FoodTec

Anuga FoodTec, (March 27-30, 2012; Cologne, Germany) the largest food and beverage processing and packaging show in Europe, will have a presence at PACK EXPO Las Vegas 2011. Experts will be on hand to help packaging and processing suppliers seeking to expand into the European market. "The show allowed me to initiate some commercial relationships with suppliers I didn't know before. PACK EXPO is definitely a 'must-be-at' show," said Stephane Boubee, Global Technician Procurement Manager at Nestlé.



Food Safety Summit Resource Center

Featuring leading industry and subject matter experts, the Food Safety Summit Resource Center will help manufacturers and processors respond to the many challenges they face on the job. Attendees will have the opportunity to learn about the latest breakthroughs in food safety and gain valuable insight into potential solutions.

More Innovation at PACK EXPO Las Vegas 2011

The Innovation Stage will debut at PACK EXPO Las Vegas 2011. Located in The Candy Bar, The Baking and Snack Break and The R_X Lounge, The Innovation Stage will feature live, 30-minute seminars about the latest packaging and processing solutions in the Confectionery, Baking and Snack, and Pharmaceutical industries.

The Conference at PACK EXPO

Food and beverage processors can gain further insight into pressing industry issues by participating in the comprehensive Conference at PACK EXPO program. Following are just some of the industry groups that will contribute to the program:

- Alliance for Innovation and Operational Excellence (AIOE)
- Institute of Packaging Professionals (IoPP)
- International Society of Beverage Technologists (ISBT)
- Reusable Packaging Association (RPA)
- Converting and Package Printing (CPP)

In addition, former Secretary of State retired General Colin L. Powell will be the keynote speaker at the PACK EXPO Leadership Lecture presented by Title Sponsors DuPont and Morrison Container Handling Solutions & Gold Sponsors Dorner Mfg. Corp., Eastman Chemical Company and Fox IV Technologies. The event will take place Tuesday, September 27, 2011. General Powell's address is titled "Diplomacy: Persuasion, Trust & Values." Tickets can be purchased at **www.packexpo.com**. Single tickets are available for \$125 or packages of 10 tickets are available for \$1,000.

Value in Vegas

PMMI signed an agreement with the Association for Automatic Identification and Mobility (AIM) to co-locate AIM Expo 2011 with PACK EXPO Las Vegas 2011 (Sept. 26-28; Las Vegas, Nev.).

The AIM Expo conference program will include tracks on government, healthcare, manufacturing, mobile workforce and retail. "Auto ID in Packaging" and "Internet of Things," two new sessions, will identify state-of-theart applications and solutions to improve operations, streamline production, reduce costs and enhance overall business processes.

AIM attendees are eligible for complimentary admission to the PACK EXPO show floor. (Registration required.)

PACK EXPO Delivers

Food manufacturers continue to rely on PACK EXPO as the only North American processing show with a proven track record for delivering innovative solutions on the show floor.

- 97 percent of past PACK EXPO attendees visit the show to see both packaging and processing innovations.
- 93 percent of past attendees indicated that PACK EXPO clearly fulfilled the overall expectations they had for attending the show.
- 42 percent of attendees at PACK EXPO are from the food industry.

Register for PACK EXPO Las Vegas now at **www.packexpo.com** and make sure to secure an early registration discounted ticket. We look forward to seeing you in Las Vegas!



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for Finlandia

'MELTING' ICE VODKA BOTTLE

F inlandia Vodka introduced a new bottle, called melting ice. The new package, made from high quality recyclable glass, features ripples in the glass, meant to capture the precise moment before ice transitions from solid to liquid.

The new package celebrates the natural forms of ice as did the original Finlandia bottle in 1970. Along with the new look, the brand has revived an iconic piece of its history: the facing reindeer on the logo.

The bottle, produced by O-I in Europe, also features a redesigned label. The custom-made font on the label brings the branding to the forefront. For Finlandia's flavored varieties, the new label incorporates a flavor color along with real fruit images. In addition, the Finlandia design team created a new display shipper case for both its classic and flavored varieties.

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PRIVATE-LABEL LINE USES VIBRANT GRAPHICS

W aitrose in the United Kingdom has teamed up with **Pearlfisher** to develop packaging for their new line, Waitrose LOVE Life. It is Waitrose's latest sub-brand, and was developed to provide more healthy options at the grocery store.

A departure from Waitrose's typical monotone designs, the packaging features vivid food photography and front-of-pack nutritional information. The Waitrose LOVE life logo highlights the nutritional benefits and the use of vibrant primarily colors symbolize variety and the importance of a diverse, healthy diet.

"The new identity effectively works to indicate the nutritional value of the range and the design reflects its energy, vitality and positivity," says Rupert Thomas, Waitrose marketing director. The 270-product line is the retailer's largest sub-brand launch since essential Waitrose and includes nutritionally balanced foods, including soups, which retail for £1.99- £2.99 (\$3.18-\$4.78).

Pearlfisher | 212-604-0601; www.pearlfisher.com

EARTH'S BEST BABY FOOD PUREES LAUNCH IN POUCHES

H ain Celestial's new Earth's Best Baby Food Purees in resealable pouches hit shelves in July. **Smith Design** worked closely with The Hain Celestial Group to extend their top-selling baby food brand into the new pouch format. Pouches are one of several new formats and categories for Earth's Best, whose base line of baby foods come in classic glass jars. The brightly colored pouches from **Cheerpack** are made from flexible film containing no BPA or phthalates. They are vibrantly designed with a cheerful backdrop to the wholesome photo-

real illustrations Smith Design created to clearly and quickly communicate each flavor. The baby food retails for \$2.19- \$2.29.

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BUSINESS / TRENDS / PEOPLE

SHOPPERS CHANGING BUYING HABITS IN RESPONSE TO PACKAGING AND PRICE



D eloitte's new 2011 Consumer Food and Product Insight Survey reveals that nearly 9 in 10 survey respondents (87.7%) believe prices in food stores are escalating and almost three-quarters (74%) say the size of some packaged goods is smaller. Consequently, savvy consumers are purchasing more private-label and store brand products: Nearly 2 in 5 respondents (39.6%) added more private label products to their grocery bags.

"Higher prices, smaller package sizes and pain at the pump are driving consumers to buy lower-priced grocery items," says Pat Conroy, vice-chairman, Deloitte LLP and the U.S. consumer products practice leader. "That's why now more than ever it is important for consumer products companies to strengthen their customer relationships and distinguish value ahead of the competition."

Nearly one-half of respondents (49.3%) agree that

packaging that displays a row of standardized icons called "Nutrition Keys" on the front of the package with standard ingredients listed on the back would be very helpful for purchasing decisions. Some companies are currently doing this on a voluntary basis.

"The front-of-package findings, coupled with survey results trending towards healthier food purchases, presents a tremendous opportunity for consumer products companies to enhance their nutritional transparency," says Conroy. "Consumer products companies that use healthy ingredients and are willing to share nutritional information on the front of the packaging can strengthen their customer base amongst a growing faction of consumers."

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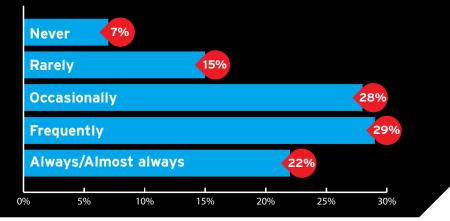
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HOW FREQUENTLY DO YOU READ ANY PART OF THE "NUTRITION FACTS" BOX ON AN UNFAMILIAR PACKAGED OR BOTTLED FOOD ITEM?



Source: Deloitte 2011 Consumer Food and Product Insights Survey of 1,997 consumers

BIOMATERIAL USE TO QUADRUPLE BY 2013

G lobal demand for biodegradable or plant-based plastic will quadruple by 2013 as rising oil prices and fossil fuel depletion drives interest in the use of plantbased polymers. Bioplastics account for less than 10% of global plastics use, but sector growth is around 17-20% a year since 2006. The sector faces increasing regulation and more competition as large corporations move in on the industry. That's according to Research and Markets' *The Global Outlook for Biodegradable Packaging* report. Highlights:

- Currently there is not a good enough infrastructure in place to get optimum benefit from biodegradable packaging, even if it is widely available. Europe leads regulatory reform, with the U.S. trailing behind.
- Consumers are driving demand, with major retailers including Coca-Cola and Walmart getting on board. However, despite increased demand, the key cost barriers for suppliers are R&D costs, production costs, and economies of scale.
- PLA dominates bioplastics use, but new materials are being developed from algae and microbacterial sources and advances in nanotechnology offer potential.

Research and Markets

646-607-1907; www.researchandmarkets.com

ALUMINUM CAN RECYCLING RATE REACHES 58.1%



The U.S. recycling rate for aluminum beverage cans has reached its highest level in a decade, with 58.1% of all cans recycled last year—a rate that is nearly than double that of any other beverage container, the Aluminum Association, Can Manufacturers Institute (CMI) and Institute of Scrap Recycling Industries (ISRI) announced in June. That's nearly 56 billion aluminum cans.



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RENEWED 3RD QUARTER OUTLOOK SHINES SPOTLIGHT ON OPPORTUNITIES FOR FOOD MANUFACTURERS



BY JORGÉ IZQUIERDO

MMI recently released its *Third Quatter 2011 Economic Outlook*, forecasting slower growth for the rest of 2011 and into the first quarter of 2012. During the remainder of 2012, however, the report predicts economic growth will sustain an increase in production.

The report examines several different market segments and regions, including the food and food preparation index, which is projected to show slow growth for the rest of 2011 at 1.0% above 2010 levels. However, production is projected to reaccelerate in 2012 and end the year 3.3% above 2011, the highest annual growth rate in 10 years. During this period, food production averaged 0.9% annual growth. The shift marks a move toward the long-term sustainable growth rate for the industry.

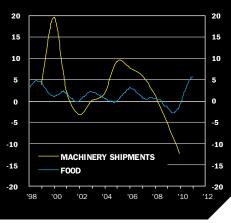
Other highlights from the outlook include:

- Total Industry Capacity Utilization reached 77% in March, a 30-month high. Despite a slight slip in April, the trend has remained on the increase, a positive sign for the economy, but is still 3.9% below the historical average.
- The Purchasing Manager's Index is 1.3% above the same period last year, and the 1/12 rate-of-change has yet to form a low.
- The Corporate Bond Prices trend shows the prolonged period of low interest rates has been favorable for businesses as well as consumers. Interest rates have increased by 0.8% age points since their low point in 2010.

Preparing for growth

In anticipation of the projected growth in 2012, food manufacturers should start planning their capital purchases now. Manufacturers can benefit from technologies that increase automation and energy efficiency to not only increase output but effectively manage costs. Systems that offer enhanced flexibility will also be critical, as they will enable manufacturers to quickly accommodate changes to a product line and boost productivity.

US PACKAGING MACHINERY SHIPMENTS TO FOOD PRODUCTION ANNUAL GROWTH (%)



Source: Institute for Trend Research

All of these technologies, and more, can be seen at PACK EXPO Las Vegas 2011 (September 26–28; Las Vegas Convention Center), the largest show in North America for packaging and processing innovation. Food manufacturers will have access to over 1,600 exhibitors featuring equipment, materials, containers and components to address critical issues, including food safety, sustainability, shelf life and freshness.

Discounted registration is currently available at www.packexpo.com.**F&BP**

Jorgé Izquierdo, Vice President, Market Development, PMMI



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CAPS OFF

to our Top 50 Beverage Packagers

Making the list is all about brand equity and staying 'trendy' including through packaging. / by RICK LINGLE, Editor in Chief

s is apparent from our Top 50 Beverage Packagers chart (see pp. 20-22), the beverage market encompasses the whole world, from Belgium (Anheuser-Busch InBev, #1 in our rankings based on 2010 revenues) to Bermuda (Bacardi, #16) and all stops in between and beyond.

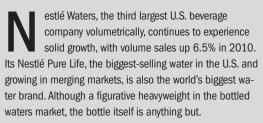
To help us go behind the Chart as to what factors can drive consumers toward particular brands as reflected in the results and data, we solicited the input of Denise Lefebvre, VP, Global Beverage Packaging for PepsiCo (#4 on our list), to provide context.

"As consumers move continually toward health and wellness, the requirements on packaging are becoming stricter than ever in terms of active packaging whether for barrier, enhanced product protection or increased functionality of some nature," offers Lefebvre. "A second 'lever' is the importance of design thinking now taken to the next level through packaging: What it can do for the consumer, functionally, pop on-shelf and 'play' in the retail space.

"Thirdly, there's sustainability, which is critical. I would tie that with 'localization.' Consumers are really getting into authentic products that are local to them and know where it comes from in the supply chain. That has a 'halo' effect on packaging and sustainability: Consumers want products that are natural and authentic, but not overpackaged. Products with an 'organic' feel are very important and will continue to be for some time."

Adding to Lefebvre's comments are these highlights from two recent studies:

The world's best-selling water grows—and grows 'greener'



The bottle was made 24% lighter over a five-year period through 2009 when at year's end the company released the

2011 is providing more resilient performance for all beverage packaging materials as economies recover from the downturn. PET bottles hold the greatest volume growth potential of all pack formats, extending their presence in soft drinks, deriving gains from health-aligned consumer intake of juices and ready-to-drink (RTD) tea and through more niche avenues in wine and spirits. Emerging Asia and Latin America markets present the strongest opportunities for packagers, with China and India to head up global growth to 2014, also according to *Performance and Prospects for Beverage Packaging Materials*, from Euromonitor Intl.

Environmental concerns, hectic consumer lifestyles and increased demand from the Asia Pacific region will all influence the future beverage packaging market, pushing it to achieve \$118.8 billion revenues by 2017. That's according to a new study at *Beverage Packaging: A Global Strategic Business Report* from www.companiesandmarkets.com. A trend borne from the recession that appears sustainable is the use of minimal, lightweight packaging materials that inEco-Shape bottle, the lightest ½-Liter PET bottle at 9.2 grams.

It is also exploring the use of bio-plastics made from renewable resources such as corn, soybean, potato and other plant materials. The company reports that "while 'first-generation' bio-plastics are a promising step in creating renewable materials for the future, there are still some technological and economical challenges to overcome, such as their relatively short shelf-life, greater permeability to water and lack of suitable waste collection systems."



cur lower manufacturing and transportation costs, and can be sold at lower prices. This was particularly noted in developed regions, where there has been a distinct focus on cutting household expenditure.

As such, plastic is the beverage packaging material for which there is most demand, on account of its appearance, lightweight qualities, ease of manufacturing and the fact that it is widely recycled.

Busy consumer lifestyles mean that there is demand for food and drink "on the go", including convenient single-serve beverages. There is still a healthy interest in drinks which promote wellbeing, a feature which is expected to be incorporated into future beverage packaging styles.

New beverages and unusual packaging designs may also see an increased demand for aluminum packaging, potentially in bottle format.

Armed with a shot or two of market intelligence, peruse the world of beverage packaging through the Chart that follows. I'm sure you'll find some familiar names including personal favorites–and you may meet some new faces, too. **F&BP**

7Up cracks the rPET-for-CSD code

ast month, PepsiCo Beverages Canada unveiled the 7UP EcoGreen[™] Bottle, North America's first soft drink bottle made from 100% recycled PET (rPET) that reduces the amount of virgin plastic used by approximately six million pounds yearly.

"After three years of research and development, we have cracked the code to commercially develop a [carbonated] soft drink (CSD) bottle made from 100 percent recycled PET plastic," says Richard Glover, president, PepsiCo Beverages Canada. "Consumers want products and packaging that reflects their desire to protect the environment, and PepsiCo is committed to delivering on that with this kind of world-class innovation."

It's a stepwise development for PepsiCo: The technology is identical to that used for last year's Naked Juice reNEWa bottle in a non-carbonated application, according to Denise Lefebvre, PepsiCo's VP, Global Beverage Packaging.

Creating a soft drink bottle made from 100% rPET is more challenging than creating a bottle for non-carbonated beverages because of the stress on materials from carbonation pressure.

"That's no small technical feat getting to the right quality post-consumer recycle content, particularly for a carbonated soft drink bottle that has so many design requirements from pressure and product retention and utility in the marketplace," notes Lefebvre. "We see a continued consumer demand for this kind of packaging."

The bottle will be produced in multiple PepsiCo manufacturing facilities across Canada.





METHODOLOGY

Food & Beverage Packaging wants to credit the invaluable help from our sister publication *Beverage Industry* for much of the information for our Top 50 Beverage Packagers chart. We have confirmed and added key information, particularly the Chief Packaging Officers as well as Brands. Another notable difference is that we take a global view; *BI* list is based on worldwide sales for U.S. companies and foreign-held companies that have significant sales in the U.S. For example, *F&BP* has added in our Top 10 Kirin Holdings (Japan) and Carslberg Breweries (Denmark), companies that *BI* does not include.

F&BP research includes annual company reports, 10-K filings, perusing company websites and, last but not least, making direct company contact.

Sales are based on calendar year 2010 or the most recent fiscal year that conforms to that timeframe. We attempt to separate out these company's beverage earnings and data from other sources such as foods and other categories to the degree possible. We used XE, the online currency converter (www.xe.com), where necessary.

Rank	Company Headquarters	2010 Total Revenues (in \$ Billions)	No. of Plants	Chief Packaging Officer, Title	Product Mix	Selected Brands
1	ABInBev Anheuser-Busch InBev Leuven, Belgium	36.30	133	Claudio Braz Ferro chief supply officer	Beer	Budweiser; Bud Light; Michelob; Stella Artois; Beck's; O'Doul's
2	<i>The Coca Cola Company</i> The Coca-Cola Co. Atlanta, GA	35.12	156	Scott Vitters dir, sustainable pkg, environment and water resources	Soft Drinks, Water, Juice/Juice Drinks, RTD Tea/Coffee, Energy Drinks, Sports Drinks	Coca-Cola; Sprite; Minute Maid; Vitaminwater; Fanta; Dasani; Odwalla
3	Nestlé SA Vevey, Switzerland	30.37	443 ^a	Anne Roulin global head of pkg and design	Coffee, Water, Juice/ Juice Drinks, Dairy, Sports Drinks	Perrier; Nescafe; Nestea; Poland Spring; Nestlé Pure Life; S.Pellegrino; Ice Mountain
4	PEPSICO PepsiCo Inc. Purchase, NY	29.00	66	Robert Lewis VP, pkg and equipment development	Soft Drinks, Water, Juice/Juice Drinks, RTD Tea/Coffee, Energy Drinks, Sports Drinks	Pepsi; Tropicana; Gatorade; Propel; Aquafina; Mountain Dew; SoBe; Sierra Mist
5	★ Heineken° Heineken NVI Amsterdam, The Netherlands	21.60	119	Marc Gross group supply chain dir	Beer, Wine, Spirits, Soft Drinks	Heineken; Amstel; Primus; Murphy's; Star; Zywiec

6	Kirin Holdings Co. Ltd. Tokyo, Japan / Torrence, CA	18.11*	11	Yoshikazu Arai managing dir, Kirin Brewery	Beer, Soft Drinks, Water, Juices, Wine	Kirin; Ichiban; Lion Nathan; Four Roses
7	SABMiller London, U.K.	18.02	133	Susanne Terharn mgr, design eng.	Beer, Wine, Spirits	Miller Lite; Miller Genuine Draft; Molson Canadian; Coors Light
8	Diageo London, U.K.	15.23	95	Ewan Andrew Senior VP Manufacturing & Distilling, North America	Spirits, Wine, Beer	Baileys; Smirnoff; Captain Morgan; Crown Royal
9	Carlsberg Breweries A/S Copenhagen, Denmark	11.57	78	Kasper Madsen supply chain and procurement	Beer, Soft Drinks, Non-Carbonated Beverages, Water	Carlsberg; Tuborg; Tetley's; Kronenbourg; Grimbergen
10	Starbucks Corp. Seattle, WA	10.70	N/A	Kevin Schaub project mgr, contract mfg.	Coffee, Tea, RTD Tea/Coffee	Frappuccino; Starbucks DoubleShot

* Estimate ^a includes both food & beverage plants



Rank	Company Headquarters	2010 Total Revenues (in \$ Billions)	No. of Plants	Chief Packaging Officer, Title	Product Mix	Selected Brands
11	Pernod-Ricard Paris, France	9.48	104	Dan Denisoff SVP, ops (U.S.) Jean-Pierre Savina VP, industrial ops (outside U.S.)	Spirits, Wine	Kahlúa; Chivas Regal; Malibu; Jameson; The Glenlivet; Beefeater; Absolut
12	Kraft Foods Inc. Northfield, IL	8.80	41	Ron Exner assoc. dir pkg research.	Coffee, Tea, Dairy Drinks, Juice/Juice Drinks	Capri Sun; Crystal Light; Kool-Aid Bursts; Tang
13	Grupo Modelo Sa Mexico City, Mexico	6.89	8	Daniel del Rio, COO, José Parés, VP, chief sales & mktg officer	Beer	Modelo; Negro Modelo; Corona; Pacifico; Corona Light; Pacifico Light
14	Unilever Group London, U.K.	5.76*	N/A	Jay Gouliard VP, global pkg	Coffee, Tea, RTD Tea	Lipton; Slim-Fast
15	Dr Pepper Snapple Group Plano, TX	5.64	23	Kendall Yorn VP, pkg/eng	Soft Drinks, Water, Juice/Juice Drinks, RTD Tea, Sports Drinks,	Schweppes; Dr Pepper; 7 UP; A&W Mott's; Snapple; Crush; Country Time
16	Bacardi Ltd. Pembroke, HM Bermuda	5.34	27	Jon Grey chief of global ops	Spirits	Bacardi; Martini; Bombay Sapphire; Dewar's; Grey Goose
17	Red Bull Gmbh Fuschl Am See, Austria	5.14	N/A	Bill Conner brand director	Energy Drinks/Shots, Soft Drinks	Red Bull; Red Bull Sugarfree; Red Bull Cola; Red Bull Energy Shot; Carpe Diem
18	Moët Hennessy Paris, France	4.37	N/A	Antonio Suarez consumer development mgr	Wine, Spirits	Belvedere; Hennessy; Don Perignon; Grand Marnier; Moët & Chandon
19	Constellation Brands Inc. Canandaigua, NY	4.21	43	Michael Othites, SVP, ops	Beer, Wine, Spirits	Robert Mondavi; Clos du Bois; SVEDKA; Black Velvet Canadian Whisky; St. Pauli Girl
20	Danone Group Paris, France	3.84 ^b	84	Frederic Jouin, dir, global R&D fresh products/pkg	Water, Dairy Drinks	Aqua; Bonafont; Evian; Villa del Sur; Volvic
21	Foster's Group Ltd Southbank, Australia	3.60	10	Peter Cantwell managing dir, sales	Beer, Wine, Spirits, Water, Juice/Juice Drinks	Foster's; Carlton; Wolf Blass; Beringer
22	Ito En Group Tokyo, Japan	3.55	N/A	Masi Endo dir-sales and mktg	Tea, RTD Tea/Coffee	Dr. Andrew Weil's brand; Oi Ocha; Ito En shot
23	Molson Coors Brewing Co. Golden, CO/ Montreal, Canada	3.25	11	Curtis Babb dir, pkg innovation	Beer	Coors Light; Coors; Molson; Keystone; Killian's; Zima;
24	Brown-Forman Corp. Louisville, KY	3.23	15	Ed Mayrose mgr of pkg eng	Spirits, Wine	Jack Daniel's; Southern Comfort; Finlandia; Sonoma-Cutrer Vineyard
25	E&J Gallo Winery Modesto, CA	3.00	7	Joe Gallo VP ops & sales	Wine, Spirits	Gallo Family Vineyards; Mirassou; Louis M. Martini; Barefoot; Bella Sera
26	Fortune Brands (Beam Global Spirits & Wine) Deerfield, IL	2.67	21	Ian Gourlay SVP, ops and supply chain, Beam Global Spirits & Wine	Spirits, Wine	RC; Vintage; So Clear; Sam's American Choice; Great Value; Safeway Select
27	Cott Corp. Toronto, Canada	1.80	21	Doug Poulos dir, global quality	Soft Drinks, Water, Juice/Juice Drinks, RTD Tea, Energy Drinks, Sports Drinks	ICEE; Arctic Blast
28	J.M. Smucker Co. Orrville, OH	1.75*	2	Susan Woods VP, marketing ICEE	Juice/Juice Drinks, Coffee	Orangina; Malt's; Midori
29	Suntory Intl. Corp. New York, NY	1.63*	N/A	Mitsuyoshi Ueda COO, environmental sustainability strategy div.	Spirits, Water	Mission; Guerrero; Selecta

* Estimate b Bottled water only

CoverStory

Rank	Company Headquarters	2010 Total Revenues (in \$ Billions)	No. of Plants	Chief Packaging Officer, Title	Product Mix	Selected Brands
30	Ocean Spray Cranberries Inc. Lakeville-Middleboro MA	1.59	4	Alex Mendes senior mgr, pkg development	Juice/Juice Drinks	Ocean Spray; Cran-Energy
31	Davide Campari Milan, Italy	1.54	13	Franco Peroni group product supply chain officer	Spirits, Wine, Soft Drinks	SKYY vodka; Campari; Frangelico; Wild Turkey; Aperol; Irish Mist; Dreher
32	Green Mountain Coffee Roasters Inc. Waterbury, VT	1.36	9	Jon Wettstein, VP ops	Coffee	Green Mountain Coffee; Tully's
33	Hansen Natural Corp. Corona, CA	1.30	0	Gareth Bowen senior VP ops	Soft Drinks, Energy Drinks/Shots, Juice/ Juice Drinks, RTD Tea	Hansen's Natural Juice; Blue Sky; Junior Juice, Hubert's Lemonade, Admiral's
34	Ferolito, Vultaggio & Sons Lake Success, NY	1.30	N/A	Mark Leiden VP of global mktg	RTD Tea, Juice/Juice Drinks, Sports Drinks, Energy Drinks/Shots, Beer	AriZona; Rx Herbal; Crazy Stallion; Mississippi Mud
35	Tata Global Beverages Ltd. Kolkata, India	1.28	12	Radhakrishna Nair mgr purchasing	Теа	Tata Tea; Tetley; Good Earth; Eight O'Clock Coffee
36	The Wine Group Ripon, CA	0.94*	6	Timothy Rocha production services controller	Wine	Franzia; Almaden; Inglenook; Corbett Canyon; Lejon;
37	Welch's/National Grape Cooperative Assn. Concord, MA	0.66*	2	David Engelkemeyer VP, ops and technology	Juice/Juice Drinks	Welch's
38	Freixenet SA Barcelona, Spain	0.62	N/A	Erica Odden sr brand mgr, USA	Wine	Freixenet Cordon Negro; Freixenet Cordon Rosado; Elyssia
39	Trinchero Family Estates St. Helena, CA	0.60	N/A	Roger Trinchero president and coo	Wine	Trinchero Napa Valley; Angove; Trinity Oaks; Fre; Menage a Trois; Sutter Home
40	National Beverage Corp. Fort Lauderdale, FL	0.59	12	Vanessa C. Walker dir, strategic brand mgmt	Soft Drinks, Water, Juice/Juice Drinks	Shasta; La Croix; Faygo; Clearfruit; Crystal Bay; Ohana
41	Sunny Delight Beverages Co. Cincinnati, OH	0.53	5	Rick Zimmerman senior VP of mktg & innovation	Juice/Juice Drinks, Water	Sunny D
42	Pabst Brewing Co. Woodridge, IL	0.50	N/A	Bill Radtke senior VP of ops	Beer	Pabst Blue Ribbon; Old Style; Schlitz; Stroh's; Old Milwaukee; Colt 45
43	Kendall-Jackson Wine Estates Ltd. Santa Rosa, CA	0.51*	N/A	Kelley Jones executive VP, market strategies	Wine	Kendall-Jackson; Jackson Hills; Stature
44	Boston Beer Co. Inc. Boston, MA	0.46	2	Zeb Robbins mgr, pkg development	Beer	Samuel Adams; Twisted Tea; HardCore
45	Farmer Bros. Co. Torrance, CA	0.45	3	Mark A. Harding senior VP of ops	Coffee	Farmer Brothers Coffee; Farmer Brothers Tea
46	Rockstar Inc. Las Vegas NV	0.42*	1	Frank Guernsey VP mktg	Energy Drinks/Shots	Rockstar Energy Drink; Rockstar Energy Cola; Punched
47	North American Breweries Rochester, NY	0.41*	4	Peter Bodenham VP mktg	Beer	Labbatt Blue; Magic Hat; Seagram's; Honey Brown
48	Florida's Natural Growers Lake Wales, FL	0.40*	1	Walt Lincer VP of sales and mktg	Juice/Juice Drinks	Florida's Natural; Growers Pride; Blue- bird; Earth's Own Organics; Vintage
49	Campbell Soup Co. Camden, NJ	0.39*	2	Asad Hamid VP, global pkg	Juice/Juice Drinks	V8; V8 Splash; V8 V-Fusion; Campbell's
50	Bolthouse Farms Bakersfield, CA	0.34*	1	Bryan Reese chief mktg and innovation officer	Juice/Juice Drinks, Dairy Alternative Drinks	Bolthouse Juices; Bolthouse Smoothies; Bom Dia

* Estimate

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MachineryTechnology

FILLERS

FILLING ROUNDTABLE: DEVELOPMENTS AND ADVICE

Industry experts share insights into automation developments as well as ways to improve your filling operations. / *by* RICK LINGLE, *Editor in Chief*

PARTICIPANTS:

Brian Barr, sales manager for packaging systems, Heat and Control **Christine Marchadour**, VP int'l. sales/marketing, Multi-Fill Inc. **Timothy L. Kent, P.E.**, research & marketing director, Raque Food Systems

F&BP: What are the biggest drivers affecting the filling of foods and beverages?

Tim Kent: There are three main areas:

- Hygienic concerns are a continuing issue—machinery buyers are demanding machines that are easier to clean.
- Energy costs: Customers are looking for machines that draw fewer amps.
- Training: Customers are increasingly expecting machinery suppliers to train their employees.

Christine Marchadour: The increase of chilled ready meals means that hygiene and sanitation is more important due to the increased sensitivity of the chilled products to microbes. The Quality Dept. is



becoming more involved at the time of purchasing any type of equipment, but especially for fillers. All parts in contact with the products must be food grade certified, especially plastic components. The machine frame must be angled, and top surfaces to be sloped to minimize the retention areas.

F&BP: What role does new automation technology play?

Brian Barr: Real-time communication with—and control of—your production line is critical to obtaining high efficiency and consistent product quality.

Heat and Control has developed systems for both. Information That Matters (ITM) is our real-time line monitoring platform that provides data on equipment control points, key performance indicators, and notification of faults via smart phone or computer.

We also offer an expanded version that merges line information and control functions into a single system called ITM-Plant iT that combines real-time control of plant equipment with Manufacturing Execution System (MES) capabilities to maximize efficiency in both startup and on-going operations.

Marchadour: We have to use more and more sophisticated programmable logic controllers (PLCs) with Ethernet and Internet capabilities. Big food processors want to be able to monitor the complete line from their internal network. This makes machines more expensive and complicated. Communicating via the Ethernet or even Wi-Fi still has some challenges that have not completely been solved. The need for faster speeds and more accurate positioning of the product into the container create the need for faster and higher-level PLCs.

Vertical Raceway can continuously fill up to 320 containers per minute, deposit a wide variety of products into two lanes of preformed trays or into existing tray lines. **Kent:** PLCs and servomotors have become much more reliable and much less expensive. We can now use pneumatic systems that have PLC hardware built into them. Moreover, wireless device communication has become a reality. The end result is that filling systems can be much more versatile.

F&BP: What's the most common problem packagers have with fillers and what's a solution?

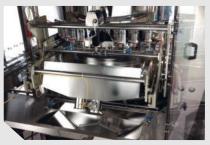
Marchadour: We need good information from the customer. The filler supplier should be consulted early on in the design of the line, not at the end of the planning as it is often the case. The filler should be sized properly to fit the rest of the production line. Don't try and specify the filler to do everything—specify it for the products that it will really be used, not what it could be used on in the future.

FILLER OPTIONS: A TRIO OF FAVORITES

B en Fogg, Fogg Filler's director of sales, notes the company's most popular options for its line of fillers for liquid products:

Safety & Sanitation Guarding with HEPA filtration is a very popular option. Fogg guarantees and certifies Class 100 air, or better, in the filling environment. With this feature the shelf life is often greatly improved.

Semi-Automatic One-Way Recovery Trough (shown). By touching a button, the valves can be cleaned-in-place without adding or removing any



Filling valves can be cleaned-in-place with a touch of a button with this option.

hardware. This enables customers to decrease the amount of cleaning time and operator contact with the filling environment, which increases sanitation.

Fogg Rinsers are another hot option right now. They are capable of rinsing or sanitizing with acid, hydrogen peroxide, ozonated water, or HEPA air, to name a few. Customers have the option of one or two turrets depending on dwell time and chemical combinations required for their project.

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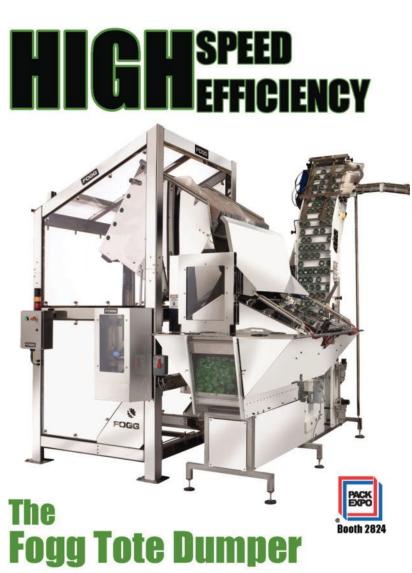
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tel 254.772.9524 ext 1

Kent: Varying weights. The customer must match the weight of product advertised on their package art. Hence, they must either always dispense too much product or have an extremely accurate system. The ubiquitous solution is training. Operators need to understand the variations of their product and how those parameters affect deposit weight.

Barr: Filling uniquely shaped containers at higher speeds. The solution is to work with the filler manufacturer to determine that the right filler and transfer conveyor are used and if any modifications are required.

F&BP: What's the best piece of advice you have for those considering a new filler?



The Fogg Tote Dumper is ideal for maximizing efficiency of caps being supplied to high production packaging lines. With its stainless steel construction, OSHA compliant guarding, and integral lighting it is the clear choice for your line.

Please stop by Fogg's booth, 2824 to see a live demonstration!



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Kent: There are really several suggestions. Buy the system that best fits your product from a manufacturer that is dedicated to help you. Make certain that the equipment supplier is familiar with your product. Look at the Returnon-investment (ROI) before buying the least expensive system. An expensive machine that lasts is much less expensive than one that wears out quickly.

Perhaps the most important piece of advice: Make certain that the manufacturer is willing to help you integrate the filling system into your production line.

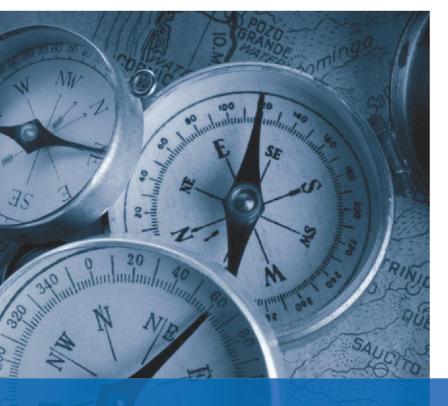
Barr: Pay attention to the container shape and its opening to determine the type of filler that can be used and speeds at which it can operate. Also be sure the filler is compatible with the container conveyor for efficient transfer of the filled containers.

Marchadour: Don't confuse price with value; think long-term when selecting equipment. That \$60k machine really isn't much of a bargain when you have to replace it in 2-3 years. Buyers should also consider maintenance costs, downtime, and waste. There is also the after-sales customer service aspect: Will parts for the machine still be available in 5, 7, 10 years? How long will it take to get a technician out to fix a serious problem? Are they going to get an experienced technician who has a thorough knowledge of the machine? What about upgrades? These things should all be considered. F&BP

FOR MORE INFORMATION

Heat and Control 800-227-5980; www.heatandcontrol.com Multi-Fill Inc. 801-280-1570; www.multi-fill.com Raque Food Systems 502-267-9641; www.raque.com

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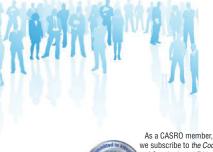
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FORM-FILL-SEAL

F-F-S: A ROUNDTABLE DISCUSSION

Industry experts provide insights into common problems and solutions, industry trends and enhancements for Form-Fill-Seal packaging. / *by* ELISABETH CUNEO, Associate Editor

CONTRIBUTORS:

Bob Kelly, president, General PackagingMike McCann, packaging specialist, ReiserBob Williams, vice president, sales & marketing, Triangle Package Machinery

F&BP: What are the trends in F-F-S technology over the last 10 years?

Bob Kelly: We are seeing more products moving to flexible as part of the source reduction movement and to reduce costs. In particular, we are building more machines for packaging liquids.

Mike McCann: There is a tendency to make machines more and more complex, yet the basic needs of users have not changed: make them simple to use, simple to clean, and simple to maintain. If anything, users need simpler machines because they cannot afford downtime and they cannot easily find highly educated and experienced maintenance and operators.

Bob Williams: We're really seeing better sealing technology, not only with traditional heat sealing methods, but with ultrasonic welding. We're also seeing the need for faster changeover and reduced



scheduled downtime, and also for improved sanitation. We're seeing stricter sanitation requirements to combat food safety issues and cleaner equipment across the board.

F&BP: What are solutions for common problems customers have with F-F-S machinery?

McCann: It's easy in a fast paced environment with orders waiting to be shipped to postpone training when a machine is first installed. In the same way that an ounce of prevention is worth a pound of cure, an hour of training is worth a day of low productivity. Invest training time when the machine first arrives.

Williams: Purchasing equipment that does not accurately meet their needs, either due to the durability of the equipment, incorrect speeds, or buying a machine that meets a price-point or delivery date, or is not designed for the application. Don't purchase a high speed bagger just because it's fast – not all high-speed machines are built for your environment and your product. Look for a bagger that is the right fit for the size and type of product you're running, as well as the speed you need. It should be properly built for your application and be able to operate 24/7 with a minimum amount of vibration. If yours is a washdown environment, make sure the bagger is stainless steel or, in some cases, that it meets USDA and 3A sanitary standards.

As far as solutions, keep in mind that packaging equipment suppliers cannot be all things to all people. Every company has its own expertise. Be sure to look for a manufacturer that has a successful track record with your type of product, application, and operating environment.

F&BP: What is a popular upgrade or option that customers ask for?

Kelly: We upgrade machines in the field with new programmable logic controllers and other parts and completely rebuild them at our facility. The rebuilt machines are like new, but the cost is much lower than a new machine.

McCann: The ability to run semi-rigid and flexible materials on the same machine with minimal change-over time and multiple package styles like modified atmosphere packaging, vacuum and vacuum skin-pack.

Williams: Updating the electronics, or control box. Other upgrades include adding a reclosable feature or providing the ability to switch between different film structures (supported vs. non-supported film).

F&BP: What advice for end-users can you share?

McCann: Many customers are insisting on longterm versatility: web widths, package styles, etc. F-F-S machines require significant capital investments and cannot be thrown away if the customer's market changes. If you want this benefit, then you must buy a machine that is fundamentally adaptable and modular in design. Make sure you understand in detail how it

What's new in F-F-S?

U <u>Itrasonics</u>. Ultrasonic sealing, an alternative to heat sealing, is a method for joining thermoplastic materials together by emitting acoustic vibrations. It offers 100% seal integrity, a huge benefit for companies with products that require air-tight packages.

Triangle's ultrasonic sealing technology offers a 50-80% narrower seal vs heat sealing, has sealing times between 80 and 200 ms, eliminates cooling time, and reduces or eliminates leakers.

Bosch's ultrasonic sealing technology is capable of web material speeds used on vertical form, fill and seal machines. By removing the heating element, manufacturers can reduce the thickness of the sealant layer of packaging films, reducing material costs and enabling the packaging of temperature-sensitive foods.

Flexibility with bag sizes.

The **tna** robag[®] 3 ttx can produce any type of bag format including pillow pack, quattro or block bottom,

can be changed for future package possibilities. How does a customer best determine what vendor is telling the real truth regarding future versatility? Visit the supplier, speak with references, and look at the long term track record of what is claimed.

Williams: Start with a well-built machine. There's no sense in upgrading a bagger that's not durable enough to stand the test of time. Also, try to schedule the upgrade far enough in advance. The time to upgrade is not when a machine is falling apart, but when new technology is available that will benefit your application. Also, it's important to engage the Original Equipment Manufacturer (OEM) when upgrading to make sure you're getting the proper parts. Too often, problems can manifest themselves in the future when less-expensive non-OEM parts are used. Efficiency can drop gradually and you'll find that you're slowly losing money. Also, when you partner with the right OEM, you'll have access to valuable service and support. **F&BP**

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and inner and outer bag configurations, with bag size options from 40mm to 320mm that can be easily changed, and wide range of bag formats.

The P3 from **Kliklok-Woodman** is capable of producing a wide range of bag sizes with consistent performance throughout the range, and offers a variety of bag style options, including block bottom bags, perforated bag string, promotional strip, notching and hole punching.

Using fewer parts.

The servo-driven design of the **tna** robag 3 ttx has 30% less moving parts than a conventional VF-F-S machine, driving down repair and maintenance requirements.

Bosch

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AUTOMATION

CONTROLS AND INTEGRATION: A MACHINERY BUILDER'S VIEW

Mike Grinager, vice president of technology for Brenton Engineering, a division of Pro Mach, discusses developments in automation. / by RICK LINGLE, Editor-in-Chief

F&BP: What are the most significant automation trends in the food and beverage packaging industry today?

Mike Grinager: We are seeing a migration from pneumatics to servo motors. The principal reasons are energy savings and smaller footprint on the machine. With servo motors, the end user also gains precision and some braking. One of the issues for the machine builder is that the more servo motors in use, the bigger the control panel becomes, so Original Equipment Manufacturers (OEMs) must perform a balancing act. Another issue

personnel. A layer down from what it takes to operate

the machine is password protected functionality, which

gives maintenance personnel everything they need for

preventive maintenance and for break/fix situations, including 3-D renderings of parts, preventive maintenance

schedules, interactive help, and video clips of processes.

This functionality leads to more consistent and timely

preventative maintenance, lower overall time spent with

the machine, higher uptime, greater throughput, and a

Remote connectivity between the OEM and the

machine will become much more common. One of

the hurdles to achieving this is the IT department's concern about allowing outsiders through the firewall. One solution may be virtual private networks between the OEM and the machine. We anticipate greater usage of on-machine cameras to allow the OEM to actually see critical parts of the machine in operation. However, the quality of the video isn't quite there yet.

F&BP: What are some of the misconceptions end users have about packaging machines as it relates to automation?

The human machine interface (HMI) next to Brenton's Mike Grinager interfaces with an entire packaging line that is designed to pack and palletize sealed cases of pouches at speeds of 180 products per minute.

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is that servo motors can be more expensive than pneumatics. To reduce the price differential it's necessary to "right size" the motors.

Human machine interface devices (HMI) go beyond the function of giving the operator a window into the system. HMI's now include a variety of tools for maintenance



Grinager: End users think that buying a robot and a highly automated machine pretty much eliminates the need for an operator. Automation does lower direct labor, but not as much as people believe. Today's systems involve complex materials/ intelligent machine interactions, and these in-

teractions require some portion of a skilled person's attention to keep the process operating at peak efficiency.

An analogous situation is the belief that personnel can have remote access to all the inner workings of the machine; for example, down to current on a variable frequency drive. The problem is that today's machines have a wealth of data available, but not down to that micro level. If an end user wants that capability, it should be planned for before the machine is built. Be aware it can add considerably to the cost.

Sustainability is much discussed today. Ask five people about what sustainability means and you are

contribution to lowest total cost of ownership.

likely to receive five different answers. There simply are no standards to follow as of yet. Until machine builders and end users start to benchmark where they are in terms of energy, materials usage, and a host of other criteria, then we won't be able to measure meaningful improvements to economic and environmental sustainability.

F&BP: What's the most common problem with automation that you hear from customers and what's the solution?

Grinager: An end user may buy similar machines/ control automation from a supplier over a period of time and each machine will likely have a different version of software. What this does is make it a chore to regularly update the various versions of software and pay for those updates. A small number of the suppliers are now making fast and inexpensive online software updates possible. This should help to force the others to follow suit and jettison the cumbersome update process. At least we hope it will.

F&BP: Where do you see automation technology and controls going in the next two years?

Grinager: Software programs will continue to become similar between the various vendors. Command structures and ladder logic will look and feel pretty much the same.

Interestingly, machine builders are acting as system integrators. When there is a core machine in a combination with other packaging machines, the core machine manufacturer will increasingly be given responsibility for tying the combos together for the factory acceptance test.

With these combo integrations, the end user only has one location to visit for the factory acceptance test, not two or three. During the test, operators and main-

tenance personnel can also receive preliminary training on the combo before it lands on the plant floor. This leads to a faster and more issue-free startup. It's a bit like system integration on steroids. **F&BP**

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PRO MACH ANNOUNCES NEW OWNERSHIP

Pro Mac

Integrated Packaging Solutions

P ro Mach, Inc., Cincinnati, announced July 6 the completion of its acquisition by The Resolute Fund II, L.P., an affiliate of The Jordan Company, from Odyssey Investment Partners, LLC. Financial terms of the transaction were not disclosed. Two key points that are of note:

- Management team remains intact
- Pro Mach to accelerate growth strategy and customer service initiatives

"We are proud to announce our new ownership under The Jordan Company," says Mark Anderson, Pro Mach President and CEO. "Our management team and I look forward to partnering with them to accelerate our growth strategy and build on our position as one of the largest packaging machinery manufacturers in North America." "By providing a single source for integrated solutions and a wide range of standalone products, Pro Mach solves strategically impor-

tant packaging operations challenges for a diverse range of customers every day," says Brian Higgins, Principal, The Jordan Company. "Pro Mach and its brands have an excellent reputation for consistent delivery of exceptional products and support to its demanding customers, many of whom have been customers for more than 20 years. We look forward

to working with the Pro Mach management team to expand Pro Mach's capabilities to provide superior products and services to its customers."

Pro Mach's product and solution brands include Allpax, Axon, Brenton, Currie by Brenton, Dekka, Fowler, ID Technology, IPak, LSI, Orion, Ossid, Rennco, Roberts PolyPro, Shuttleworth, Wexxar/Bel, and ProCustomer.

BRIEFS

Students at Greenville Technical College will get some hands-on experience in robotic manufacturing thanks to a new robot from **Stäubli Corp.** The donation includes a RS40B robot arm, CS8C controller and SP1 teach pendant to be used in the mechatronics lab at the Brashier campus to teach 45 to 60 students each semester in automated controls and robotics courses. Stäubli also recently donated a robot to Clemson University.



Owens-Illinois, Inc. has named Paul Jarrell the company's new senior vice president and chief human resources officer. Jarrell will be responsible for leading the global human resource function by developing and implementing people strategies that enable O-I to achieve its business objectives.

Delkor Systems has been awarded a U.S. government patent for its new Intelligent Positioning™ Technology

for carton closing. The breakthrough reduces the number of parts and the machinery footprint by 35% over traditional carton closers



Intelligrated has appointed Chuck Harris as vice president of Midwest Operations, distribution & fulfillment. Based out of Intelligrated's Chicago location, Harris will oversee sales, concepting, estimating, engineering, and project implementation services

for the company's distribution and warehousing clients in the region.

Triangle Package Machinery Co. appoints Rich Charleston as its newest PMMI certified trainer and field service technician. He will be responsible for building and maintaining the company's PMMI Certified Trainer Program, as well as technical service and support.

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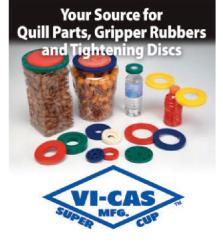
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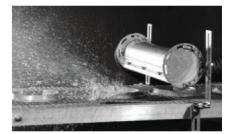
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