

BAGS & POUCHES:

Diving into the flexible packaging market

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WELCOME TO OUR FIRST eBook

Welcome to *Packaging Strategies'* first eBook focusing on the flexible packaging market. This market is still expanding and growing each year. A report from Transparency Market Research states that the global demand for flexible packaging was valued at USD 73.56 billion in 2012, and is expected to reach USD 99.10 billion in 2019. There is a lot of growth potential here, as the flexible packaging market spreads across several industries—including processing and packaging of pharmaceuticals, personal care products, household items, and food and beverages.

Looking back through my years covering the packaging industry, I am amazed at how many more markets have adopted this packaging material, from baby food to laundry soap, motor oil and even body wash. It is an exciting time to be a part of the changes in the packaging industry.

Look through this eBook for package inspiration, technical pieces, and articles that show successful product launches. Each article within the eBook focuses on this expanding market. We hope you enjoy reading all about the ever-growing segment of flexible packaging. **PS**

Best,

ELISABETH CUNEO
 Editor-in-Chief
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Inciting Revolution to Drive

Growth and Innovation for Shelf-Stable Stand-up Pouches

Joel Henry, Founder, Fig Food Co.

After almost two decades in marketing and leadership roles with several major packaged food and beverage companies, Joel Henry struck out on his own to found Fig Food Co., a producer of plant-based organic food, including shelf-stable soups, beans and vegetables. He is outspoken on the need for healthier diets, sustainable agriculture — as well as environmentally friendly packaging. He advocates for changes within the flexible packaging industry to drive growth, and create more opportunities and a more robust supply chain for emerging packaged food companies, large-cap food companies and grocery retailers.

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FLOW WRAPPING



WILDE ADOPTS FLOW WRAPPING MACHINERY

Meat-based protein bars use art and technology to make a statement.

by **LIZ CUNEO**, *Editor in Chief*

In the world of protein bars, flow wrap is the name of the game. Consumers know and understand this very customary packaging. Wilde Snacks of Boulder, CO, wanted to capitalize on this consumer standard, yet give them something they had never tasted before or seen in a typical flow wrap package. When a shopper picks up a Wilde Bar, they are picking up a meat-based, whole-food savory bar that delivers 10-11 grams of protein, but with very low sugar and sodium, all beautifully wrapped in a standard flow wrap package.

The idea for Wilde Snacks was born roughly two and a half years ago in Boulder. The concept was seemingly simple: combine premium, pasture-raised or grass-fed lean meats from animals raised without growth hormones or antibiotics with fruits, vegetables, ancient grains, and spices into a bar.

“At the time, almost all bars were packed with sugar and nuts and there was a lack of anything savory that would deliver high amounts of protein but without all the sugar. The key at Wilde Snacks is that each bar is slow-baked to perfection, allowing the consumer to experience something truly unique,” says Wilde Snack Co-founder/CEO Jason Wright.

THE WILDE PACKAGE

Wright wanted to create a whole-food, savory protein bar using GAP (Global Animal Partnership)-certified lean meats, ancient grains, super fruits, and veggies, but do it as a bar and not be labeled as “jerky.” The importance of being in the bar set instead of the jerky set was a must when Wright set out to create Wilde.

“We wanted to do it in the bar category because we were tired of the sugary, low-protein snack bar options currently on the shelf. We wanted to give the customer a new savory option but with a familiar feel, so we chose to flow wrap the packaging to give them a familiar bar package,” explains Wright.

Consumers are used to eating the traditional protein bar or granola bar in a flow wrapped bar package style. Since the consumer is trying something new when choosing Wilde, Wright and his team wanted to make sure they offered it up in a familiar package, on shelves next to the bars they were familiar with.

“Idea is one part; the execution and developing the innovation is the real work, and the real story,” says Wright.

So who is behind the colorful and eclectic package designs? Wright says one of his biggest accomplishments was convincing JR Crosby to partner with him and Derek Spors to launch Wilde Snacks.

Jason Wright had the vision to create a new snack bar category, but JR Crosby, who owns Ptarmak, an Austin, TX-based design firm, had the vision for Wilde’s design and branding. Derek Spors, who owns Spork & Ladle in Boulder, CO, is the genius behind Wilde’s innovative formulas and flavors. Brendan Synnott is a co-founder and the head coach



to the CEO. Wright said that the most important thing he learned from his first company was to get the right people on the bus from day one.

Each package design has its own unique story and uses bright colors and artistic elements to convey the brand’s innovation. Maple Bacon Blueberry is designed to look like a pancake with maple syrup, bacon, and blueberries on top. Strawberry Black Pepper uses both red and black to display a grilled strawberry topped with black pepper. Chili Lime is meant to have the appearance of an authentic Spanish design one would find on a knitted blanket. Peach BBQ should remind consumers of cooking over an open flame (or a wood fire) and what the wood looks like sliced open, exposing the ridges and the grain.

Wilde Snacks uses the word wild as its base but added the “e” to make it unique to the brand. It is a nod to both the bar’s protein source, and the bar’s innovative concept as a whole.

THE EXECUTION

Wright knew that Bosch (boschpackaging.com) was known as the leader in flow wrapping, so it was an easy choice when deciding on a machine supplier. In addition to the machine, he had to find a film that was strong enough to contain the bar with a seal strong enough to ensure that absolutely no air could get inside. Meat packaging can have no leaks or holes; otherwise, the product can mold. Wright went with Maxim Flex Pac (maximflexpac.com) out of Irvine, CA, for the film, and Bosch for the flow wrapper to package the whole-food, savory protein bars.

The machine chosen was the Pack 101 horizontal flow wrapper, which is an entry-level solution that offers a wide size range. The machine is capable of packaging 150 bars per minute. Wilde Snacks is currently using this entry-level machine but has plans to move up as sales increase.

The Pack 101 comes with an all-servo motor design that enables quick and easy setup and changeovers. It also maximizes product and film usage during production, while of-

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fering low maintenance costs. The Pack 101’s fully adjustable former and multiple cutting head sizes permit a wide range of products to be packaged on a single machine, reducing the need for future investment and giving manufacturers the agility to quickly adapt to changing market demands.

Its small footprint and left or right hand execution fits most production environments and can easily integrate with Bosch feeding technology for light automation.

“We love the consistency of the machine. It produces the perfect seal every time,” says Wright.

Wilde is currently sold at Whole Foods Market locations in Colorado, Utah, and New Mexico. Wright says the plan is to expand nationally throughout the natural channel in 2016. **PS**



STAND-UP POUCHES

STAND-UP POUCHES FOR LIQUID PRODUCTS

by **AMANDA DAHLBY**, Marketing Manager, Glenroy Inc.

Stand-up pouches are one of the fastest-growing packaging formats, with stand-up pouch usage projected to grow by 7% each year through 2018. Thanks to advances in flexible packaging materials, fitments, and filling equipment, many products once limited to rigid packaging are now excellent candidates for pouches.

When thinking about packaging for liquid products, pouches may not be the first thing that comes to mind. But an increasing number of brands are switching from rigid packaging to stand-up pouches for liquid products such as beverages, syrups, cleaning solutions, and even oils and lubricants.



WHY CONVERT FROM RIGID PACKAGING TO POUCHES?

The benefits of choosing stand-up pouches over rigid packaging are many. Flexible pouches:

- Are conveniently lighter and more portable for today's on-the-go consumers.
- Result in a higher product-to-package ratio.
- Use approximately 60% less plastic than rigid plastic bottles.
- Allow for more efficient warehousing, since unfilled pouches take up significantly less space than rigid packaging.
- Allow for near total evacuation of the product. (Rigid containers can leave 6 - 14% of product in



An example of a stand-up pouch customized for liquids is Glenroy, Inc.'s Ready Pour pouch. Designed for convenient dispensing, the lightweight and durable Ready Pour pouch features a tamper-evident tap dispenser and ergonomic handle. The pouch is constructed from materials engineered to preserve flavors and extend the freshness of liquid products, and the design allows for increased printable surface area for high-impact graphics.

packaging, while pouches can evacuate up to 99.5% of the product.)

- Require approximately 50% less energy to produce.
- Generate less CO2 emissions during production.
- Produce less landfill waste.
- Require fewer trucks for transportation—reducing fossil fuel consumption and CO2 emissions.

- Provide shelf impact, differentiation, visibility, and a wide range of convenient features that all translate to a competitive advantage for your brand.

For example, in 2013, Glenroy Inc. produced a durable spouted stand-up pouch for Arctic Cat's innovative C-TEC2 Synthetic engine oil. It was the first oil pouch in the U.S. powersports industry. Not only did the new pouch provide the benefits listed above, but converting from the industry-standard 32 oz. F-style quart bottle to a pouch also:

- Provided a sizeable increase (over 500%) in printable surface area to present attention-grabbing graphics and key information.
- Facilitated easier dispensing of oil into compact oil reservoirs.
- Reinforced the high-performance, environmentally conscious characteristics of the brand.

While many companies can supply pouches, when seeking stand-up pouches for liquid products, it can be beneficial to seek out a pouch supplier with additional specialized expertise in the area of designing packaging for liquids.

POUCH CONVERTING

Some suppliers with experience in engineering and manufacturing stand-up pouches for liquids have developed techniques for pouch converting that provide safeguards against potential leaks. According to Kevin Riggs, pouching operations manager at Glenroy Inc., “We use methods of pouch sealing that create stronger seals and help to prevent leaks in the most vulnerable areas of a pouch. These methods aren’t used across the board by all pouch converters. We’ve developed these methods through experience and by working closely with pouch machinery manufacturers.”

POUCH PROTOTYPING

Certain pouch shapes encourage buckling or folding of the flexible packaging film, which can lead to stress fractures—and ultimately leaks. And liquid pouches that are too large for one-handed dispensing usually require a die-cut handle to provide two points of contact for the consumer to use when pouring.

A pouch supplier with experience in liquid pouches can collaborate with you to create innovative pouch prototypes that prevent stress fractures and provide structural stability, shelf impact, convenience, and ease of use.

When designing prototypes, your pouch supplier should also know and take into account the filling process that is going to be used for your pouches. For example, certain pouch filling equipment may require extra area on pouches to account for the sealing bar. The filling process is a critical aspect in the supply chain and often impacts pouch design.

POUCH MATERIALS

The flexible packaging structure chosen for your pouches plays an essential role in preventing pouch failures. As background information, a flexible packaging structure typically consists of multiple layers of materials laminated together, with each layer performing a crucial role in the performance of the package.

Puncture resistance and durability are extremely important when designing pouches for liquids, and certain flexible packaging materials are ideal for puncture resistance and durability. An experienced pouch supplier will incorporate these materials into the flexible packaging structure engineered for your pouches.

Be wary of any pouch supplier that offers a standard “menu” of flexible packaging materials. Choosing a pouch supplier who can engineer customized flexible packaging

structures based on your products' unique formulations can aid in preventing product/package compatibility issues once your products are in the hands of your consumers.

POUCH TESTING

When designing and manufacturing pouches for liquids, testing is yet another key to preventing pouch failures. Throughout the stages of package engineering, packaging film manufacturing, and pouch converting, your pouch supplier should subject your pouches to various types of testing, which may include:

- product/package compatibility testing
- compression testing
- seal testing
- puncture resistance testing
- water bath testing
- tensile testing
- burst testing
- drop testing

Each type of testing plays a critical role in ensuring that the final package will function optimally. For example, when

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forming pouches, frequently performing water bath testing (a test using external pressure) and internal pressure testing throughout each pouch converting run can immediately detect any leaks or weak seals.

SPOUTS AND FITMENTS

Spouts and fitments play an essential role in the functionality of pouches for liquids. According to Dave Johnson, food market strategic business development manager at AptarGroup, “A key component to the popularity of stand-up pouches is the continued evolution of spouts and fitments.” A wide variety of innovative spouts & fitments are available to add convenient features to pouches, such as easy opening

and reclosing, audible feedback, tamper evidence, child safety, one-handed dispensing, clean product cut off, and controlled pouring.

For example, AptarGroup’s Simpli Squeeze® valve technology has been used in rigid packaging closures for over fifteen years, and is now available within several of AptarGroup’s spouts for flexible pouches. Designed for liquids, the Simpli Squeeze® silicon valve prevents leaks, controls the volume and stream of liquid as it is dispensed from a pouch, and provides superior product cut off—providing mess-free dispensing.



ing the misconception that they can’t perform the same functions as a bottle. When designing pouches for liquids, we as packaging engineers need to understand the various ways that choosing flexible packaging can improve a package’s functionality or solve a problem, and add value for the consumer. There are many ways pouches can add convenience and improve the consumer experience.”

When addressing the perceived durability of pouches, Riggs points out, “We’ve developed spouted pouches that hold 32 oz. of liquid and pass 12 ft. drop testing. In my opinion, pouches can perform as good, and in some cases better, than bottles.”

THINKING OUTSIDE THE BOTTLE

There is a misconception about flexible packaging that is becoming less prevalent, but still exists for some. That misconception is the belief that pouches aren’t as durable or functional as rigid packaging. According to Evan Arnold, product development manager at Glenroy Inc., “I think the biggest struggle for liquid pouches is overcom-

Any remaining misconceptions about the durability of pouches will likely subside as numerous liquid products migrate from rigid packaging to pouches, and the “flexible packaging natives”—a generation of consumers that grew up drinking juice from flexible pouches—take center stage. **PS**

STAND OUT *with* GLENROY

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STAND OUT WITH QUALITY

At Glenroy, we understand that your package communicates the quality of your brand, and quality is essential. In addition to manufacturing flexible packaging laminations, we own a wide variety of state-of-the-art pouching machinery. This provides us with full control of your pouches' quality throughout the entire process – from engineering to pouch converting. And we'll collaborate with you. Our packaging engineers will work with you to create prototypes and custom pouches based upon your product's unique formulation, projected life cycle, and filling equipment.

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NEW PACKAGES

NEW & NETWORTHY

CHOCOLATE SUPPLIER UNVEILS NEW PACKAGING

Cacao Barry, one of the world’s leading suppliers to top chocolate professionals, unveils a new brand identity and wide range of packaging. A remarkably diverse range of chocolate origins and flavors is derived by sourcing cacao from selected countries and plantations around the globe, giving each product its distinctive taste profile. The new identity and design celebrates the stories behind the flavors, as well as the pioneering spirit of the company’s founder, Charles Barry. International brand design agency Design Bridge (designbridge.com) developed a distinctive “periodic table” of flavor elements, which uses a combination of detailed botanical illustrations, technical x-ray visions of flowers, etched cacao illustrations, and watercolor paintings to



reflect the diverse product range. The stand-up pouches offer ease of use and a highly visible billboard space for marketing and branding.

PAINT IN A POUCH

Spray paint brings to mind a very familiar mental image —an aerosol can. But Rust-Oleum and Printpack (printpack.com) are challenging that iconic package by packing Rust-Oleum’s SpraySmart spray marking paint in a pouch. The 12-ounce clear pouch uses premium external high-barrier materials and Printpack’s proprietary barrier sealant film technology. This allows the pouch to have a strong barrier to oxygen, moisture, and chemical attack.

SpraySmart facilitates an easy transition from the aerosol can by using existing spray wands and a non-clogging spray tip. The pouch also provides more effective product evacuation. The SpraySmart pouches use less space than aerosol cans and allow for easier disposal. Overall, these advantages make SpraySmart a more convenient, less costly, and sustainable solution for consumers and brands alike.



HIP NEW LOOK FOR APPLES

Remember those stewed apples from the cafeteria in grade school? A Kansas company is out to remake your opinion of the healthy dessert, with a boost from packaging.



Big Slice Apples, the flagship brand of Grandma Hoerner’s Foods Inc., last year made its debut in new plastic pouches and in new flavors with the mission to reinvigorate the 27-year-old brand.



The kettle-cooked apples are now available nationwide in 16 varieties in a distinctive, 4.5-ounce colorful retort pouch with rounded corners produced by HD Packaging. Hoss CI Inc. was the agency behind the remake.

“They found the pouch was the best vehicle to deliver a healthy snack that consumers could take wherever they go,” says creative director Blake Hoss. In addition, the package needed to quash any preconceived notions of the snack being another kind of applesauce (it is cooked apple chunks). The

“playful, hip, cool and fresh” package also features a glossy photograph of a fork, which is how they are eaten.

SELF-HEATING POUCH

Convenience can come in many forms, and a couple of the most unusual were showcased by packaging giant Sonoco and one of its clients, Texas-based RBC Technologies.



Demonstrating that “convenience is synonymous with functionality,” in the words of Sonoco Products Co. marketing director Pete Gioldasis, RBC wowed the audience at the 2014 Global Pouch West conference with its self-heating products. For the past decade, the 26-year-old company has been working on packaging that heats up without a power source.

Its first major product, launched in 2006, is a self-heating thermoformable splint that can be used to replace plaster for sprains and broken bones. The splint is especially designed for developing countries, but is available in doctor’s offices and clinics in the U.S., Canada, Mexico, Australia, and the U.K.

Four other products are in the works, including self-heating pouches that melt chocolate and warm up wipes. A big part of the company’s R&D efforts for several years has been

developing a flameless ration heater for the military’s Meals Ready to Eat (MREs).

They are being tested now, and if RBC gets the final U.S. Army contract (in 2016 or 2017) to produce 40m units of packaging, it will be a big boost for the College Station company. The self-heating pouches would enable soldiers to heat their food in 10 minutes; currently they use a flameless heater that relies on a chemical reaction and water.

HOW IT WORKS

The heating is activated when a peelable seal on the outside of the package exposes the tiny zinc “batteries” to the air and causes them to react. The product inside can be safely heated in 2-15 minutes, depending on the size and weight and required temperatures. It can be used for a variety of food and personal-care products and works best with flexible pouches.

“It is highly controllable temperature,” says CEO Adam Laubach, who added that the technology was originally based on hearing aid battery chemistry. “There is no release of dangerous gases,” he adds, which has been a worry with the current MRE heater packs, which produce a flammable gas.

AWARD-WINNING SAUCE POUCHES FOR MCCORMICK



A new pouch produced by Bemis Co. for McCormick & Co. has the look and functionality of a bottle, with the efficiency and sustainability of a pouch. The stand-up pouch for McCormick's Skillet Sauce brand that incorporates a

die-cut spout that looks like a cap won an award for packaging excellence from the Flexible Packaging Association.

The 9-ounce laminated polyester and polyethylene pouch was customized by Bemis for McCormick. Its opening “cap” designed to tear easily without scissors for a clean, controlled pour was designed by McCormick and executed by Bemis.

“McCormick saw an emerging market for sauces, dressings, and condiments,” says Jon Pietsch, marketing manager for liquid flexibles at Bemis. It wanted to differentiate and expand its offerings, and compete in the skillet sauce category against players such as Campbell Soup Co.

The company has described the sauces—which come in flavors such as fire roasted garlic chili—as liquid versions of its dried seasoning mixes. The single-use pouches were introduced in 2014.

The shape helps sets it apart from bottled sauces and attract those customers to the so-called “center aisle” of supermarkets where processed food manufacturers are “being challenged to innovate and differentiate,” Pietsch says.

T-EEING UP DRINK POUCHES

T-shirts are ubiquitous so why not a T-shirt shaped pouch? Ampac first commercialized its Pull Tab-T-shirt pouch for



beverages last year in Europe and North America.

The premade straw hole on the pouch body is covered by a tear-away pull-tab label that is applied by automatic label dispensers. By removing the straw the label gets preopened versus piercing through the membrane as in other beverage pouches. A stopper on the label prevents it from detaching completely, and it can be reclosed.

As the straw doesn't puncture the laminate, it can be made with larger diameters up to 8mm and thus can be

used for beverages from waters to thicker smoothies. Sizes range from 90ml to 200ml. The film is a PET/foil/PE structure and the pouch can be used for fruit juice, smoothies, stabilized milk, and other nonalcoholic and noncarbonated beverages. A version for the alcohol market is currently under development.

They are made in Europe at Ampac's Kirchberg, Switzerland, manufacturing site. The company plans to add production in North America. **PS**

FLEXIBLE PACKAGING



AN ABUNDANCE OF POUCHES

As flexible packaging continues to grow, pouch makers expand and improve offerings.

by **REBECCA EVE SCHWEITZER**

According to the Flexible Packaging Association, the U.S. flexible packaging industry grew 2.8% to \$27.2 billion in annual sales, but we don't need statistics to see that flexible packaging is on a roller coaster that only goes up. A single trip to any grocery store offers up shelves and shelves of evidence that flexible packaging is bending its way into every market possible.

SPOUTING NEW POUCHES

According to L.E.K. Consulting (as reported by Ampac), spouted pouches will grow at more than 15% from 2013 to 2017. This means more companies will be looking to their packaging suppliers to meet that need. Eagle Flexible

Packaging (eagleflexible.com) has expanded its offerings by introducing spouted pouches, because these packages continue to grow in popularity and because of the uniqueness and the ability to differentiate products on the shelves. To accommodate a variety of needs, Eagle Flexible Packaging offers pouches that can be customized. Spouted pouches are reclosable, which makes them a good match for grab-and-go product. The pouches can even be made with die-cut handles for better portability. In addition to being customizable, reclosable, and portable, spouted pouches offer great flexibility in the types of products they can hold, including food, beverage, condiments, dry mixes, pet food, granulates, and powders.

FILLING CUSTOMER NEEDS

L.E.K. Consulting also forecasts that aseptic stand-up pouches will grow at 78% from 2013 to 2107. To meet the demands of the market, Ampac (www.ampaconline.com) has reintroduced the AseptiPouch®, a packaging format for cold aseptic applications. The premade stand-up AseptiPouch offers a unique fitment, which has a flip-top cap that is removed prior to filling and immediately reclosed after filling. It is engineered for processing on an Astepo aseptic filling machine. Because the pouches are gamma irradiated (sterilized) and shipped for the filling process, the AseptiPouch differs from alternative FFS aseptic packaging systems that require the laminate web to be immersed in a peroxide bath for sterilization before forming into a pouch.

Ampac’s AseptiPouch comes in three sizes (200, 500, and 1000 grams). It offers advantages such as preserved food quality, taste, and appearance, as well as requiring fewer preservatives while retaining more nutritional vitamins. Packagingers can now also fill low-acid products.

Dave Bartish, Ampac vice president of marketing, says, “AseptiPouch reinforces Ampac’s core value to advance current technologies to meet the needs of our customers for packaging that uses less energy while providing fresher products

with less preservatives. We are dedicated to producing innovative solutions while evolving the industry offerings with more developments in aseptic fitmented pouches.”

AseptiPouch also offers cost savings and reduced energy use, which helps improve sustainability. Cold aseptic filling uses less water and energy than hot fill and retort. Products such as beverages, soups, sauces, liquid foods, dairy products, desserts, and others can all be filled aseptically.

TAKE A SHOT

Because pouches are so easy to customize and can be made in a wide range of sizes, unusual and niche products find a perfect packaging solution with the pouch. Pocket Shot, small shots of spirits in a “grab and go” convenient and user-friendly package, comes in a 50ml single serve flexible stand-up pouch. The line is expanding its flavor offers and introducing a 60-unit case, which will consist of five sleeves of 12 pouches each, with the colorful sleeves functioning as their own display.

“We’ve been on the cutting edge of pouch technology and have played an integral part in package development to enhance immediate shelf appeal and ensure there is no product leakage—a win-win for both the consumer and the retailer,”

The inside scoop on pouch making

Mark Gum of consumer goods packaging company Mondi Jackson (www.mondigroup.com) offers up his expert insight on pouch making. (This interview was originally published in the October issue of our sister publication, *Flexible Packaging*.)

Flexible Packaging: In terms of packaging, what are some key considerations a company should consider when looking to move from a conventional material (paper, glass, corrugated, etc.) into a flexible film format?

Mark Gum: Filling equipment must be evaluated when transitioning from conventional materials to flexible packaging. Quality expectations must also be understood and evaluated. The cost of transitioning from conventional materials to a flexible format must also be considered.

Sometimes, moving to a flexible package can yield significant material and transportation cost savings. Consumer features can also be integrated into a flexible package format. Reclose options, easy-open features, and handles are just a few of the consumer benefits that flexible packages can offer. Some packaging materials can also yield sustainability benefits. In addition, barrier properties must be

evaluated when transitioning to a flexible packaging format.

FP: How can a package that is already in a flexible film format be improved upon?

Gum: Adding reclose features, easy-carry handles, and easy-open features can add value to a customer's flexible package.

FP: What are the main components to consider when creating a pouch for a customer?

Gum: The product being packaged, package size, and package features such as reclose, easy-carry handles, and easy-open features. Also, we need to consider whether the application is hand- or machine-filled, the type of filling equipment, and structure and barrier property requirements.

FP: Are there any new pouch formats that the company is proud to offer (trigger pouch? Any others)?

Gum: The Mondi Square Bag is a unique package that offers reclose and handle options.

FP: What are some major general/overall challenges with pouch making?

Gum: Providing customers with product quality that is equal to or better than their existing package. At Mondi, we

strive to provide our customers with outstanding print and lamination, as well as superior bag-making quality that has led to award-winning product performance.

states developer Jarrold Bachmann.

Pocket Shot uses the Branson Ultrasonic seal, which matches up the contoured sealing surfaces of the package top, producing a 100%-clean, clear, contaminant-free seal. The Pocket Shot

pouch received a Silver Award for Sustainability in the 2012 Flexible Packaging Association's Annual Achievement Awards.

Packaging companies are inventing new and better ways to provide pouch packaging as quickly as their customers are inventing new and innovative products to fill those pouches. These innovations are not just in response to the growth in pouch packages, they are the cause. As more innovators find new applications and better methods, more pouches will continue to fill store shelves. **PS**



SURFACE TREATMENT APPLICATION REPORT

OPTIMIZING POUCH SEAL STRENGTH

by **RORY A. WOLF**, *ITW Pillar Technologies*
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Flexible packaging structures such as pouches are called upon to not only securely seal the product within, but also contain them whether they are in dry or liquid form, aromatic or acidic, and/or with other package-penetrating characteristics. Since these challenges typically compromise manufacturing production speeds and can cause potential package performance issues such as poor heat seal strength, product off-taste and odor, surface treatments are commonly introduced to the lamination process to enhance adhesion, increase production speed, and improve seal strength. This being said, studies, such as by Meka[1], found that corona treatment, for example, will increase the seal initiation temperature by 5-17°C and decreases the plateau seal strength by 5-20% as the treat level, or wetting tension, increases from

31 to 56 dynes/cm. Hence, a discussion is required to clarify how surface modification techniques such as corona and atmospheric plasma treatment should be employed to optimize pouch seal strength.

In the flexible packaging industry, surface treatment is known as a method of changing the surface tension of a film. Higher surface tensions on the film generally indicate an increase in surface polarity which can overcome the natural surface tension of a liquid, such as an ink or adhesive, to itself. Polypropylene film that is not treated will have a surface tension typically less than 32 dynes/cm and be relatively non-polar. Since most pouch sealing adhesives have natural surface tensions that are significantly greater than this level, the adhesives will not wet-out across the film. Surface treat-

ment will increase film surface tension to a level closer to the adhesive's native surface tension.

The most common technique used for increasing the surface tension of a film is corona treatment. Corona treatment is characterized by a “controlled modification” of a film's surface whereby a pouch film passed through a highly charged electrical field whose electrons, ions and photons bombard the film surface in an ambient oxygen (air) environment. This discharge species bombardment converts the oxygen into highly reactive monoatomic oxygen, as well as ozone, which oxidizes the surface of the film. In addition, a certain level of surface etching takes place which creates anchorage for pouch adhesives, inks or coatings. Increased discharge power levels will create higher levels of oxidation, which can result in higher film surface tensions — to a point. Excessive energy levels can create levels of surface degradation characterized by decreasing surface tensions. Surface tensions of at least 38 dynes/cm will be required to achieve a base level of adhesion for solvent-based inks, whereby a minimum of 44-46 dynes/cm is recommended for pouch adhesives and water-based inks.

And so to summarize, pouch films are treated to **1)** modify the polarity of films, **2)** increase film surface roughness,

3) modify the chemical functionality of the film surface (i.e., higher oxygen content), and **4)** to remove organic contaminations.

For dry bond laminating, an in-line corona treatment is typically applied and coat weights are controlled by gravure processes at approximately 0.7-3.2 pounds/ream. Nip temperature and pressure are usually applied as high as the film properties will allow, and drying is related to temperature, inlet humidity and air flow parameters. It is important to also note that when biofilms are used in pouch construction, adsorbed water will cover the film surface due to its hydroscopic nature and can affect adhesion. Surface treatment will remove most of the adsorbed water particles prior to coating. Oven temperatures will also be limited due to the susceptibility of some biofilms to shrinkage.

For solvent-free lamination processes, an in-line corona treatment is also typically applied prior to the application of a two-part reactive adhesive system. Standard coat weights are approximately 1.0 pounds/ream, with viscosity of the adhesive adjusted by applied heat. With biofilms, nip temperature and pressure must be less compared to dry bond laminating. Achieving target surface tensions (dyne levels) also becomes more critical since solvents will not be pres-



ent to dissolve boundary layer organic contaminations at the surface to promote adhesive anchorage. This is particularly challenging when plasticizers are present as the film surface, since solvent-free adhesives will not readily displace them. And as with dry bond laminating, adsorbed water particles also must be removed.

The use of corona treatment for promoting pouch film oxidation will successfully do so, but the process can create a molecular surface effect which will be less prone to “flow” when heated. This is why the heat-sealing of two corona-treated surfaces for pouch construction may fail, since the surfaces within the seal area will not flow sufficiently to bond well to each other. The result is typically delamination. This effect also takes place when sealing a corona-treated surface to an untreated surface. Delamination effects due to corona

treatment in the seal area can only succeed when highly aggressive sealant technology is applied.

So, what are best practices when trying to promote both pouch adhesive adhesion and seal strength when a treated surface is in play? In most cases, corona treatment will only be on a single side of the surface of the film. However, there can be an unintended occurrence of “backside treatment” where there are air pockets which become entrained behind the film surface (sealant side) as it passes over the ground roll of a corona treater—either during the film extrusion process or during “bump” treatment at converting. This backside treatment (oxidizing) effect is accentuated when treatment power levels are above prescribed levels. If backside treatment impinges upon the pouch side seal area, delamination will occur. To avoid these types of issues with corona technology, discharge area and discharge density management is key. Employing segmented electrodes and skip-treating technology can provide the ability to selectively treat areas of the film and avoid treating sealing zones. Using proper electrode and ground roll dielectrics in parallel with the proper electrode surface area can better distribute treatment discharges and minimize high voltage discharge canals. Finally, the use of atmospheric plasma technology in pouch converting can

eliminate the potential for backside treatment, clean organic surface contaminations more uniformly, and provide higher levels of surface tension and adhesive/ink/coating bond strength without surface degradation.

For further information regarding recommended surface treatment protocols for specific materials and applications,

feel free to contact your ITW Pillar Technologies Representative, or by the following:

Corporate Phone: +262.912.7200

Email: surfacetreatment@pillartech.com

Web: www.pillartech.com

[1] Farley, J.M. and Meka, P. (1994) Heat sealing of semicrystalline polymer films. III. Effect of corona discharge treatment of LLDPE. *J. Applied Polymer Science*. 51. 121-131.

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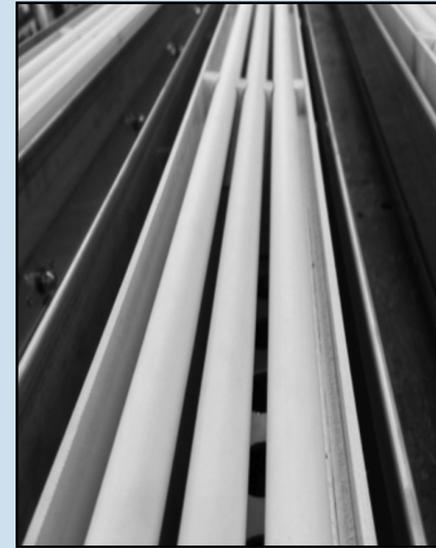
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2015 PACKAGES OF THE YEAR



PACKAGES OF THE YEAR PACK A PUNCH

In case you missed it, a lot of our 2015 packages of the year winners were flexible packages.

by **LIZ CUNEO**, *Editor in Chief*

As I walk down any given grocery aisle, I can almost hear each package shouting, “Pick me, pick me!” With a plethora of options for various spirits, cereal, and snacks, how does somebody make a choice? Which item is getting chosen? Consumers don’t just look at the ingredient list; packaging is very impactful when making a purchase decision. We at *Packaging Strategies* pored over readers’ package submissions and scoured store shelves to compile this list of some new packaging that is sure to be chosen.

AATU PET FOOD

In 2014, Pet Food UK Ltd. asked Tyler Packaging Ltd. (UK) to develop an ultra-premium pet food packaging for its new pet food brand, AATU. The company tasked



Tyler Packaging Ltd. (www.tylerpackaging.co.uk) to produce a package that suitably conveyed the high quality of the product, while making it appealing to its high-end target market.

“Quite simply, the higher the meat content, the better the quality. We see AATU as the premium luxury brand when it comes to pet food. We’re the equivalent of Rolls-Royce or Bentley, the Tiffany & Co. of the pet food market,” says Paul Hunter of Pet Food UK Ltd.

Tyler Packaging developed the 1.5kg flat-bottomed bag with a quad seal and an EASY-LOCK by APLIX (www.easy-lock-aplix.com) opening top. The closure was selected to complement this ultra-premium packaging design, offering consumers an easy reclosable package to preserve freshness.

NEW ZEALAND JERKY

New Zealand Jerky Inc. (NZJ) is made with all-natural ingredients, and is crafted from premium, grass-fed beef from New Zealand. NZJ jerky products are packaged in pouches, sourced from Coveris (www.coveris.com). The company wanted to create a unique, visually appealing package within the beef jerky category. They wanted it to stand out from the majority of packaging in the category, which traditionally is designed to appeal to a masculine audience, using solid blacks and reds, and often a Wild West theme.

NZJ's aims to appeal to both genders, to convey an overall uplifting feeling of a fresh, crisp, clean jerky product from a healthy environment. To achieve this, they chose to cap-



BAGS & POUCHES: Diving into the flexible packaging market

ture the fresh, clean colors and image of nature to transmit the feeling of “fresh” with snowy mountain peaks contrasted against the brilliant blue sky and vibrant green grass. NZJ is the first Non-GMO Verified beef jerky on the market in the U.S., so they included the Non-GMO badge on the package.

OCEAN'S HALO SEAWEED CHIPS

Ocean's Halo™ Seaweed Chips is the first product from New Frontier Foods, Inc. The Bay Area-based natural foods company was started in Burlingame, CA by four dads. Made from only sustainably grown seaweed and other natural ingredients, Ocean's Halo Seaweed Chips use Innovia Films' (www.innoviafilms.com) bio-based NatureFlex™ packaging. This flexible packaging material is derived from sus-



tainable wood pulp, offers excellent barriers to oxygen and moisture, and is certified compostable.

When looking at packaging options, Ocean’s Halo felt that the package should reflect their core values while also providing superior protection for their product. In order to maintain the crunch of the chips, it was critical to guard against moisture vapor. A high barrier to oxygen was also necessary to extend shelf life.

PACXPERT PACKAGING TECHNOLOGY

Dow Packaging and Specialty Plastics (www.dow.com)



recently launched its PacXpert™ Packaging Technology, which enables the transition from larger traditional rigid containers to flexible packaging. The collapsible, cube-

shaped technology can be used in numerous household, institutional, and industrial applications including food, condiments, liquids, and dry goods.

BAGS & POUCHES: Diving into the flexible packaging market

The lightweight packaging design offers benefits for consumers, brand owners, and converters, and includes a fitment closure and integrated ergonomic dual handles for precision pouring, easy reclosing, and convenient carrying. The package is shelf stable when filled and can stand upright or on its side, is easy to handle, and does not take up too much space. Brand owners can print on all four sides, ensuring optimal brand visibility.

YUMBUTTER

Peanut, almond, and sunflower seed butters consistently satisfy snack cravings with freshly roasted flavor and now, for the first time, Yumbutter organic nut and seed butters are available in portable pouches. The new grab-and-go, multi-serving package is a squeezable, utensil-free pouch.



“We created the GO-Anywhere Pouches to allow consumers to enjoy our quick, easy-to-eat nut and seed butter blends wherever their busy lifestyles take them,” says Yumbutter co-owner Matt D’Amour. **PS**

HITACHI INDUSTRIAL EQUIPMENT

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Reliable. Efficient. Easy to Use.

Hitachi Industrial Equipment is a leading manufacturer of continuous inkjet printer products used for marking and coding in different packaging applications including flexible materials. Hitachi's continuous inkjet printers have set the standard for reliable, user-friendly, and cost-effective product marking and coding for more than 35 years. With a reputation for relentless reliability and up to 50% less fluid consumption than other brands, our printers keep your uptime up and your operating costs down. In fact, the first Hitachi unit installed in the U.S. for pouch printing is still in use today, after 12 years of operation.

“12 years of operation and still printing!”

THE NEW STANDARD IS HERE. INTRODUCING THE HITACHI UX SERIES.

In pursuit of perfection, Hitachi raises the bar again with the introduction of the new UX Series. The UX Series continues the tradition of reliability, efficiency, and ease of use. At its core, the UX Series has an ultra-reliable, time-tested diaphragm pump, which ensures that your uptime is at its peak. Usability is improved thanks to a completely redesigned interface, making print input and modifications intuitive. Once a print message is set, users can transfer it conveniently using a USB flash drive. Ink and makeup levels are clearly shown as well, making ink management a breeze. Replacing and verifying ink and makeup has never been easier, thanks to a cartridge-type system with built-in RFID verification. No

detail is overlooked, including complete cartridge evacuation, eliminating the need for expensive disposal methods. Ease-of-use functionality is also reflected in the filtration system. Filters can now be replaced without the need of tools or a technician. An innovative tapered head design allows the print head to be closer to the product being marked, increas-

ing application versatility. Network connectivity is included standard, making the construction of your ideal print solution a snap.

Stop struggling with your current marking and coding equipment and join the growing list of companies enjoying the benefits of Hitachi innovation. **PS**

**In flexible packaging there are plenty of things to worry about.
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STAND-UP POUCHES



THE STAND-UP POUCH SUCCESS MODEL

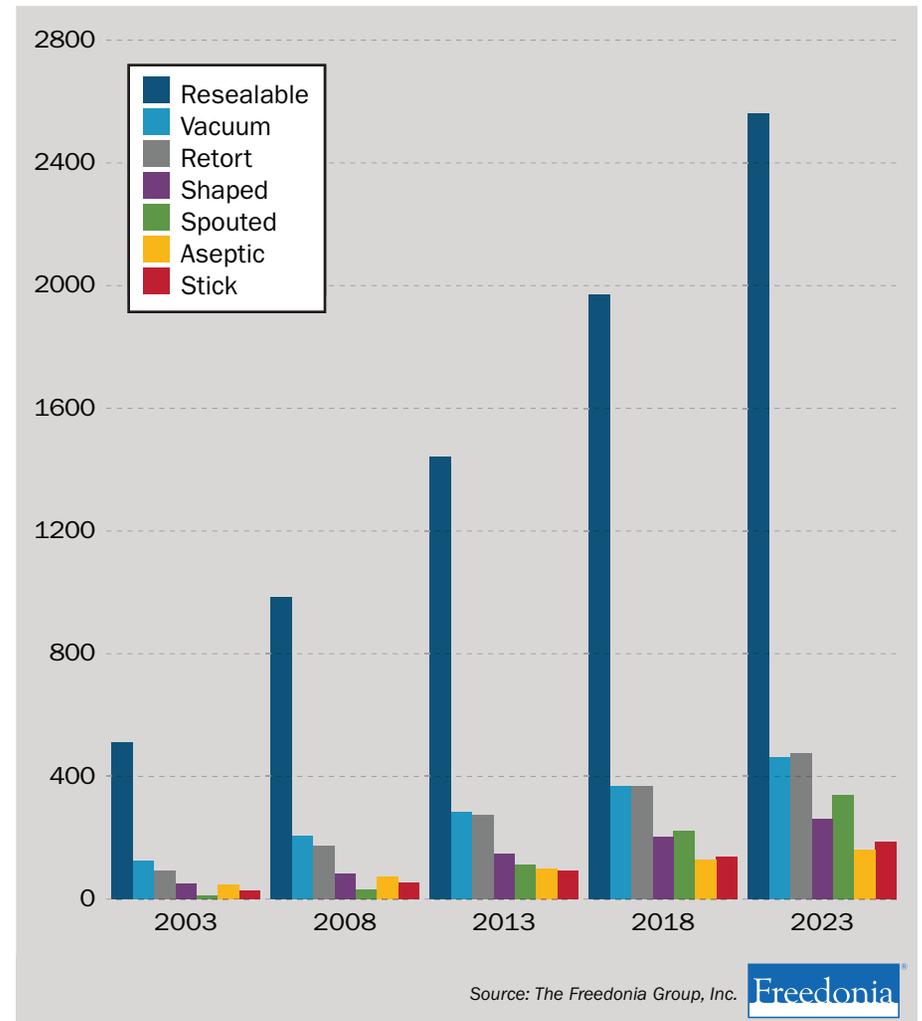
by **JOYCE ROUTSON**, editor, *Packaging Strategies News*

Remember 2000? That's when the AOL-Time Warner merger was announced to great fanfare. When the end began for the great technology stock boom. When mad cow disease alarmed much of Europe. And when the U.S. Supreme Court sealed a Bush victory for president. And in packaging, a new type of flexible plastic container began its ascent.

That year there were approximately 25bn stand-up plastic pouches manufactured worldwide. Today that number has reached 165bn, according to Schönwald Consulting, used in products ranging from pet food to potatoes.

While stand-up pouches are less numerous than flat (also known as pillow) pouches which more resemble bags, they are the fastest-growing pouch type and a major growth segment in the entire packaging industry.

Resealable pouches remain the big story: demand climbs 6.5% to \$2 billion in 2018



Worldwide, various forecasts put stand-up pouch growth at about 7% a year from 2013-2018. That far outpaces the 3% growth of the total packaging industry.

In North America, Schönwald Consulting analyst Joerg Schönwald says that stand-up pouch consumption should rise more than 5% a year through 2018, in all types of end-uses.

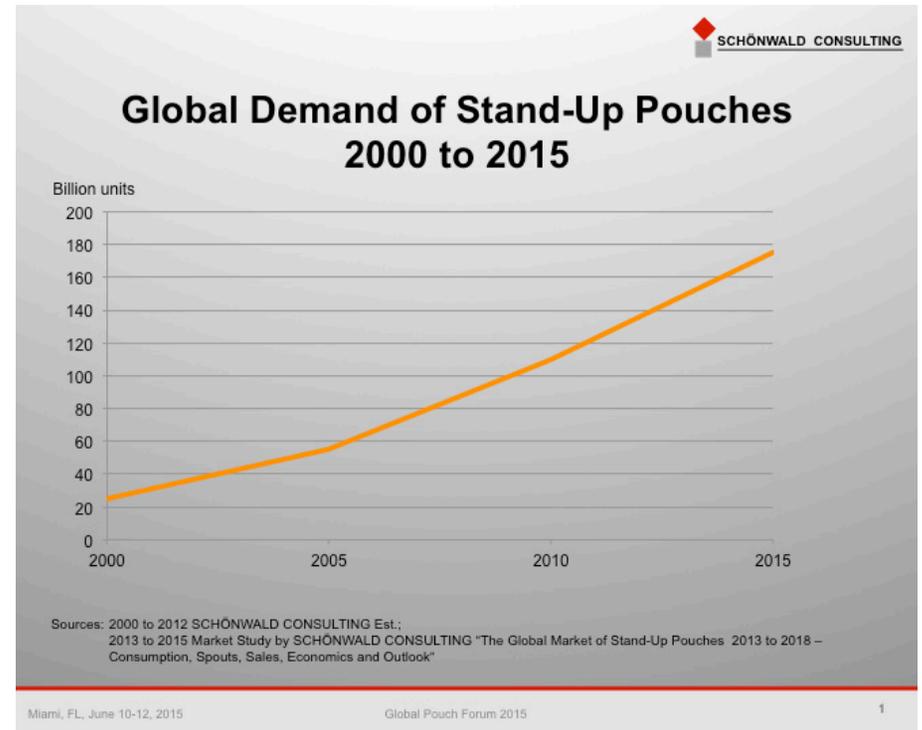
“The stand-up pouch is a packaging alternative for nearly all products,” he says.

The stand-up pouch of 2015 has advanced considerably from when it was introduced to the U.S. in the 1980s. New types of flexible films that extend shelf life and provide more toughness per micrometer have been developed.

Additionally, value-added features such as spouts, valves, straws, handles, zippers, and tear-off tabs have been developed to provide convenience and functionality to the customer. The Freedonia Group indicated that demand for resealable pouches has risen 6.5% over the past few years, far outpacing other features such as aseptic and spouts.

For instance, at Sargento Foods, more than 95% of cheese products are in flexible packaging, with the majority incorporating a reclose feature. The reclosability provides convenience and portion control while adding very little cost to the package.

Companies such as Materne Industries, Campbell Soup



Co., and Tree Top Inc. have turned to spouted and squeezable pouches for yogurt, baby food, and drinks—creating products that moms can toss in their bags for the playground and that toddlers can handle themselves.

“We have so many more options than five years ago,” says Andy Juarez, director of engineering for Tree Top, which is now putting its fruit smoothies in a tear-top pouch. “It’s grown so fast.”

Tree Top is looking at other flexible and pouch options for its applesauce, which is traditionally sold in rigid containers.

Beverages have been slower to move to pouches, but one innovation that is garnering some notice is wine and spirits in pouches.

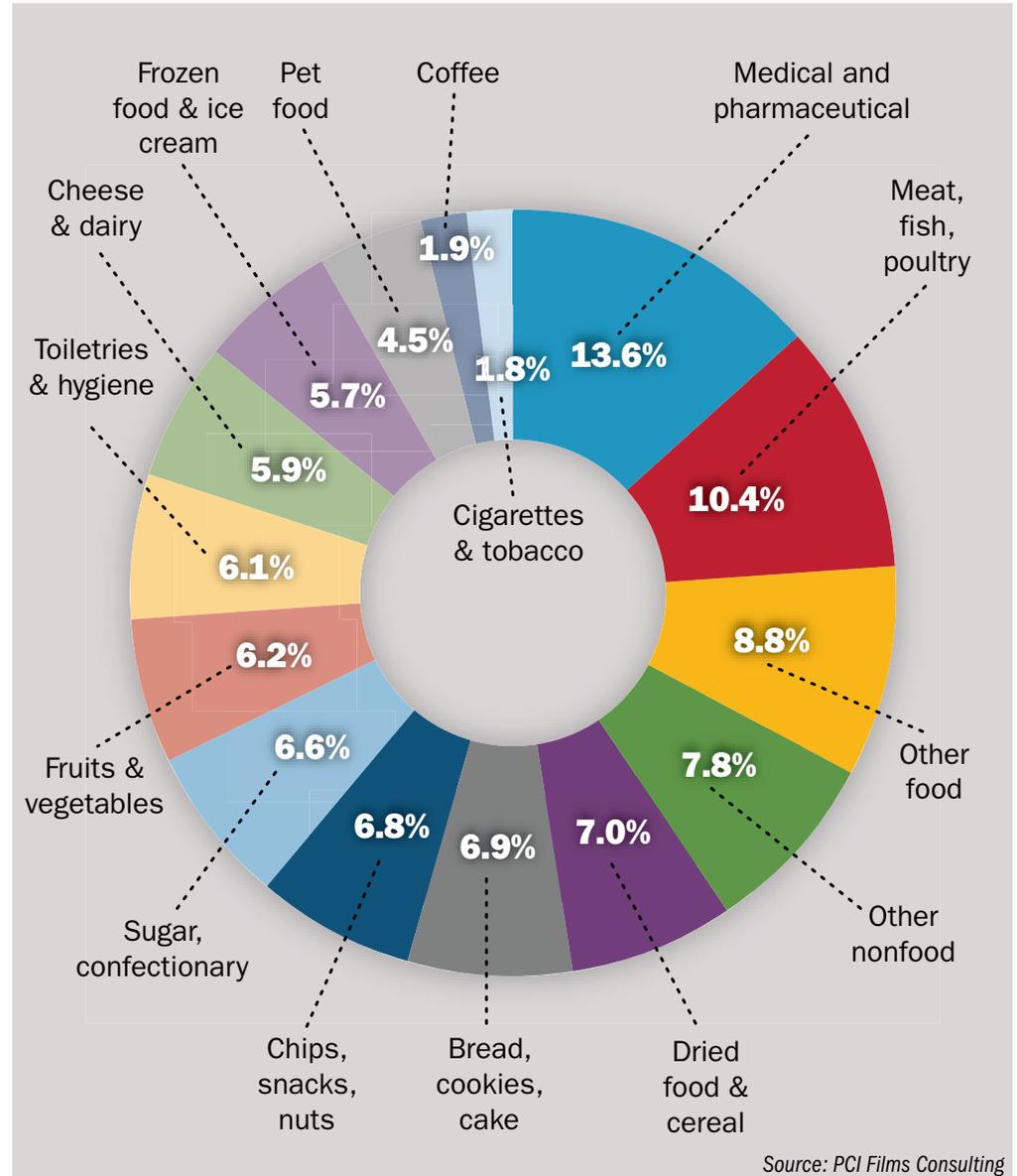
AstraPouch North America has created a game-changing stand-up pouch for adult beverages. A step up from the old box wine, these pouches come in various sizes, from 3L wines with a built-in tap, to single-serve cocktails that can be tossed into the freezer.

AstraPouch President Dave Moynihan says while pouches aren't the solution for every alcoholic beverage manufacturer, they are worth looking at by those making ready-to-drink beverages for the younger generation.

"They're easy to carry, easy to chill, and there's lot of real estate for the brand to do phenomenal printing," Moynihan says.

While conversions from glass and plastic bottles to flexible pouches in beverages has been slower than other types of packaged goods—such as snacks and candy—Moynihan says he isn't discouraged. He says

U.S. Flexible Market by End Use est. \$18.2 billion in 2013



bag-in-box applications for wine were initially scoffed at when introduced in the 1980s.

“[They thought] no reasonable people would drink wine out a plastic bag,” he says. But today bag-in-box is a \$20bn business. “There’s no reason the pouch won’t be big; it may just take some time to catch on.”

MACHINERY

The majority of pouch manufacturing is done with form-fill seal machinery, which provides simultaneous pouch production, filling, and sealing on one piece of equipment.

However, as pouches become more complex, some packaged goods companies are turning to preformed pouches that are purchased from converters. Packaging machinery makers are adding features that can make two-part pouches, laminate multiple layers of films, and handle technologically advanced substrates.

“We’re seeing some innovation in peel and seal laminates,” says Roger Stainton, president Effytec USA, a pouch machinery company, “where we want to apply less temperature and less pressure.” Thinner films are also becoming more prev-



alent, but they present a challenge as they are harder to handle and do stretch, he adds.

Another innovation is in the filling. Effytec has a system that can blend various flavors of yogurt on one line, cutting down on filling steps. He adds he’s continuing to see transitions of foods from paper into flexible pouches, such as flour and sugar. “Dairy in pouches is starting to take off,” as well, he says.

Sellers of nonfood goods are increasingly considering flexible pouches for items such as laundry detergents and pharmaceuticals. Along with this, suppliers are creating sophisticated barrier films, and even looking at biodegradable polymers for flexible packaging.

Consumers have come to understand, appreciate, and expect the improved functionality that stand-up pouches can provide. Makers of packaged goods appreciate the lighter weight, reduced materials use, and lower shipping costs of stand-up pouches.

Strong gains will continue to be made, says Schönwald. “The stand-up pouch is a success model of flexible packaging around the world.” **PS**

MARKET SNAPSHOT



FLEXIBLE PACKAGING EXPANDS INTO MORE MARKETS

New uses, new materials, and new innovations continue to launch.

by **LIZ CUNEO**, *Editor in chief*

The flexible packaging market is still expanding and growing each year. A report from Transparency Market Research (transparencymarketresearch.com) about the flexible packaging market states that the global demand for flexible packaging was valued at USD 73.56 billion in 2012 and is expected to reach USD 99.10 billion in 2019. Millennials, in particular, have taken a liking to the segment, since they are one of the first groups to grow up with pouches, with childhood favorites like the Capri Sun juice drink.

“Millennials have been key adopters of flexible packaging. A generation motivated by convenience and open to new, more usable forms of packaging, the Millennials are adopting flexible packaging across a wide variety of products, from dog treats to liquid sports gels. In addi-



Potential markets for the child-resistant pouch include the consumable cannabis market, as well as prescription medication.

tion, a report from Barkley, based on research conducted as part of a joint partnership with Service Management Group, The Boston Consulting Group, and Barkley, identified that 55% of Millennials are responsive to marketing efforts that support a cause. The potential for environmental impact reduction offered by flexible packaging is therefore an attractive platform to optimize product attractiveness to this increasingly powerful demographic,” says Ian Lemon, Essentra’s global category manager for healthcare & personal care.

The flexible packaging market is vast and spreads across several industries, including processing and packaging of pharmaceuticals, personal care products, household items, and food and beverages. Flexible packaging has boomed in almost every segment imaginable, and more unique opportunities are around the corner.

“With the increased and global focus on environmental responsibility, flexible packaging formats can be observed in a vast number of product verticals, from paint to pharmaceuticals and beauty products. Whilst the food market dominates the usage volume of flexible packaging, brand owners in all categories are exploring the functional and environmental benefits that this format may offer. The refill opportunity is



Transparent packaging that shows the product inside appeals to consumer trust and increases the likelihood of purchase.

an area being explored by many companies as they strive to reduce the ecological impact of their products, whilst marketers deploy single-use applications to deliver accessible price points for consumers to access their brands in lower-income regions,” continues Lemon.

NEW AND AWARD-WINNING

On display at PACK EXPO Las Vegas only a few weeks ago, the Medi-CRREO™ Child-Resistant Pouch has garnered a lot of attention. Child safety is so important, and now more

WANT MORE FLEXIBLE PACKAGING?

Hear about collaboration, growing markets at Global Pouch West

by: **JOYCE ROUTSON**, *Conference Director*

There is plenty to say about flexible packaging—the fastest-growing of all packaging types. So, for the second year in a row, *Packaging Strategies* is holding a conference highlighting trends and market opportunities within plastic bags and pouches. Global Pouch West will take place December 2-3 in southern California in Garden Grove. This year’s program aims to hit on some of the issues near and dear to suppliers and their end users, namely collaboration, competition, and recycling.

Keynote speaker Joel Henry is the founder of Fig Food Co., a purveyor of organic packaged soups and beans. The company started in 2009 as an entrant in New York City’s first business incubator under the Bloomberg administration. Since then, it has expanded to more than \$2 million in sales and is in Whole Foods and other markets nationwide. But this wasn’t Henry’s first job. He spent a number of years at Campbell Soup Co., where he held strategic planning roles.

He also worked at Kraft Foods, Warner-Lambert, and Diageo in other leadership positions.

Henry will talk about his experience as an entrepreneur and what the packaging industry can do to help support start-ups. Much of the packaging supply chain is geared toward the “big guys,” despite the fact that smaller, nimble food and beverage companies have seized market share as consumers shift away from processed foods.

From the supplier side, an executive with one of the world’s largest flexible packaging companies will share his thoughts on the future of this very fragmented industry—in the U.S. there are more than 400. George Thibeault, senior VP of North American sales for Constantia Flexibles, will talk about how the \$27 billion U.S. flexible packaging industry is faring against fast-rising companies in Asia and Europe. Constantia has about 2% of the global market in a landscape

dominated by Amcor (9%), Bemis (6%), Sealed Air (4%), and Dai Nippon Printing and Printpack (each 2%), according to PCI Films Consulting Ltd.

Several sessions will deal with various ways packaging can communicate—through design, color, and feel. Miriam Walsh Lisco has designed packaging for cheese, to chocolate, to coconut oil.

“Our goal is not only to provide our clients with great packaging but to give them the tools to excite the food buyers,” she says.

Just added is a session on shopper consumption patterns and how they will change the pouch business from Ron Sasine, senior director of packaging, Wal-Mart Stores, 2009-2015.

Margaret Angelovich, western sales manager for Zip-Pak, will talk about engaging the senses for brand distinction—how consumer product goods makers are incorporating tex-

ture, sound, taste, and feel into their packaging to differentiate it from the competition.

No discussion of flexible packaging would be complete without a look at end-of-life options. While flexible packaging has many attributes, its multilayered structure makes it difficult to recycle; and at sorting facilities, its light weight can clog up machinery. However, there are options beyond the landfill for pouches, and this panel will talk about them. It will be moderated by Terence Cooper, a consultant with 46 years’ experience in polymer-related manufacturing. He spent a number of years with chemical companies DuPont and Arco before founding Argo Group.

There is much more on the agenda at Global Pouch West (globalpouchwest.com). Go to the website for more details, including the who, what, where, and how to register.

than ever, the topic is at the top of our minds with new packaging solutions aimed at keeping kiddie hands out.

The pouch, from Pactech Packaging (pactechpackaging.com), features the CHILD-GUARD™ child-resistant slider from Presto Products Company (fresh-lock.com). The slider-

based closure has passed the testing requirements set forth from the Poison Prevention Packaging Act. Potential markets for the Medi-CRREO Child-Resistant Pouch include food & consumer products, as well as prescription medication, agricultural products, and household chemical products.

Produced in a variety of sizes, from 5x5 inches to 18x18 inches, with and without a stand-up gusset, the size of the package is scalable to the size desired by the end user. Compared to rigid packaging types like prescription bottles or blister packaging, the pouch offers increased graphic billboarding for better marketing

First introduced in 1994, Pactech’s Medi-CRREO Pouch represented the first patented flexible and reclosable child-resistant pouch packaging. More than 20 years later, the company saw an opportunity to further evolve the reclosable feature and improve consumer engagement with the package. The Pactech team approached Presto for a solution: the CHILD-GUARD child-resistant slider.

Earlier this year, the pouch was recognized as a Gold Winner in the 2015 DuPont Awards for Packaging Innovation. It also received a Gold Award for Technical Innovation from the Flexible Packaging Association.

Another pouch innovation was revealed at PACK EXPO this fall. At the show, Amcor (amcor.com) showcased AmLite, its latest innovation in metal-free packaging technology. AmLite utilizes a lightweight, transparent material that offers excellent product protection, a strong seal, and improved packaging appearance. Since the package is metal-free, customers



The global demand for flexible packaging is expected to reach USD 99.10 billion in 2019.

can use metal detection after the packs are filled and sealed, for added product protection and safety.

“Brand owners can now easily choose transparent packaging, even for sensitive products,” says Marco Hilty, VP Strategy and R&D for Amcor Flexibles Europe and Americas. “Packaging that shows the product inside increases consumer trust and the likelihood of purchase. For sensitive products, however, this was typically not a practical option, and they

were hidden behind aluminum-based or metallized packaging. AmLite gives packaging designers and marketing teams a cost-competitive alternative.”

AmLite is lightweight while maintaining barrier levels approaching that of aluminum. In addition to being transparent and strong, it is also environmentally friendly. In a lifecycle

assessment, AmLite provided a 40% carbon footprint reduction and 21% weight reduction compared to standard Alu-based materials.

AmLite can be used for a range of ambient wet and dry food products, as well as medical and personal-care products like powders and lotions. **PS**



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What's more, the bagger gives you flexibility by offering the most popular bag styles—seven in total: pillow, gusseted, block bottom, corner seal, full corner, 3-sided, as well as doy. You also get a choice of reclosure options. Bosch's proven SVE technology is intuitive and streamlines operation and maintenance, while changeovers are a breeze. It takes just 45 minutes to switch from pillow to Doy Zip style, so you can adjust quickly to evolving consumer demands.

Want to learn more? Check out www.doyzip.com for more information or call +1 715-246-6511. **PS**

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GLOBAL POUCH



‘C’ WHAT WAS ON PACKAGERS’ MINDS AT POUCH FORUM

Spending on U.S. consumer packaged goods in 2014: \$397.6bn

by **JOYCE ROUTSON**, editor, *Packaging Strategies News*

Two C-words—collaboration and convenience—were mentioned repeatedly by speakers at the 2015 Global Pouch Forum, the largest conference focused on flexible packaging in North America, and produced by the *Packaging Strategies* group.

The Miami event brought together 570 attendees from packaging and consumer packaged goods communities around the world. Attendees came from South America, Israel, Europe, India, and China—and included a delegation of more than 30 companies from Japan.

It was the largest attendance ever for this conference, which was in its 19th year.



Oloves olives are in a handy pouch right for snacking

The tone was set in the opening remarks by John Baumann, former chief executive of Ampac Holdings LLC, who urged that packaging companies and consumer goods makers “work hand-in-hand to build brands. We’ve got to open up innovation—innovation gives us speed.”

Innovation, technology, and collaboration are the stepping stones to creating products with a difference, he said. “Let’s find some more options in the marketplace. All of you reach out and take some new ground.” Ampac was the event partner.

On that topic, Roy Oomen, label and packaging product manager at Hewlett-Packard’s Indigo digital printing

unit, said its customers have “a bigger need to differentiate on the shelf.” Packaged goods makers are increasing the number of promotions each year: “They have to execute quickly and they face pressure from competitors.” Brand owners have to deliver “greater engagement, greater interaction, greater differentiation” to reach consumers, he said.

He echoed the need for collaboration between converters, marketers, and designers “to be flexible” to meet those multiple challenges.

“The right packaging decisions can directly drive sales.”
— Scott Young

And for CPG supply chain, marketing, design, and sales to inter-

act with packaging engineering in product development.

The window for getting new products to market is narrowing and the failure rate for them is high. Thousands of new packaged goods are introduced in the U.S. each year, but only between 15% and 30% (depending on whom you ask) are still around after two years.

However, packaging can improve a product’s chances of success. “The right packaging decisions can directly drive sales,” said Scott Young, president of Perception Research Services and second-day opening speaker.



Happy Family this spring launched vegetables in pouches

Packaging can differentiate a new product on the shelf from all the others out there, he said. “We see how critical the package is to success...by creating a new identity in the consumer’s mind.”

Failure too often has to do with packaging that “fades into the shelf” and doesn’t set the product apart from others in the category. About 50% of packaging out there “is not significant enough to make a difference with consumers,” Young said.

He said goods makers can’t approach packaging as a “cost center. Think of its value in driving sales.” In addition, packaging companies should do a better job conveying the message that packaging is important because “people making the decision may not be aware of the impact.”

REINVENTING

The flexible pouch has gone a long way in helping some CPG reinvigorate their categories, said Dennis Calamusa,

president of AlliedFlex Technologies Inc., a seller of pouch making machinery and services. “Companies have started to realize if they introduce a new product with new packaging it has a chance to be successful.”

For instance, the spouted pouch helped grow the baby food industry because parents and babies found them easy to use. The pouches can be tossed into a tote bag without worry of breaking and babies can handle them, unlike a jar.

The pouch has helped sellers of goods as varied as gum and olives reach new markets. Brand Stand Ltd. has put its Oloves olives in a small single-serving pouch that can be put in a lunch box for healthy snack. A pack of 10 olives retails for about 99 cents, about the same price as jar of olives. “That packaging has enabled that company to make money,” Calamusa said.

Soon Duke’s Mayonnaise, a product of C.F. Sauer, will be available in a smaller-size spouted pouch, which will be sold in dollar stores. Likewise, putting pancake batter in a pouch makes it available to families heading out on a camping trip. “It’s giving a choice to the consumer,” Calamusa said.

The future of the pouch industry, speakers said, will be adding convenience features. For example, many cheese and

The Roles of Packaging

- *The brand spokesman at the first moment of truth in the store*
- *The embodiment of the brand as it is marketed*
- *Part of the usage experience and a key factor in customer satisfaction*

From “Starting with the Shopper” by Scott Young

deli packs have reclosable zippers so repacking the contents isn’t necessary.

Sal Pellingra, VP of innovation and technology at Ampac, said that consumers hate to be inconvenienced by their packaging. A tear-off strip that doesn’t require scissors to open, or a pet food bag that can stand up in a cupboard—those are the little touches that will create buying opportunities.

“People are willing to buy a new package if it dispenses better,” he said. Reclosability, as well, is usually a hit with consumers because it creates less waste.

However, Young cautioned, consumers do want value in their purchases, and if it’s perceived that a pouch offers less for their money, they will be skeptical. **PS**

STAND-UP POUCHES



STAND-UP POUCHES STEP TOWARD ACCEPTANCE

by **JOYCE ROUTSON**, editor, *Packaging Strategies News*

What is the future of flexible packaging? Research firms say stand-up pouches—which now house everything from baby food to motor oil—are the fastest-growing kind of flexibles. The global market for them is expected to reach \$12bn in 2018—a growth rate of about 7% a year.

Advances in the materials used in pouches, to the machines making them, and to their design are driving some of the growth. And consumer packaged goods makers clearly see the advantages of their lighter weight in cost savings for transportation. Added features such as spouts increase functionality and convenience and allow brand owners in many cases to charge more, making up for the higher cost of producing pouches.

However, big issues such as recyclability and the slower acceptance in end-markets such as beverages have stymied



growth in some regions, such as the United States. Europe and North America together have 30% of the stand-up pouch market, compared to Asia-Pacific which comprises 50%, according to Schönwald Consulting.

But as one speaker at the 2014 Global Pouch West confer-

ence, produced by Packaging Strategies, said, “Gradual transition is not a bad thing.”

Dennis Calamusa, president of AlliedFlex Technologies, in a speech about the global marketplace, added that: “We need to have a gradual trip to the future so everyone will do it the right way.”

More than 150bn stand-up pouches were consumed in 2013 according to Schönwald, which is small in comparison to the 450bn cartons of milk that Tetra Pak produces each year.

The good news is that there is plenty of room to grow. Speakers at the meeting—the first of its kind on the West Coast—demonstrated that innovation is very much alive in materials, construction, and value-added features.

On the not so positive side, however, there are concerns about pouches’ recyclability since most end up in landfills. A compostable bag or pouch pretty much remains a goal, although biopolymer materials are gaining traction.

VALUE-ADDED

Mentioned by several speakers was the concept of value-added. “The key to value creation is from the consumer perspective,” said Dave Lundahl, CEO of the InsightsNow consultancy. “Products need to be relevant.”

Lundahl went on to say that relevancy can be a movable target, depending on consumer behavior. And they often don’t spend a lot of time thinking about it. “We must make it easy for consumers who are thinking fast to choose,” he said.

One example of how a very traditional company can be leader in value-add is Sargento Foods, the United States’ largest maker of sliced packaged cheese. Karl Linck, VP of engineering at Sargento for many years, talked about how the Wisconsin company has been a pioneer in the use of press-to-close and zipper seals on its flexible packaging.

In 1955, it was the first to vacuum-pack its cheese and then went on to help develop a flexible film suitable for cheese packaging. It also introduced the first flexible bags for shredded cheese to hang on a peg bar and is working on a new gusseted, shelf-ready pouch.

“We find flexible having the following benefits for Sargento,” he said. “The best cost, great barrier properties, good sealant characteristics, and the ability to carry excellent graphics.”

In another example of value-add, Sonoco Products Co. Marketing Director Pete Gioldasis talked about how adding features to a pouch can be a win-win. They can make it more convenient for the customer and in turn increase the profit margin for the manufacturer. “You can offer a high price be-

cause of the convenience the package delivers.”

For example, a glass jar of Gerber baby food five years ago retailed for 11 cents an ounce; in a pouch today it costs 35 cents an ounce.

Sonoco sold its SmartSeal easy-open, peelable closure to Mondelez International, which has rolled it out on its Oreo cookies.

Sonoco customer RBC Technologies is adding convenience by combining the SmartSeal with tiny friction-activated chemicals that can warm up a wet wipe—or possibly heat up a soldier’s Meals Ready to Eat (MRE). The company is developing a self-heating pouch for food, household, and medical uses. Removing the peelable seal on the outside of the package exposes the heating element to air, which warms it up in two to 15 minutes.

BIG ISSUES

Several speakers at the conference brought up the issue of sustainability, since pouches do not lend themselves to be

easily recycled because of their multipart layers made of various plastics.

Despite the many sustainable attributes of pouches—they typically use less energy and less materials to make, they eliminate the need for lots of packaging materials, and they constitute only about 2% of all landfill waste—they aren’t considered environmentally friendly.

“There needs to be time and money spent pursuing a solution,” alluding to the fact that many end up in landfills, said David Read, VP of marketing and technology for Printpack.

Dow Chemical is working on a project with the Flexible Packaging Association to collect pouches and other flexible packaging in a pilot project in California. The bags’ contents will be sent to Agilyx for conversion back into energy.

One company represented at the conference, InterGroup International, buys and reprocesses post-industrial plastic scrap. The company collects scrap from converters and printers and turns it in useable raw materials. **PS**

FLEXIBLE PACKAGING MARKET



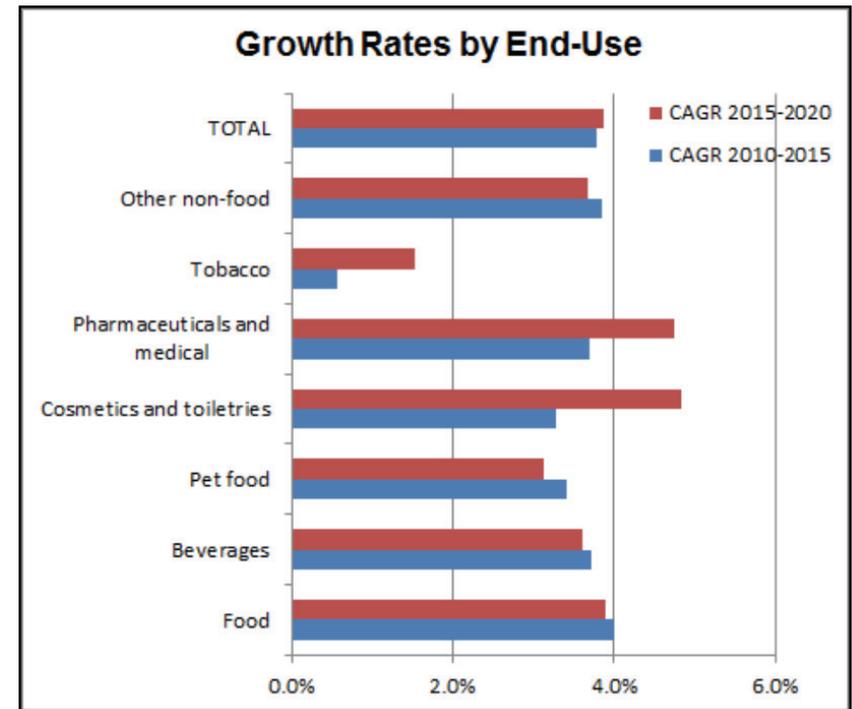
FLEXIBLE NOW 25% OF ALL PACKAGING

by **JOYCE ROUTSON**, editor, *Packaging Strategies News*

The future is bright for flexible packaging and pouches, and new research from one of the world's leading authorities bears out the tremendous opportunity ahead.

Industrial and consumer flexible packaging—worth \$210bn—now accounts for a quarter of the world's total \$800bn market. That's been a remarkable 30% growth in dollar terms in just five years and the forecast is for increases that will outpace many countries' GDP.

At the June 2015 Global Pouch Forum, Smithers Pira Packaging Consultant Dominic Cakebread presented his firm's latest research into the global flexible packaging market (industrial and consumer), which is expected to rise 3% a year to \$248bn by 2020.



Source: Smithers Pira

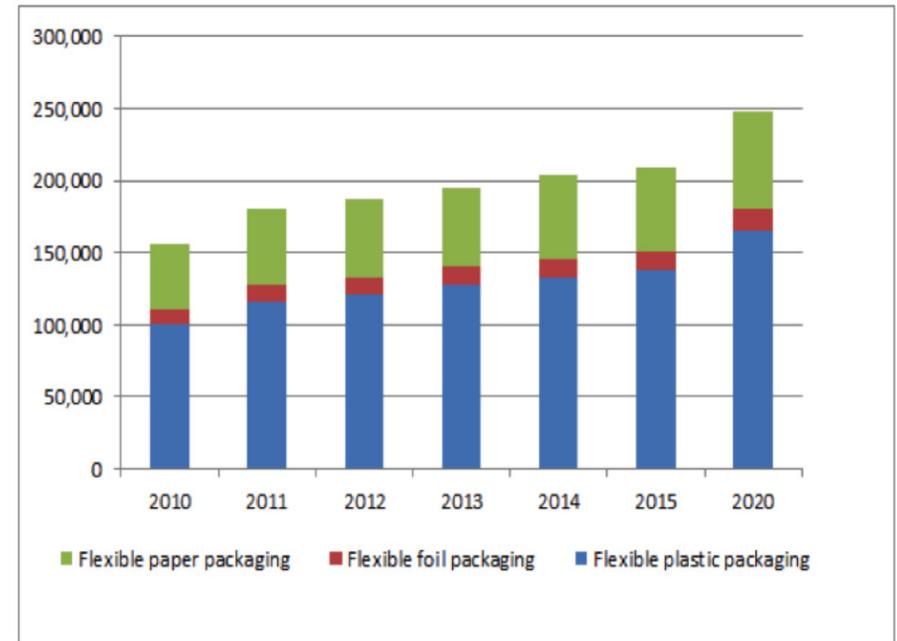
That increase is at the expense of rigid packaging—such as cartons and glass—and even from other types of flexible such as foil and paper. Plastic will account for two-thirds of all flexible in the next five years.

Pouches are the fastest-growing segment in flexible packaging, accounting for close to \$10bn of the total flexible. (That could grow to \$37bn by 2018, according to another market researcher, The Freedonia Group.)

THE REASONS? THEY ARE MANY:

- Flexible plastics are lightweight, resource- and energy-efficient, and often cost less to produce.
- Because bags and pouches weigh less and take up less room, they save on transportation and storage costs.
- They are versatile and come in many shapes, sizes, and finishes. They often don't require a separate label because graphics can be directly printed on the surface previous to forming and filling.
- They can be used for many types of products, from paint to pasta, because of technological advances that keep contents fresh and free from bacteria.
- They are convenient for the customer. Many pouches

Global Flexible Packaging Market by Value, 2010-2020 (\$m)



Source: Smithers Pira

have resealable zippers or spouts and can be used on the go and easily handled by children.

Aside from the reasons flexible plastics are taking share away from rigid, there are some key trends emerging that are helping drive growth. New opening, dispensing, and sealing options are making pouches, especially, attractive to packaged goods manufacturers who may not have used them previously. For instance, frozen chicken breasts come in a reseal-

able bag, making it convenient for the consumer to take out a couple at a time and replace in the freezer.

New types of plastic films, such as clear high-barrier that can replace foil laminates and metallized, have emerged, which

“Technology has driven costs down for better performance and barrier properties.”

—Dominic Cakebread, Smithers Pira

gives manufacturers who want consumers to see their products more options. “Active” films that absorb oxygen and inhibit ethylene increase the shelf life of contents. Technological advances have created plastic films for pouches that can be microwaved or cooked in the oven. And films made with bio-resins are available for a more environmentally friendly choice.

“Technology has driven costs down for better performance and barrier properties,” Cakebread said.

He said a key “disruptive technology” that will affect flexible—as well as other packaging sectors—is the growth of ac-



Beverages are an industry where there’s lot of room for pouches to take share away from rigid.

tive and intelligent technologies. So far, high costs and some consumer reluctance have retarded their use, but Smithers Pira says deployment of sensors and printed electronics will become more frequent in the next 10 years.

Food accounts for 75% of the consumer flexible packaging market, but growth in other industries such as pharmaceutical, cosmetics, and toiletries is expected to outpace it at about 5% annually (food is about 4%) than 4% annually over the next five years, the Smithers Pira data shows.

Cakebread said one area offering opportunity to packagers is beverages, where growth in usage has been less than 3% a year.

“Overall we see a bright future for flexible packaging and pouches,” he said. **PS**

SPECIAL REPORT-POUCHES

PUTTING THE SQUEEZE ON APPLESAUCE CUPS

Apple pineapple is one of the new flavors of GoGo squeeZ.

In April 2008, Materne Industries launched a single-serve applesauce in a pouch into U.S. grocery aisles dominated by well-established foil-lidded rigid cups. By that November it had sold a million of them. Now, seven years later, the GoGo squeeZ brand is recognized as an established kids' applesauce product and has 65% of the \$350mn squeezable fruit market.

The GoGo squeeZ pouch story starts in 1998 when Materne started selling its first pouch, Pom 'Potes, to the French market. According to Jeannette Cornell, VP of brand management and communications at Materne North America, the company saw a need for a healthy, on-the-go snack. The pouch was chosen because it's convenient and



portable and the packaging makes it easy to consume without utensils.

“Like Pom’ Potes in France, GoGo squeeZ received a warm welcome in the U.S. Parents were excited to give their children a healthy, portable, no-mess snack,” says Cornell. The convenience of the pouch packaging has met the needs of busy adults as well. “Adults love GoGo squeeZ just as much as kids. With all the natural ingredients, it is the perfect healthy afternoon snack or great for an after-the-gym energy boost.”

The product is made from natural ingredients sourced from U.S. farms and orchards. It comes in a 3.2-ounce pouch with a polyethylene lining and built-in straw. In 2013, the cap was

changed to the current helicopter design. The previous small, twist-off cap proved difficult for children to open on their own.

It is manufactured at a Materne facility. “We create the pouch and fill it in the same place while other companies use premade pouches from third-party vendors,” says Cornell.

GoGo squeeZ partnered with TerraCycle in 2011 to collect and repurpose the pouches by upcycling them into things like playground equipment, notebooks, and tote bags. The company hopes for a more sustainable future for the pouches. “While the cap of the product is recyclable, GoGo squeeZ has continued to place a large effort on research and development

to integrate more recyclable materials into our packaging. We are working on ways to develop the first recyclable pouch product in the world,” says Cornell.

In recent years, mold has been a problem for some processed food and beverages sold in pouches, such as the Capri Sun drink. Kraft Foods, which distributes Capri Sun, responded by introducing a clear bottom in its pouches that allows consumers to see their product is safe to consume (*Packaging Strategies*, Aug. 15, 2014). According to Cornell, Materne is exploring the transparent packaging and has “many ideas in the research and development pipeline.” **PS**

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