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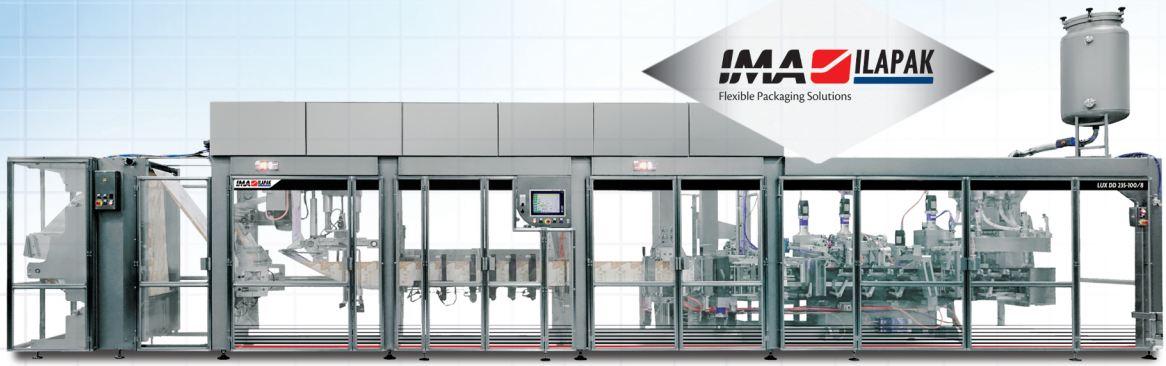

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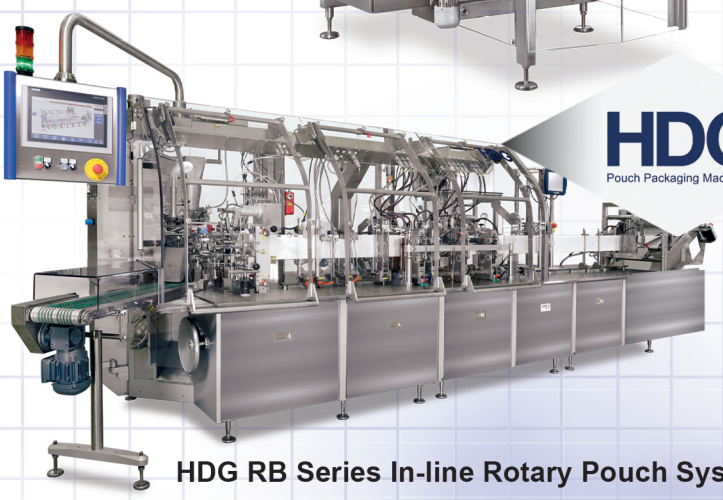

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EDITOR'S NOTE

Consumers are in the driver's seat

In the digital era, consumers are driving product and packaging innovation through the power of e-commerce purchases, and shaping climate change through the influence of social media.

In fact, a recent report by McKinsey attributes the rapid shift to online shopping with the acceleration of consumers' sustainability concerns and increased global regulation of packaging waste.

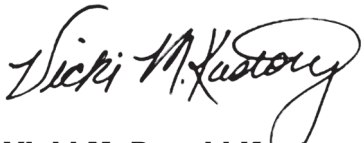
Analysts say e-commerce and sustainability will be driving forces for new packaging products and innovation through 2030 – spurring growth in sustainable and ship-ready packaging, and technology to support automation, digitization and carbon emission reduction.

In this issue of the magazine, we've curated a collection of articles about these topics, reflecting the diverse perspectives of CPGS, OEMS and brands. And a common theme is echoed by each of the authors – collaboration is a catalyst for sustainable solutions throughout the entire supply chain.

Want to learn more? We've expanded our online feature section to accommodate the abundance of educational articles industry experts share with us – you'll find these features at www.packagingtechtoday.com.

If you'd like to share news or contribute an article, please send a note to vickik@rdgmedia.net, and stop by to see us at PACK EXPO International (booth LL-9913) in the Lake Side Lower Level.

Thanks for reading,



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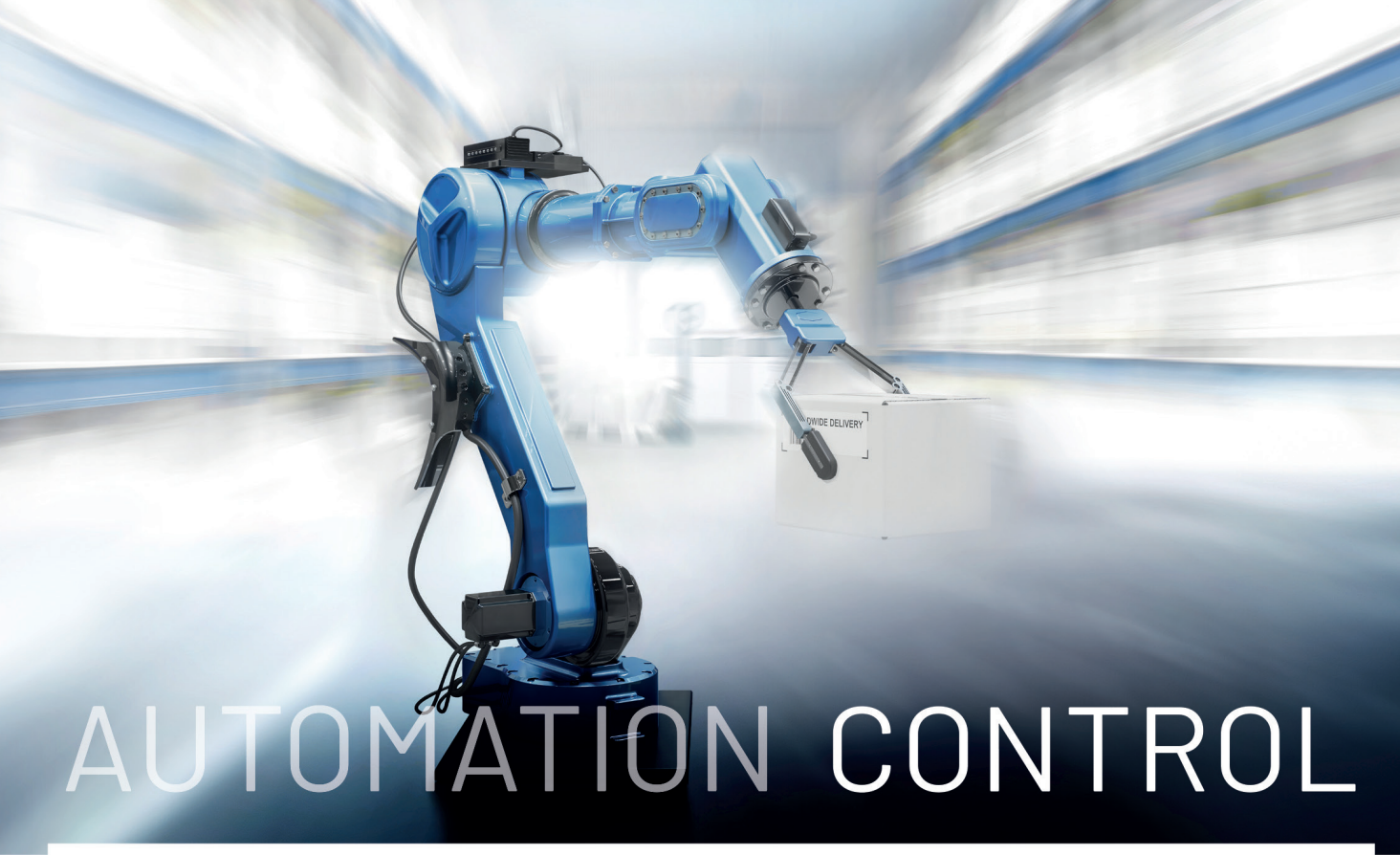

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Packaging TECHNOLOGY TODAY

An RDG Media, Inc. Publication
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THE LAST (AND KEY) STOP – END OF LINE PACKAGING

PACKAGING MEASURES ENSURE PRODUCT INTEGRITY WELL AFTER PRODUCTS LEAVE THE MANUFACTURING FLOOR

By Sean J. Hael, North American General Manager of Sales & Marketing for Mitsubishi Gas Chemical's Oxygen Absorbers Division

End of line packaging is a critical element in the complicated process of industrial manufacturing. Once components are engineered, tested, and finalized, manufacturers are faced with the challenge of safeguarding their products during shipping and long-term storage, which in some cases can take months or even years.

Especially as of late, with an increased emphasis on environmentally friendly practices, companies must work to incorporate end of line packaging measures to ensure fewer returned and damaged goods, larger production runs, and increased efficiency, all supporting companies on their road to sustainability.

Ensuring product integrity

Once a product has been manufactured, tested, and cleared for distribution, companies must turn their focus towards packaging measures that will ensure product integrity well after the product leaves the manufacturing floor.

Many critical components, such as electronics, industrial machine parts and automotive pieces, are at risk of rust and oxidation damage, which can occur during shipping and long-term storage. Using a combination of oxygen and moisture absorbers is a next-level packaging solution that can help protect against corrosion and other forms of degradation, keeping product mechanisms safe and maintaining them in pristine condition for future use.

Mitsubishi Gas Chemical America's RP System® enables manufacturers of automotive parts, electronics and industrial metals to protect their critical components against corrosion and other forms of degradation.

A tailored external package and internal absorbers can help to safeguard the most sensitive products throughout the entirety of shipping and storage, which can help a company's bottom line while ultimately assisting them in achieving their larger sustainability goals.

Sustainability is a guiding principle

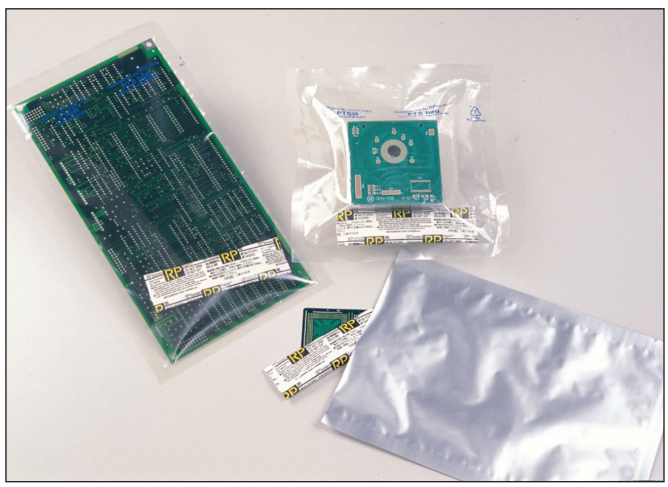
Sustainability efforts have become guiding principles for organizations across the manufacturing industry. According to The Energy and Climate Intelligence Unit, at least one fifth of the world's largest public companies have committed to meet net zero targets by 2030. Sustainable manufacturing encompasses many aspects, including environmental impact, cost, energy consumption, waste management, and even the safety and health of team members.

Through utilizing protective packaging measures, companies can protect their products by avoiding costly product returns and decreasing back and forth shipping, both of which can cause an increase in product waste and carbon emissions.

Without incorporating product packaging technology that offers continuous protection, companies run the risk of an increase in the number of delicate parts and materials that need to be returned, exchanged, or refurbished. Returning items takes a toll on the customer, manufacturer, and environment, with a majority of returned items ending up in landfills, unable to be repurposed. By focusing on protecting products from oxygen and moisture present during shipping and storage, manufacturers can ensure their products will be safeguarded throughout the entire supply chain, therefore reducing the amount of damaged and returned materials.

Reducing energy consumption

Energy consumption is a major factor companies are working to address through sustainability efforts. Over the years, companies have worked to implement "just-in-time" production methods, which aim to reduce production time, but unfortunately involve shorter, more



Highly sensitive products such as electronic circuit boards, automotive parts, raw metals, agricultural items, and numerous other industrial components can be kept safe during transport and storage using Mitsubishi Gas Chemical America's RP System®.

energy intensive production runs that can drastically increase a company's overall energy use. With additional challenges such as reduced staff, delayed shipping times, and last-mile delivery concerns, companies should reconsider production methods to focus on better product forecasting and larger factory runs. Combining these two elements with packaging protection, companies can store larger quantities of supplies with the peace of mind parts will remain in the same condition as it was delivered and available for use when needed at a later date.

Auditing packaging processes

End of line packaging is the last, and arguably the most critical, component of a manufacturing process. As technology advances and sustainable practices take the lead, companies must audit their processes and find methods that best serve their company and customers. In the end, in order to be successful and compete in the marketplace, companies will need to provide packaging technology that ensures product quality, performance and integrity, all while driving towards achieving sustainability goals. ■

About the Author

Sean Hael is the North American General Manager of Sales & Marketing in Mitsubishi Gas Chemical's Oxygen Absorbers Division. Sean spent eight years in Japan learning about international business culture and mastering the language, and was an integral member of the team that launched the oxygen absorbing resin NutraSave™ in 2017. Learn more at: http://ageless.mgc-a.com/product/rp-system/

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As the circular economy matures, packaging materials and machinery are evolving to meet the demand.

PACKAGING IS EVOLVING TO ACHIEVE A CIRCULAR ECONOMY

BIOBASED MATERIALS, RECYCLABLE PACKAGING AND BIODEGRADABILITY ARE ESSENTIAL

By Maria Ferrante, Senior Director of Marketing and Communications at PMMI, the Association for Packaging and Processing Technologies

As consumers are making sustainability a key factor in their purchasing decisions, both consumer packaged goods (CPG) companies and packaging suppliers of both materials and machinery are investing time and money in developing more circular packaging solutions. There is renewed interest in creating solutions where packaging waste is either infinitely reprocessed or can re-enter the system as raw materials for other products.

As this circular economy matures, packaging is evolving to meet the demand. There are three approaches the industry is taking to move the sustainability needle forward:

- Shifting to biobased materials
- Designing easy-to-recycle packaging
- Enhancing biodegradability

Shifting to biobased materials

Transitioning from fossil-fuel-based plastics to alternative materials made from renewable feedstocks can significantly reduce packaging's carbon footprint. Biobased materials, derived from biological sources rather than petroleum sources, are ideally suited to meet sustainability requirements. To make this shift, CPGs need to work with materials suppliers to secure sustainably sourced virgin feedstock from biomass. It is important to ensure that biobased alternatives are high-performing and scalable up to commercial production, according to a report from European researcher VTT.

These biobased materials support circularity as they are easy to reuse, recycle and biodegrade. Cellulose is the most abundant biopolymer and, therefore, a valuable, readily available resource for sustainable packaging applications. Derived from biomass such as

The use of biodegradable materials contributes to sustainability and reduction in the environmental impact associated with the disposal of oil-based polymers.

wood, forestry residues, agricultural residues, algae, plants, and some bacteria, cellulose-based materials can extend the shelf life of dry foods while reducing waste.

Design easy-to-recycle packaging

Currently up to 95% of the value of plastic packaging materials is lost due to its single-use status. To achieve true circularity, plastic packaging designs—whether they use traditional oil-based plastics, biobased solutions, or both—need to be highly reusable or be made of easily recyclable materials.

To ensure reusability, packaging materials must be durable, robust and free of harmful additives. In some cases, such as plastic bottles, technologies are already commercially available to chemically repair the polymer to multiply its use cycles.

The second path is simplifying packaging designs and materials to enable easy recycling. High-performance food packaging materials, for instance, are usually composed of complex layers of different polymer-based materials, which makes recycling challenging. Reducing this complexity or designing it to allow for different materials to be easily separated can greatly enhance recycling capabilities.

Recyclable packaging seems to cater most to consumers because it is something they can do to contribute. Some large CPG companies are adopting targets as ambitious as using 100% recycled materials in the production of new packaging and limiting the use of unnecessary virgin materials. Unfortunately, recyclable packaging has some limitations. Collecting packaging at the end of a product's useful life to kickstart the recy-

Transitioning from fossil-fuel-based plastics to alternative materials made from renewable feedstocks can significantly reduce packaging's carbon footprint.

Some large CPG companies are adopting targets as ambitious as using 100% recycled materials in the production of new packaging and limiting the use of unnecessary virgin materials.

cling process is one of the biggest barriers for organizations, especially for CPGs whose products are used by millions of people around the world. Consumers are often unaware of how to take the extra steps needed to recycle or return packaging products, e.g., bottles and cans, or unwilling to change their behavior if there are no clear benefits for doing so. Not only are packaging changes needed, but consumers need to be educated to increase recycling's contributions to the circular economy.

Enhancing biodegradability

Biodegradable solutions are increasingly used in packaging due to their low environmental impact, government emphasis on efficient packaging management, rising consumer awareness of plastic waste and the growth of bans on plastics. According to the European Association of Bioplastics, global bioplastics production capacity is increasing from around 2.11 million tons in 2019 to approximately 2.43 million metric tons in 2024. The use of biodegradable materials will contribute to sustainability and reduction in the environmental impact associated with the disposal of oil-based polymers.

The increased interest in bioplastics is not only consumer driven; there are also regulatory considerations. The US Plastic Waste Reduction and Recycling Act aims to reduce plastic waste and, as further research is conducted, there is a possibility that US-based packaging companies may see stricter regulations concerning plastic manufacturing in the future.

About the Author

Maria Ferrante, Senior Director of Marketing and Communications at PMMI, the Association for Packaging and Processing Technologies.

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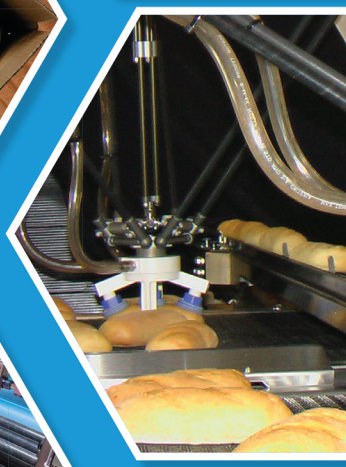

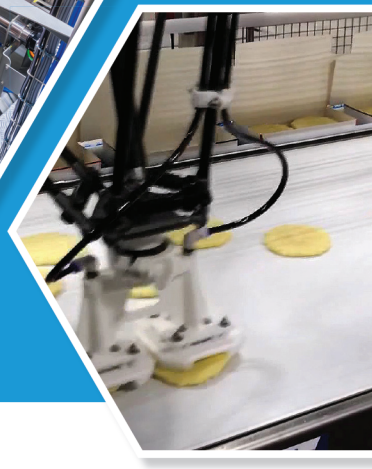

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Constantly evaluating different materials and packaging styles, listening to retailers, and anticipating consumer buying trends – are key factors when developing packaging. Image Courtesy of Ossid

COLLABORATION IS KEY WHEN CHOOSING SUSTAINABLE PACKAGING

SEVEN QUESTIONS TO ASK ABOUT NEW FRESH PROTEIN PACKAGE DESIGNS

By Brian Guillaume, Regional Sales Manager at Ossid

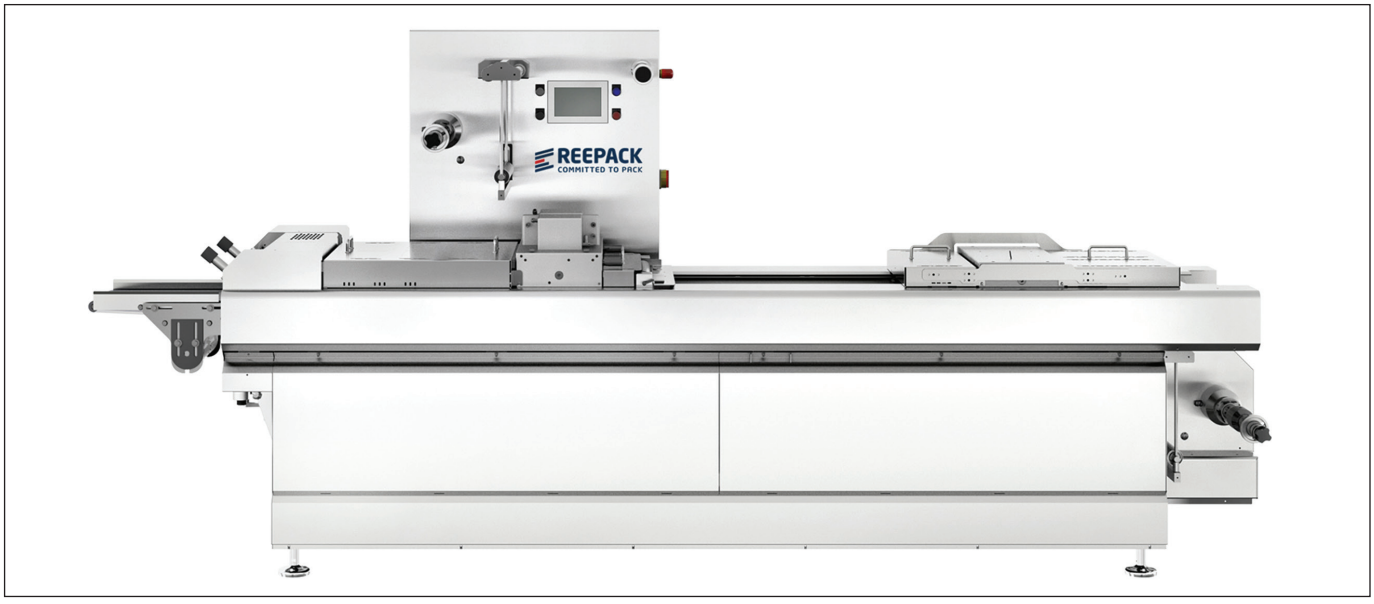
Many food manufacturers and retailers are searching for the next new thing in fresh protein packaging – a quest that is often easier said than done. Any new design competes with the versatile tray overwrap style, which for decades has generally been regarded as the most cost-effective way to package a wide variety of meats. While we're all comfortable with the reliability of tray overwrap, it traditionally lacked some of the selling points of recyclability and environmental stewardship that many consumers are looking for in their brands today.

In response, the packaging industry is placing added emphasis on research, development and experimenting with new materials and films that together bring more green attributes to fresh protein packaging applications. These efforts are already yielding promising results, and leading to greater cooperation between original equipment manufacturers (OEMs) and their customers to develop customized packaging solutions for specific meat-based applications.

Current state of affairs

This push on behalf of packaging OEMs to look for different protein packaging options has been growing for some time. The challenge we face as an industry is staying ahead of trends by producing packaging options that meet our customers' demands. Doing this successfully means constantly evaluating different materials and packaging styles, listening to retailers, and anticipating consumer buying trends – these factors and more all need to be considered in the development process.

Poultry and meat manufacturers and retailers face their own challenges when it comes to packaging alternatives, and that's balancing



As R&D in sustainable packaging continues to develop, some new designs and materials can be run on existing tray overwrap equipment. Being able to repurpose perfectly working machinery is certainly a huge cost-savings to operators. Image courtesy of Ossid.

the desire for something new versus the cost to make that happen. Tray overwrap is regarded as the most cost-effective packaging option. But there's a drive from many to rid Styrofoam from protein packaging, yet do so while keeping costs stable. That can be tricky to do because when you start making packaging with more green materials, it's likely going to cost more *green*.

There's also a push from many OEMs to offer a much wider range of packaging options with materials that are recyclable, renewable and reusable as standard offerings by 2025. That may sound great, but will municipalities be set up by that time to accept the demand for handling these materials?

Bottom line is that there are numerous factors that come into play in determining the future of protein packaging. Of course, the industry as a whole wants to become more environmentally sound with their packaging. And we feel that's going to happen soon. It may be a commitment from a major food manufacturer or retailer with customers demanding a change that will propel these companies to throw their full support behind sustainable packaging. Demands like these may just be the catalyst needed to drive this change across the industry.

New solutions

Tray overwrap has proven itself through the years to be a reliable, inexpensive packaging option for fresh protein. It's popular with manufacturers and retailers, and consumers are familiar with the style. But as new, greener packaging designs emerge, does that mean you have to get rid of your tray overwrap equipment and buy something to keep up with the times? Not necessarily.

As R&D in sustainable packaging continues to develop, some of those new designs and materials can be run on existing tray overwrap equipment. Recyclable plastic trays have been gaining traction as an easy replacement to foam trays. Being able to repurpose perfectly working machinery is certainly a huge cost-savings to operators. While change is coming down the road, don't be panicked by thinking you have to figure out a solution to replace tray overwrap right now. It likely isn't going away anytime soon.

Nonetheless, proactive OEMs continue to work closely with food manufacturers, retailers and material suppliers to test new alternatives that will someday change the face of protein packaging. Many of these ideas have merit and warrant further testing. The key is striking a good balance between many factors, notably meeting the packaging

Recyclable plastic trays have been gaining traction as an easy replacement to foam trays, and it is a huge cost savings for operators because they are able to repurpose perfectly working machinery. Image courtesy of Ossid.

goals of the food manufacturers and retailers, gaining acceptance of consumers and keeping costs in line. Accomplishing all three in one product, however, is the complicated part.

For example, we recently worked with a vendor that manufactures compostable trays that can run on tuck and fold and end-seal overwrap machines. While the material wasn't ideal for poultry due to the high moisture content, it did show promise when paired with recyclable film to package pork, red meat and processed (sausage) products. The cost to manufacture this type of sustainable tray/film solution is currently more expensive than a traditional foam tray option. But, as production rates of these materials grow and there is more competition to produce materials, efficiencies occur, driving prices down. So, while it may not be the most cost-effective choice right now, it does offer options to retailers looking for something compostable or recyclable to meet their sustainability goals.

Another example of new possible solutions came from a vendor wanting to produce foam trays using their corn-based foam material. They presented this material as an environmentally-responsible alternative to Polystyrene. We performed tests on the material and compared it to similar Styrofoam and plastics, and it performed fairly well. That vendor is still working through factors in determining the right market for this type of tray, but this kind of innovation is indicative of where the packaging industry is going.

Getting started

Implementing a new fresh protein package design requires thorough understanding of all the variables that are involved in your packaging line. To do that, you need to look at the whole picture. Here are some questions to ask yourself when getting started:

1. What are you trying to accomplish with the change of your packaging?
2. Are you open to the idea that a new solution may cost more than your current packaging?
3. Are you trying to improve shelf life?
4. Are you trying to improve the appeal of the product?
5. Is there any sort of value-add that you're looking to place on the package or product for the consumer?
6. Are you looking for a more environmentally-friendly package material?
7. Are you looking for a package material that's compostable and/or recyclable?

Knowing this information upfront will help define the overall scope of the project and greatly improve communication with the partnering OEM. Also, having answers to these questions in the early stages is critical because each one influences the other. If one of the answers to a question is unknown, it can sometimes dramatically change the scope of the project, and it is important to discuss before the project begins.

The trend in packaging is going green, and this push toward sustainability shows no signs of slowing. In response, the responsibility has been placed on material suppliers and OEMs to develop packaging to meet this growing demand. Success won't be achieved alone, but rather by collaborating on ideas, sharing information and working together. The next new thing in fresh protein packaging is out there waiting to be discovered…and it might not be that far away. ■

About the Author

Brian Guillaume is a Regional Sales Manager at Ossid. He can be reached at Brian.Guillaume@promachbuilt.com and you can learn more at www.ossid.com.

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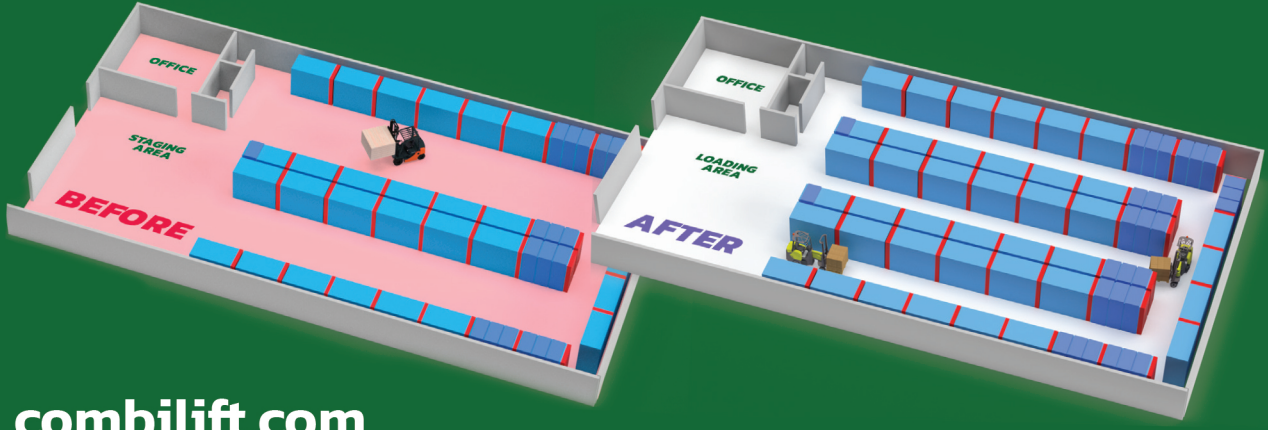

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Demand is rising for more sustainable flexible packaging for food and beverages.

HYBRID PACKAGING BOOSTS SUSTAINABILITY BENEFITS

NEW SOLUTIONS REDUCE RELIANCE ON SINGLE-USE PLASTICS

By Jeff Minnette, Senior Director of Technology and Strategic Development, Jabil Packaging Solutions

As climate change and consumer demands for environmental action have dominated headlines globally in recent years, most companies have found it necessary to make sustainability commitments to cut their carbon footprints, increase recyclability and reduce their reliance on single-use plastic.

According to a 2021 United Nations Environment Program (UNEP) report, about 400 million tons of plastic are created each year. Only 9% of the plastic produced is recycled, while 12% is incinerated, and the rest ends up in landfills, oceans or streams. Although society has come a long way in terms of recycling messaging and awareness, we have much farther to go in overall sustainability.

According to the UNEP report, packaging contributes heavily to a consumer-packaged goods (CPG) company's greenhouse gas emissions, comprising 10% of the company's carbon footprint on the low end and up to 30% on the high end. A recent sustainable packaging trends survey involving 186 participants from CPGs was conducted by SIS International Research, and sponsored by Jabil, a global manufacturing solutions provider headquartered in the U.S. The survey found:

- 31% of respondents from food and beverage companies said their organization has at least piloted sustainable packaging options
- 47% say they are actively learning and have made good progress on their solutions
- Only 20% report having a fully mature program

Demand is growing for sustainable packaging

These stats show that CPGs are responding to the urgent need for more sustainable packaging options driven by stakeholders, governments and brands themselves. At the same time, food and beverage

FusePack combines the best features of rigid, flexible and fiber packaging. The rigid interior frame defines the shape and provides structural integrity while the flexible side walls contain and protect the product. Image courtesy of Jabil Packaging Solutions

brands are facing unprecedented demand for packaged groceries. According to analysts at Research and Markets, flexible pouches are expected to experience the highest growth through 2028 — as the market is anticipated to be driven by a surge in demand for food delivery services, coupled with the rapid growth in single-serve and portable food packs.

These lightweight packages have applications across the food and beverage market, from chips and snacks to juice pouches. Their production requires, on average, less carbon, energy and water than more recyclable — and what is traditionally perceived as more "sustainable" — packaging options like paper and metal cans. But there is a catch. Flexible plastic cannot be recycled in most municipal recycling facilities. While the adoption of the flex pack material helps a CPG reduce their amount of overall packaging created, that material is only good for a single use.

The benefits of hybrid packaging

One solution is hybrid packaging. Combining rigid and flexible substrates, hybrid packaging creates right-sized, high-barrier designs in fully or partially enclosed formats. This packaging solves many of the sustainability tradeoffs required by other formats such as plastic tubs, flexible pouches, metal cans or glass jars. A hybrid packaging solution allows brands to create lighter versions of heavy packages and recyclable versions of already lightweight packages, such as pouches for snack bags or zip-top packaging for dry ingredients. The ability to nest hybrid packaging in transit to filling sites, further improves the carbon footprint.

Hybrid packaging replaces non-recyclable lightweight packaging or emission-intensive containers that typically hold products such as snacks, candy, coffee, infant nutrition, spreads and dry ingredients like flour and sugar. For example, we developed a new hybrid

FusePack is a new hybrid packaging solution created by Jabil for packaging foods such as snacks, candy, coffee, infant nutrition, spreads and dry ingredients like flour and sugar — replacing non-recyclable lightweight packaging or emission-intensive containers that typically hold these products. Image courtesy of Jabil Packaging Solutions

package design combining the best features of rigid, flexible and fiber packaging. A rigid interior frame defines the shape and provides structural integrity, while flexible side walls contain and protect the product. Formats can be manufactured with custom ratios of virgin, compostable or bio-based materials (including molded pulp and fiber for 100% paper-based variations), enabling truly next-generation packaging formats that can be fully recycled in material recovery facilities (MRFs).

The benefits of hybrid packaging are innumerable. This technology offers maximum flexibility in shape, size and material; sustainability improvements through weight reduction and recyclability; omnichannel optimization thanks to a flexible yet strong design that holds up to the bumpy travel and changes in temperature that happen during shipping for e-commerce; better brand presentation on shelf with 360-degree graphics for maximum exposure; and supply chain efficiency with nested shipping and high-speed filling and volumetric efficiency.

Understanding sustainability goals

After deciding to incorporate hybrid packaging into your portfolio, the next step is to understand your sustainability goals. Hybrid packaging's flexible material combinations allow CPGs to create a package that drives toward their goals.

Are your goals related to plastic reduction? You can create hybrid packaging that leverages a paperboard sidewall and industrially compostable inner frame. Are your goals focused on using more recycled paper and plastic in your products? You can design a hybrid package that has embedded post-consumer recycled (PCR) plastic within the rigid frame so the recycled material never comes in contact with the food inside the container. Looking to reduce your carbon footprint while maintaining recyclability? Try a mono-material polypropylene hybrid package that is lightweight yet fully recyclable.

Almost every package comes with some sort of tradeoff, whether its inefficient filling or a heavy carbon footprint to poor recyclability. Hybrid packaging, though, addresses these common challenges to provide CPGs with a next-generation format with the enhanced sustainability that consumers, and the environment, demand. ■

About the Author

Jeff Minnette is the Senior Director of Technology and Strategic Development for Jabil Packaging Solutions, and owns over 60 patents, primarily in consumer products packaging and processing. Jeff specializes in customer-focused innovation to commercialize disruptive technologies, and creates value by developing breakthrough products for Jabil customers undergoing significant change or extraordinary growth. Jeff has extensive knowledge of many packaging technologies, including injection, barrier, IML, co-injection, co-extrusion, thermoform and blow molding.

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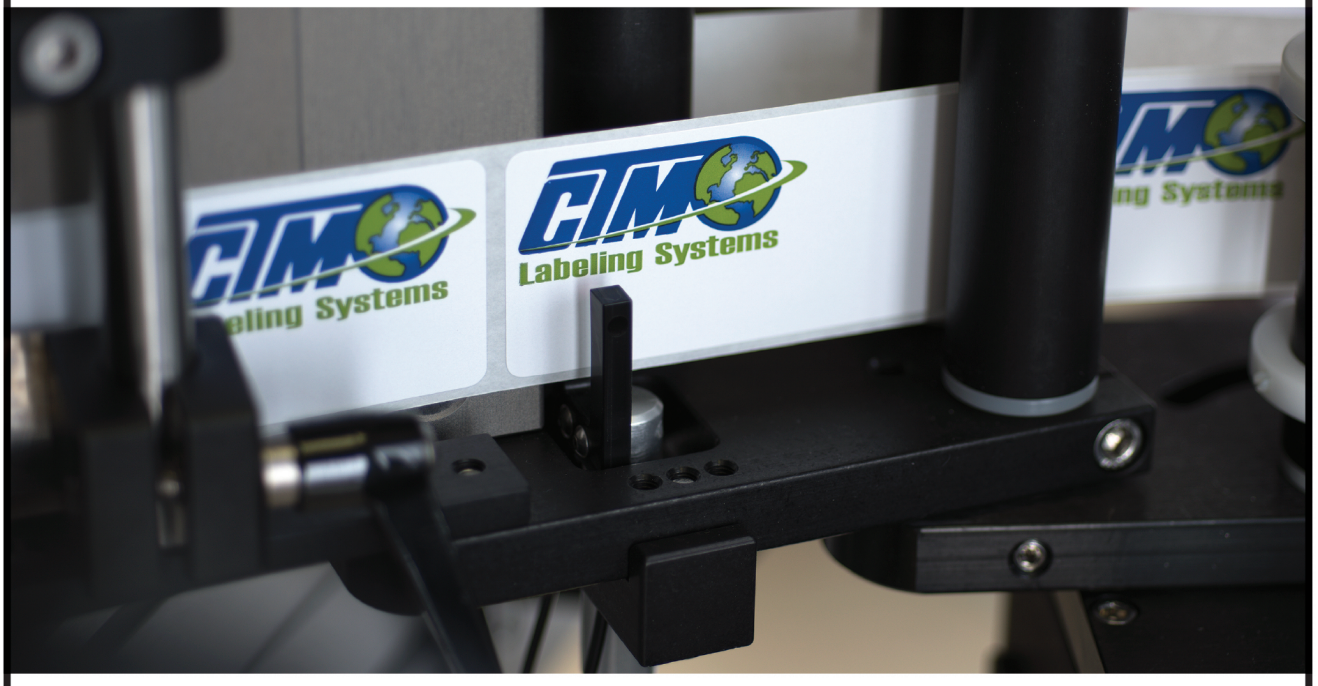

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SET LASERS TO "STUN" AND GO TO MARKET FASTER

PRECISE 3D LASER SCANNERS EXPEDITE PACKAGING DESIGN AND CERTIFICATION

By Steven Kersen, President of NVision, Inc.

Tasked with multiple responsibilities, including the need to meet tight tolerances, reduce material waste, and obtain prompt certification, more packaging manufacturers today are finding their one-stop solution in 3D non-contact optical scanning.

These scanners capture, with a high degree of accuracy, the dimensional details of real-world packaging, including its shape, size, and textures. This data is then processed and used to create a three-dimensional computer-aided design (CAD) model of the packaging that manufacturers can use for measurement/inspection, reverse engineering, redesign, or mass production. There are a variety of technologies available, many best-suited to specific inspection needs, but arguably the most versatile non-contact optical scanning device is a 3D laser scanner.

NVision has provided 3D scanning equipment and engineering services for more than 30 years, and here are answers to questions about the latest trends and developments:

How is inspection/detection/visioning technology changing?

Continual technological advancement has been a hallmark of laser scanning ever since its inception in the 1960s. Laser scanning today is faster, more accurate, and more versatile than we could have imagined even just 20 years ago. Improvements in quality analysis software now allow for more automation, reducing the need for human interface and the man-hours required. Macros can be created quicker, al-

lowing batch processing of large numbers of parts. Developments like these continue to advance accuracy, utility, and verification.

The increased use of the Cloud is creating new collaborative opportunities for engineers and enabling them to make faster use of scan data. Dependency on cloud-based scan data will undoubtedly grow, especially among larger companies with design and manufacturing teams in multiple locations.

Similarly, the growth of additive manufacturing, or 3D printing, is spurring greater use of laser scanning, as designers quickly hand-modify and 3D-print prototypes and models on site. Laser scanners are also being used more in personal settings, with gamers now using them to digitize objects to create virtual reality avatars.

What are the key capabilities of this technology?

Laser scanning can rapidly and accurately capture a real-world object's dimensions and surface geometry. The handheld scanner we use most often on projects has an accuracy of plus or minus 0.025 millimeters or 25 microns, the latter being one-thousandth of an inch. As its laser light sweeps across an object's surface, it collects vast amounts of individual location points on the object's surface, each with its x,y,z coordinates and i,j,k vectors. The full dataset, or "point cloud," collected by the scanner comprises literally millions of these measurement points. With this sheer amount of dimensional data, the CAD file created from the point cloud, viewable from all angles, comprises an exact duplicate of the object's surface, down to the most minute detail.

The speed at which the data is obtained is impressive. Able to capture 60,000 or more separate measurements per second, laser scanners are capable of collecting a far greater amount of inspection/measurement information than can typically be obtained by other measurement means–and accomplish it in much less time. With many of our projects, scanning is complete within a day or two, sometimes even less than that.

This dimensional data can be used in multiple ways. Engineers can use the CAD file to reverse engineer the packaging to optimize its design or correct a detected flaw. They can perform quality control and inspection analysis on the as-built packaging for a fast "go/no go" decision in manufacturing. Scanning services can provide comprehensive inspection reports that include color deviation, cross-section analysis, specific 2D/3D dimensions, feature analysis, and Geometric dimensioning and tolerancing (GD&T).

Why is this technology important for the inspection and certification process?

Due to its speed and accuracy laser scanning can greatly accelerate the certification process. And with an accuracy of plus or minus 0.001 of an inch, or greater, a laser scanner is capable of quickly detecting even the smallest deviations from an original design. This allows the manufacturer to quickly correct any deviations so the product meets specifications. Coupling speed with accuracy means faster certification and getting your product to market faster.

How can packaging manufacturers use this technology?

There are several ways. They can scan finished products to design or improve the packaging. This is especially helpful to packaging manufacturers who have only the product and are creating the packaging from scratch.

Since laser scans are extremely accurate in capturing the exact shape and dimensions of packaging, the CAD files created from scan data serve as an ideal tool for precision inspection or design modification. Design flaws in packaging are particularly well-suited for detection by laser scanners. For example, a few years ago a beverage manufacturer was experiencing sealing flaws in its large-sized bottles.

Laser scanning is an excellent tool for packaging design and certification. After packaging is scanned, digital files can quickly be generated certifying that manufacturing specifications pass quality standards.

After we scanned sample bottles and provided the manufacturer with CAD files of the bottles, its engineers were able to closely inspect the sealing surfaces of the bottles and reverse-engineer them so that the sealing problems were isolated and resolved.

How does laser scanning improve the packaging production process?

Laser scanning can be employed to inspect and measure the tooling, molding, and other equipment and components necessary to manufacture the packaging. For example, scans of a product and its molding can be compared to check for any areas of deviation.

Why is laser scanning useful for packaging certification?

Scanning is an excellent tool to use for packaging certification. After packaging is scanned, digital files can quickly be generated certifying that manufacturing specifications pass quality standards.

How does non-optical scanning reduce the time to market for new electronics devices?

One way that scanning shortens the process of getting electronics products to market is by providing faster certification of the packaging. Scanning can, of course, further shorten time-to-market if it's used earlier in the design/production process when CAD files could reveal shortcomings in the original packaging design or deviations from the design exhibited during modeling or prototyping. The latter could indicate issues with the manufacturing process.

As the consumer electronics industry continues to bounce back from its 2020 slump, faster time-to-market is especially important as manufacturers find themselves once more in a growth market marked by increased consumer demand.

Which industries benefit from these advancements?

As of early 2022, every sector of packaging – and particularly phar-

Laser scanning is an excellent tool for packaging design and certification. After packaging is scanned, digital files can quickly be generated certifying that manufacturing specifications pass quality standards.

maceutical, industrial, agricultural and food and beverage companies – are poised to experience some level of growth. As the global supply chain stabilizes in the wake of the pandemic and industry revives, the race to deliver packaging for a recovering economy will intensify.

Non-contact optical scanning, particularly 3D laser scanning, should be considered an essential 21st-century technology for packaging manufacturers seeking to remain competitive in design, quality, and production efficiency.

Any industry needing a digital model of a part, product, or structure, be it for inspection, measurement, re-engineering, mass production, or preservation, can benefit from laser scanning. This includes packaging, architecture, healthcare, medical devices, aerospace, automotive, power generation, oil and gas, turbines, food, and many others. For example, "terrestrial" laser scanners can scan entire buildings for the construction industry.

The variety of applications for 3D scanning is endless. We have, in recent years, been asked to scan priceless sculptures by Auguste Rodin, rare fossils from paleontological museums, even a series of handmade goose calls. In medicine alone, laser scanners are being used to scan limbs to create better, and personalized, prosthetics, re-engineer scalpels and other surgical instruments, and much more. ■

About the Author

Steven Kersen is the President of NVision, Inc. in Southlake, Texas, and is a leader in non-contact optical measurement technology and services. Learn more at www.nvision3d.com.

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New consumer preferences are creating demand for faster packaging equipment to handle sustainable materials in a variety of shapes, sizes and formats.

HOW TO STAY AHEAD OF BEVERAGE MARKET TRENDS

SUSTAINABILITY, FLEXIBILITY AND PRODUCTION SPEED ARE KEY FACTORS TO CONSIDER

By Rich Clifton, Portfolio Manager, Beverage and Robotics, R.A. Jones

Sparked by changes during COVID-19, beverage brands have shifted away from predominantly serving the foodservice industry, and are now catering to people who consume beverages at home. In fact, changes in consumers' purchasing behavior and product preferences are impacting product demand, package sizes and packaging material.

As original equipment manufacturers (OEMs) of primary and secondary beverage packaging machinery, we are witnessing the reshaping of the beverage industry, and developing solutions to stay ahead of market trends and demands.

How is purchasing behavior affecting beverage packaging?

The beverage industry continues to experience transformative impacts that can be traced to the start of the pandemic. Less frequent shopping trips and concerns about product availability triggered bulk buying. And e-commerce opened a digital avenue for consumers to efficiently grocery shop without having to leave their homes during the pandemic.

In fact, the online grocery market jumped 63.9% in 2020 according to a study by eMarketer reported by Oberlo. And online beverage purchases rose 39.9% year-over-year in 2020 because consumers started purchasing beverages alongside food and other essentials according to an industry report by the Common Thread Collective.

Even as we enter the endemic stage of COVID-19, bulk buying is expected to continue as inflation and ongoing supply chain issues raise consumers' concerns about product availability and price increases – and many consumers intend to continue shopping online. A recent whitepaper by the Packaging Machinery Manufacturers Institute (PMMI) revealed online shopping platforms have created a more centralized shopping experience, and are increasing demand for packaging diversity as consumers continue making more bulk purchases, and buy products in larger quantities or in multipack varieties.

What beverage market trends is your company noticing?

Increased interest in wellness beverages, canned cocktails and other assorted drinks have introduced a variety of different product lines.

And consumer interest in sleeker can sizes and smaller variety multipacks has started to rise in tandem with increased use of digital grocery shopping platforms.

For example, Crown Holdings, a leading supplier of beverage packaging, recently reported that production rates of their specialty cans increased significantly. Specialty cans are defined as sizes other than the standard 12-ounce beverage can, and now represent more than 20% of Crown's North American portfolio, reflecting a 9% increase within five years.

Environmental awareness is also growing, and people are moving away from purchasing single-use plastics, such as products packaged with plastic cone rings or shrink-wrap, and more people are looking for ways to participate in a more circular economy. When faced with a choice, most shoppers say they are more likely to reach for products packaged in paper/cardboard or metal cans because they are recyclable – and more consumers want businesses to reduce carbon dioxide emissions and help support the circular economy.

What capabilities are needed to address new consumer preferences?

While beverage product producers and CPGs race to address changing consumer preferences, beverage manufacturers ought to examine their equipment capabilities and identify opportunities to optimize production rates while maintaining overall equipment effectiveness (OEE).

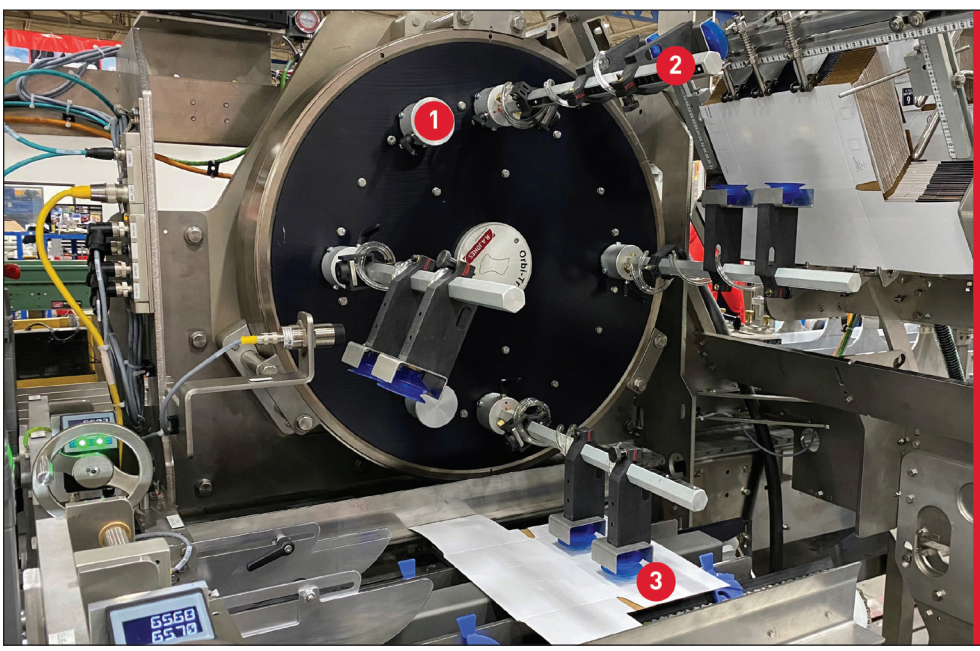
A CPG can drastically increase their production line flexibility by implementing technology that expands its capacity to change can diameters – accommodating standard and sleeker specialty can sizes within the same machine. By increasing production capacity and maintaining greater efficiency rates, beverage manufacturers are also able to run other products on the line, ultimately negating the need to purchase additional packaging machinery, maximizing floorspace and saving them money, time and resources.

We've actually collaborated with customers to enable them to increase production speeds for their carton packaging equipment to match current consumer demands, and developed a new speed up kit. It allows beverage and food manufacturers to run a variety of canned product configurations at a surge speed of 345 cartons per minute. We've had interest in this new packaging technology from a few beverage customers, including Corona, which is in the process of implementing the multipack speed up kit onto their machines.

The new carton feed technology was added to the R.A. Jones' Meridian XR MPS-300 to increase the speed at which beverage manufacturers can produce 4-,6- and 8-pack configurations as well as package a wide range of product types, diameters and heights. Image courtesy of R.A. Jones

How can brand manufacturers stay ahead of market trends

An effective way to stay ahead of market trends is to work with an OEM with a comprehensive Research and Development (R&D) department that can introduce pro-



PATENT-PENDING TECHNOLOGY FEATURES

1) Flexibility: Additional spindle location options expand carton size/speed capabilities

2) Synchronized Rotation: Spindle motion timed to prevent carton pick interference

3) Precise Placement: Vacuum cups briefly run parallel to and at the linear speed of the air frame chains

The new Orbi-Trak TC-6 speedup kit enables food and beverage manufacturers to run a variety of canned product configurations at an unprecedented surge speed of 345 cartons per minute, making R.A. Jones' Meridian XR machines the fastest in the industry. Image courtesy of R.A. Jones

duction solutions that are efficient and reliable. Also look for a team with the expertise you need to help optimize manufacturing processes and equipment to accommodate a range of packaging shapes, sizes, and materials – with the least number of changeovers possible.

For example, we updated our existing carton feed technology to include six spindle locations – adding two additional spindle options that help increase machine speed and broaden carton range capabilities. However, the main challenge with increasing cartoning speeds is that it can lead to carton jams and lowered efficiency rates. As a result, we re-engineered the spindle rotation, so the linear speed of the carton is matched to that of the air frame chains, allowing for a smooth hand off between the two devices. With these adaptations, customers can expand their carton size range and speed capabilities of their machine without fear of a carton jam that can stall production.

What should CPGs consider when selecting an OEM?

We anticipate the beverage market to remain unpredictable due to supply chain issues, inflation, and labor shortages. One-way CPGs can stay ahead of market demands is by partnering with an OEM with extensive experience engineering and manufacturing custom packaging machinery that has full visibility over the supply chain.

When packaging a product, there can be many suppliers involved in one decision with no formalized system of communication. By working with an OEM that can coordinate between all the key parties, it can minimize the back and forth and streamline the entire production process. Additionally, housing the entire production line within one facility ensures the OEM can monitor for product consistency, quality, and performance with the ability to instantly troubleshoot any potential downstream issues. An active supervisor that can evaluate and leverage a history of packaging equipment innovation and expertise can help prevent downtime, improve efficiency, and even lower production errors.

Partnering with OEMs offering routine technician services or scheduled machine audits that provide hands-on machine line evaluations also enables you to maintain a skilled workforce and minimize costly downtime. These workforce development opportunities allow plant employees to be trained by skilled line professionals on how to perform regular maintenance as well as diagnose equipment and parts failure before they occur. Further, OEMs that can supply preventative maintenance kits, enable CPGs to work on machines on their own time, gives employees confidence in their skills, and creates a supportive environment to improve labor retention rates. ■

About the Author

Rich Clifton is the portfolio manager for beverage and robotics at R.A. Jones. R.A. Jones is part of Coesia, a group of innovation-based industrial and packaging solutions companies operating globally, headquartered in Bologna, Italy and owned by Isabella Seràgnoli. Learn more at www.rajones.com.

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As we progress towards net-zero, digitization in the form of data and tracking will close the loop for true circularity, and provide the data needed for brands to prove they are reducing their carbon footprint.

NEW CONSUMER ATTITUDES ARE DRIVING INNOVATION

INVESTING IN DIGITIZATION, REUSABLE PACKAGING AND SUSTAINABLE MATERIALS CAN ELEVATE BRANDS

By Caroline Hughes, Senior Global Product Line Manager, Packaging at Avery Dennison

Fashion, and more specifically fast fashion, is often labelled as one of the most polluting of industries. Recent events such as COP26 intensified the very real need for businesses to make a measurable change, and the fashion industry knows it must rapidly adopt new business models, or risk losing increasingly eco-conscious customers.

Sustainable initiatives have rightly become a core and non-negotiable focus for apparel brands. This has been propelled by the shift in consumers' concerns and demands in recent years. More consumers are making an effort to shop greener and buy more eco-friendly products, demonstrating that sustainability is really driving and redefining consumers' choices.

Western consumers now make decisions about which brands to buy according to how environmentally-friendly they are, and this includes their packaging—particularly regarding e-commerce delivery boxes, bags and void fill. In fact, a 2021 GlobalWebIndex (GWI) study revealed that 73% of US consumers and 82% of UK consumers who care about sustainability chose to shop with brands that have

Packaging made from paper and recycled plastics reduces single-use plastics, introduces reusable and recyclable materials, and limits the amount of packaging materials being used across the supply chain.

'greener' packaging. As a result of rising concerns for sustainability, brands and companies are paying more attention to which forms of packaging will minimize their carbon footprint and reduce the impact on the environment.

Innovations driving change

Clearly, reusable packaging is a very achievable way to reduce carbon emissions. Currently, the fashion and supply chain industries rely heavily on both plastic and paper packaging to transport products from the warehouse to consumers. Packaging includes polybags in factories, plastic packaging for online orders, plastic bags in stores and shops, to paper returns labels. Fully reusable solutions are still being researched and developed, and further innovation including applying smart technology and digitizing packaging is fast becoming the future.

With connected packaging, a unique digital ID makes it possible to increase transparency and traceability, providing data and information across the supply chain, including to consumers, who are becoming increasingly interested and engaged by brands' ecological efforts.

For example, Avery Dennison supplies digital triggers in packaging such as QR codes and RFID tags, linked to our connected product cloud platform, atma.io. The technology allows brands and businesses to create a "digital twin" of their physical product. That digitization of product, and packaging, allows enterprises to unlock the ability to create a more sustainable value chain; track the carbon footprint of products and identify areas of waste. Ultimately, this can keep reusable products in circulation longer, enabling improved sortation and collection of both product and packaging.

Paper and recycled plastic

The fashion industry's attitude towards sustainability is changing, and as a result, brands are sourcing more environmentally friendly packaging. Approximately 42% of consumers claim that recycled or sustainable materials are important when shopping according to GWI. Polybags made of recycled plastic are being used more commonly, as well as biodegradable plastic bags, and plastic-free garment bags made from durable and recyclable renewable resources, such as paper fiber.

Packaging made from paper and recycled plastics reduces single-use plastics, introduces reusable and recyclable materials, and limits the amount of packaging materials being used across the supply chain. These products enable brands to progress with their carbon reduction and sustainability initiatives, giving an alternative for the use of non-reusable plastics in the future.

Packaging legislation on the horizon

Consumer interest in sustainability is growing fast, and recyclable and reusable packaging is now expected by most shoppers. This is evidenced by the number of brands making this committed change, and new laws being passed to ensure the industry and businesses alike are taking carbon reduction seriously. For example, new EU packaging regulations stipulate that from January 1, 2026, any producer who imports packaged products or puts products into packaging

Consumer interest in sustainability is growing fast, and recyclable and reusable packaging is now expected by most shoppers.

must take steps to ensure that at least 70% by weight of all packaging waste is recycled.

As we progress towards net-zero, digitization in the form of data and tracking needs to be incorporated into packaging. This will close the loop for true circularity, and provide the data needed for brands to prove they are reducing their carbon footprint. ■

About the Authors

Caroline Hughes is a senior global product line manager of packaging at Avery Dennison. To support a more sustainable future, Avery Dennison has produced its eco-friendly Re-Think Packaging line, including a 100% recycled GRS-certified PE poly bag made from sustainable materials, and a plastic-free garment bag made from paper fiber. Learn more at www.averydennison.com.

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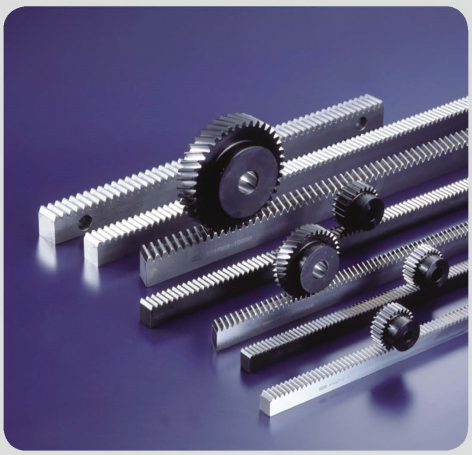




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Mettler-Toledo Safeline's X37 X-ray system is ideal for nutraceuticals as well as pharmaceuticals, foods and other products packaged in metal, glass, plastic and paperboard. Image courtesy of Wellington Foods

HOW TO FIND THE RIGHT END OF LINE INSPECTION SYSTEM

X-RAY SYSTEMS OPTIMIZE INSPECTION OF GLASS AND PLASTIC BOTTLES

By Steve Nering, Vice President of Quality and Chuck Sprague, Vice President of Operations at Wellington Foods with Jonathon Vanderhorst of Pacific Packaging and Inspection

Dietary supplement manufacturing and packaging involves a very high level of regulatory compliance – with extremely strict criteria for product safety that's driven by government agencies, third-party certifications, customer requirements and manufacturers' own high standards.

As a dietary supplement contract manufacturer with domestic and international distribution, Wellington Foods produces liquid dietary supplements including multivitamins, mineral products and joint health products, as well as powdered supplements like plant-based proteins.

Whether products are packaged in glass, metal or dense plastic, it is essential to have product inspection systems that consistently operate at peak performance levels to find anything that's out of place – even if it rarely happens. In our industry, product inspection isn't just about quality control, and we require excellent detection sensitivity to protect consumer safety.

Identify the most effective solution

When investing in a new world-class product inspection system, it's important to start by identifying the best system for your particular application. For example, we package products in both glass and plastic bottles and need to detect foreign material down to virtually microscopic traces. We also need to perform product integrity checks such as confirming fill level and making sure caps are applied correctly.

Because we package products in powder and liquid form, sanitation is especially important, and there's always the potential for spills and sticky surfaces that need to be cleaned. Due to the types of products we handle, we needed equipment rated IP65, which is the Ingress Protection Rating for equipment that is sealed to prevent accidental contact with dust, and water in a full washdown environment.

Our production process already uses multiple layers of protective measures to prevent the risk of foreign material and ensure product quality, so quality events are extremely rare. However, to ensure the

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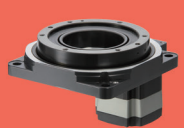

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The Safeline X37 has a user-friendly interface, making change overs simple, and gives each operator a unique passcode with a specific level of access to prevent accidental setting changes. Image courtesy of Wellington Foods.

highest level of safety, we decided we needed an X-ray system because metal detectors cannot inspect for non-metal foreign material such as glass. Plus, many of our packages include a foil seal, which metal detectors cannot inspect.

Select the right equipment and supplier

After deciding an X-ray inspection system would be the most effective solution for our application, we evaluated the overall cost of systems, equipment reliability and suppliers' expertise and customer service capabilities.

During our equipment search, Mettler-Toledo was the only X-ray supplier we talked to that wasn't afraid to inspect for glass foreign material inside of glass bottles. I've personally worked with the company for over 25 years, so I also know firsthand that they make great equipment.

We also needed to install the X-ray system at the end of the packaging line, over our existing conveyor, to conserve floorspace. The best fit for our specific inspection requirements was the Mettler-Toledo Safeline X37. It is a highly versatile X-ray system, available with a low-, medium- or high-powered generator as well as a choice of either a 0.4 millimeter or 0.8 millimeter detector. It's capable of inspecting up to 1,200 packages per minute, depending on the application, while maintaining the highest accuracy.

Integrate equipment into the existing packaging line

Handling up to 200 bottles per minute, Wellington's line throughput is well within the Safeline X37's max capacity, so Mettler-Toledo equipped it with a low-powered generator to improve energy efficiency and reduce operating costs.

Pictured from left to right are Steve Nering, Vice President Quality Systems; Chuck Sprague, Vice President Operations; Robin Joyner, Quality Assurance Manager and Neill Schultz, Production Manager.

'Good' products flow downstream to the cartoner and case packer, while any out-of-tolerance products are removed with a Mettler-Toledo pneumatic pusher reject device into a lockable bin that safely stores ejected packages until they can be removed by a worker, tested to identify the issue and ultimately destroyed.

It is also the easiest system to change over on our packaging line. Since it is recipe based, we've programmed it to understand what a 'good' package looks like, and it will reject anything out of the ordinary. When we need to changeover, we simply switch to a new recipe on the touchscreen and then send a couple of bottles and testing rods through to verify the setup is correct. It's very fast and requires no adjustments.

Ensure inspection systems operate at peak performance

We inspect liquid dietary supplements in a variety of bottles, ranging in size from two ounces to one liter, that are made of either glass or plastic such as HDPE or PVC. We also use our inspection system to monitor for cap skew and fill level. That's a huge help, because liquid products will spill if not properly closed.

To be sure our X-ray system consistently operates at peak performance, we check it every 30 minutes during production with testing rods provided by Mettler-Toledo. The X37 has is extremely accurate. Even at our high level of sensitivity, we've had zero false rejects.

Ensure inspection systems are user friendly and reliable

Final product inspection is absolutely non-negotiable for both compliance and our peace of mind. One of our favorite features is the individual sign-in capability. This gives each worker a unique passcode with a specific level of access and makes the X-ray much more user-friendly – no one is overwhelmed with too many buttons and pages. Plus, it eliminates the chance that a worker might accidentally change a setting.

Customer service is also a key consideration. Every year, Mettler-Toledo comes out for our annual calibration, and the technicians tell us that it looks just like the day it left the factory. Thanks to its reliability and high level of performance, this system gives us confidence that every product we're sending to consumers is safe. ■

About the Authors

Steve Nering is Vice President of Quality and Chuck Sprague is Vice President of Operations at Wellington Foods, and Jonathan Vanderhorst is their sales representative with Pacific Packaging and Inspection. Founded in 1974, Wellington is inspired by the idea that proper nutrition is important for people of all ages, and has grown to become a major nutraceuticals player with more than 200,000 square feet of space across two state-of-the-art facilities in Corona, California.

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HOW A SUPPLEMENT COMPANY ELIMINATED SINGLE-USE PLASTIC BOTTLES

SWITCHING TO PLANT-BASED SUSTAINABLE BAGS REDUCES EMISSIONS AND PLASTIC POLLUTION

By Heather Florio, CEO of Desert Harvest

Single-use plastic pill bottles contribute to plastic pollution and the associated impacts on climate change, from the greenhouse gasses emitted during manufacturing to the methane emissions from the landfills where empty bottles are discarded.

According to Statista, Americans filled nearly 4.7 million retail prescriptions in 2021, many of them coming in these containers. Dietary supplements added millions more plastic bottles to the waste stream, with 77% of American adults purchasing more than $31 billion worth of supplements annually according to the Council for Responsible Nutrition (CRN).

In 2022, we became the first U.S. supplement company to abandon single-use pill bottles in our packaging. We're excited to share insights about the move to more sustainable packaging. Here are a few of the common questions we are asked about it.

What details can you share about the new packaging?

We are phasing out all single-use plastic bottles this year, moving to plant-based compostable bags, and offering customers a refillable smart bottle that can track pill usage, and more. We are also helping to remove one ton of plastic from the ocean for every bottle purchased through an agreement with our bottle supplier.

What motivated you to develop new packaging?

We are constantly trying to find new ways to become more sustainable and reduce our carbon footprint at our company. For us, abandoning single-use pill bottles aligned with our goals. When ImpacX reached out to us about leveraging their innovation to achieve this, we realized we could reduce plastic in the environment. Then, we saw an opportunity to convert our packaging to plant-based sus-

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Refillable smart bottles use blue tooth technology and an app to track supplement usage and push refill reminders.
Images courtesy of Desert Harvest.

tainable bags. It was all about sustainability and our commitment to reducing our carbon footprint.

How will sustainable packaging help or impact your brand?

I hope that this could position us as the leader for sustainable packaging in the supplement market, and that we could be a model for others to follow. Numerous studies have shown that consumers today want sustainable products and consider sustainability with their purchasing decisions. More consumers than ever are seeking sustainable packaging alternatives. Our new packaging will help meet this demand.

How do smart bottles work?

The smart bottle technology we are using did not exist before. It'll change daily lives by making make sure you don't forget your medications, sets up accountability measures, and helps monitor elderly patients to make sure that they've taken their medications. It'll also help the environment. The bottle is designed to be re-used and has roughly a five-year lifespan. To reduce landfill waste, a postage-paid label is provided for consumers to return the bottle to the manufacturer for recycling. This technology is really going to change everything.

What benefits do you think it will bring to consumers beyond its positive impact on the environment?

It'll help them lead healthier lives because of the reminders and accountability. It doesn't just take away the need to remind yourself to take your supplements, but also provides reminders when the bottle needs to be refilled. For our customers taking our supplements, running out of product or forgetting a dose can impact their health. People who serve as caregivers to others can monitor and track adherence. The bottle can be used for anything in pill form. Even though it's for our company, it can be used as a system with the other products they take.

Desert Harvest is converting its packaging from plastic bottles to plant-based compostable bags.
Images courtesy TricorBraun

Can you share more about the innovation and technology involved in creating the packaging?

The technology is the first of its kind. ImpacX took the technology they created for water intake and adapted it to meet our needs, and the needs of our customers. The bottle, design, and entire app was created specifically for our company in partnership with them. It was a step-by-step process that evolved over roughly six months.

What details can you share about the process?

There were multiple phases. We had to think about and consider a lot of things—if the technology would work for our customers, how we could adapt our production line and make it all work, there were sourcing issues to solve. We learned a lot. It was exciting.

Were there any challenges or lessons you learned while creating and designing the packaging that you can share?

One thing that was interesting in the process was that we were thinking about how our customers were going to use this. But, then we found a lot of people who wanted it for their parents, or others that they provide care for. That's when it became a question of how we can adapt the technology to work beyond our initial vision.

What will moving all of your products to the new packaging entail?

We should have all of our supplements changed to the new bottle and packaging by the end of 2022. We're working on our skincare first. It will be a phased approach to work with our production timing and process for our products, and other logistics.

What advice or guidance would you share with others who may want to move to sustainable packaging?

Do it! We all have a responsibility to this planet. The little changes we can make can make such a difference and such an impact. Especially when you are trying to sell your products worldwide like we do. Look where you can make changes. ■

About the Authors

Heather Florio is the second-generation owner of Desert Harvest, which manufactures organic nutritional supplements and skincare products harnessing the power of the aloe vera plant. Learn more at www.desertharvest.com.

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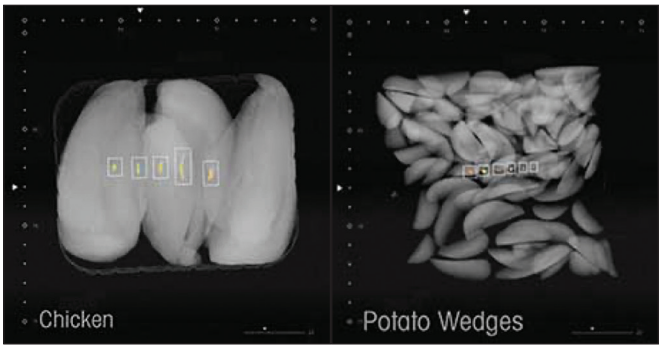

Mettler-Toledo X-ray Detects of 'Hard-to-Find' Contaminants

Mettler-Toledo Product Inspection launched its most advanced X-ray inspection technology to date, improving its ability to detect low density contaminants in packaged food products. The new technology will help food manufacturers avoid product recalls, reduce unnecessary product waste costs, and enhance product integrity and brand protection. Learn more at www.mt.com/pi.

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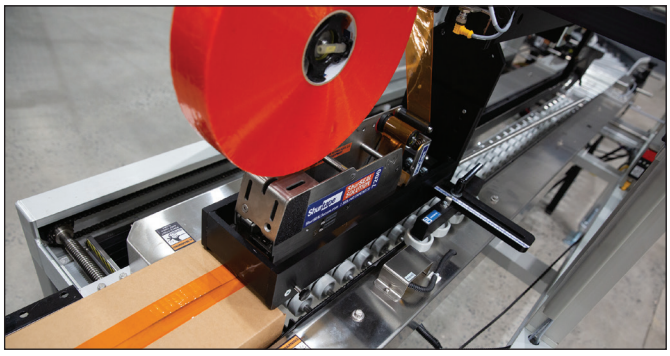

Who Knew Product Settling Was This Simple?

Multi-Conveyor recently built a series of six settling (or vibrating) conveyors to facilitate product settling of filled, open-flap corrugated cases. Single lane product will end transfer on and off again in various sections of the customer's existing line. Each independent section is comprised of straight running plastic modular belting that is nearly 8-feet by 12 inches. The product settling process is actually achieved below the belting. See how it works in this narrated video: https://youtu.be/eZlFOAyFIYo

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The exhibitor and product database for interpack 2023 is now available online at www.interpack.com and is constantly updated with new information and products. interpack will take place from May 4 – 10, 2023 at the fairgrounds in Düsseldorf, Germany.

ALLIEDFLEX Technologies and HDG Pouch Packaging Machinery Announce North American Sales and Marketing Partnership

HDG Pouch Packaging Machinery of Lindlar Germany announced an exclusive North American sales and marketing partnership with ALLIEDFLEX Technologies to handle their complete horizontal pouch packaging machinery program. HDG is already established in North America through its installed base of inline rotary horizontal pouch packaging machinery, operating at major food, personal care, nutraceutical corporations, and contract packagers.

Glenroy Inc. and Nature Nate's Honey Co. Introduce a New Sustainable Package

Glenroy® Inc. and Nate's partnered to introduce innovative, sustainable, and squeezable technology of the premade STANDCAP Pouch. Production of the premade STANDCAP Pouches uses approximately 60% less plastic, consumes approximately 71% less water, produces approximately 50% less CO2 emissions, uses approximately 44% less fossil fuel during transportation, and contributes approximately 20% less landfill waste (even when factoring in plastic recycling rates). Learn more at http://www.flexpack.org/glenroy-case-studies.

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The event showcases entire production line solutions and offers attendees everything needed to compete in a changing marketplace. See the latest conference news at www.packagingtechtoday.com.

South Building Booth Highlights

ALLIEDFLEX (Booth S-3819) recently announced an exclusive sales and marketing collaboration with HDG in North America, and HDG will debut their model HDG RB-200 PD PUSH & DOSE. The HDG RB-200 system will be configured to produce the HDG revolutionary patented push and dose dispensing pouch system, ideal for replacing traditional rigid dispensing bottles and container.

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Antares Vision Group (Booth S-3756) will showcase its all-in-one equipment portfolio for food & beverage applications. The series incorporates multiple inspection controls into single machines, maximizing production space and manpower efficiencies while offering exemplary quality assurance including regulatory compliance, container integrity and detection of contaminants and micro-leaks, weight control and labelling/print verification for expiration dates and lot codes. The combo units draw upon technology from AVG subsidiary FT System, as well as inspection controls specialist Pen-Tec. Learn more at www.antaresvisiongroup.com.

Fresh-Lock® closures (Booth S-3541) a leading brand in reclosable packaging technology, will showcase meaningful advances in sustainable flexible packaging. On Monday, Oct. 24 at 1:00 p.m. (CST), on Innovation Stage 1 (N4560), Todd Meussling, senior manager of market development, will host a 30-minute panel discussion, "Tackling Packaging Challenges and Pressures."

IMA Dairy & Food (Booth S-2514) will showcase the Hassia F600 form-fill-seal machine, which produces four-sided sealed sachets at a pace of up to 80 cycles/minute on as many as 16 lanes. The unit runs a single wide roll located at floor level for easy changeover and front-and-back sachet registration – an option offering more printing choices than traditional two-roll machines. The F600 can handle rolls as wide as 1.200mm with a diameter of 800mm, and can yield up to 16 hours of run time between roll changes; the result is significantly reduced downtime and boosted productivity. Learn more at www.imadairyfood.com.

METTLER TOLEDO Product Inspection (Booth S-1714) will demonstrate a variety of new inspection systems for the food and pharmaceutical industries. The company will demonstrate its metal detectors, checkweighers, X-ray and vision inspection systems, track and trace solutions, as well as its data management and connectivity software. Experts will be available to explain the features and benefits of each system and discuss individual applications. Learn more at www.mt.com/us.

Multi-Conveyor (Booth S-3401) will have many conveyor technologies on display, with scan and go technology that links to everything they make, and a hyper-speed technology video that's viewable in less than 30 seconds. Plus, see a running loop conveyor that's jam packed with solutions, and rotary accumulation and unscrambling in action. Learn more at www.multi-conveyor.com and email: info@multi-conv.com for more information.

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Syntegon (Booth S-3514) will launch the new Intelligent Direct Handling (IDH) pick-and-place system for cookies, crackers and biscuits, and experts will showcase comprehensive system competence with displays of the RPP robotic pick-and-place platform in combination with a MEC endload cartoner, as well as a SVE 2520 Doy Zip vertical bagger with an Elematic 3001 case packer. For more information about Syntegon Technology, visit www.syntegon.com

Waldner North America (booth S-3106) will showcase precision-engineered systems that can run at 95% Overall Equipment Effectiveness (OEE) over a working life that lasts years, and packaging experts, including Karl Angele, will be available to discuss smart solutions for filling and sealing applicaitons.

WIPOTEC–OCS (Booth S-4172) will introduce its most flexible quality control machine series to date. The modular design of the TQS-MD Series offers various combinations of product-specific quality control solutions, including weighing, marking and verifying, labeling, metal detection & serialization/aggregation. For more information, visit www.wipotec-ocs.com/us/.

West Building Booth Highlights

Cremer (Booth W-13014) (www.cremer.com), a leading supplier of product counting machines in the U.S. for a wide array of applications, will highlight its novel counting solution for gummy applications. The HQS 1250 Counting & Dispensing Machine is ideal for gummy applications in the nutraceutical sector, and was developed in partnership with filler manufacturer Spee-Dee.

HERMA US Inc. (Booth W-17016) the subsidiary of HERMA GmbH – a Germany-based provider of labeling machinery and self-adhesive labels and materials to the global packaging marketplace – is partnering with New Jersey-based automation specialist Norwalt to exhibit HERMA's 252M Tube & Syringe Labeler with an automatic tray unloading system from Norwalt. (www.herma.us)

HexcelPack (Booth W-21029), a developer of eco-friendly, paper-based protective cushioning solutions to replace bubble packaging and other plastic or foam-based materials, will allow visitors to "wrap for themselves" by utilizing the company's Mini

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MG America (Booth W-15003) the U.S. subsidiary of MG2 of Bologna, Italy is a leading supplier of processing and packaging equipment. They will debut the latest cartoner from pharma machinery provider Cariba. The C221 Cartoner is an intermittent motion horizontal model capable of producing up to 120 cartons/minute. For more information, visit www.mgamerica.com.

NJM (booth W-17002), a ProMach product brand, will present the Dara NFL/2 aseptic filling and closing machine for ready-to-use syringes in the Healthcare Packaging Pavilion. Ideal for biotech companies and 503B pharmacies packaging suspensions, diagnostics, solutions and/or vaccines, the NFL/2 handles nests of pre-sterilized syringes as well as vials and cartridges.

Schreiner MediPharm (Booth W-15047), a Germany-based global provider of innovative functional label solutions for the healthcare industry, will debut sustainability-minded hanging labels for infusion bottles, and labels for autoinjector pens. Learn more at www.schreiner-medipharm.com.

North Building Booth Highlights

Bartelt (Booth N-5340) is showcasing its new joint effort with **Texwrap (Booth N-5346)** to introduce the next generation of single roll bundling systems, the Kayat SRX Series. The SRX Series gives customers the much sought-after packaging equipment for shrink bundling pre-formed trays of product with the option to add graphics with print registered shrink film. Texwrap will also be demonstrating its packaging solutions for other e-commerce applications.

Dorner (Booth N-5725) is demonstrating many of its conveyor platforms, including the new 2700 Medium Duty and the new 3200 Material Handling conveyor. They will also be

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showing its conveyor solutions for food handling, e-commerce and other automation platforms.

Brenton (Booth N-5546) is launching a new continuous motion side-load case packer aimed at CPQ customers looking to pack between 30 and 50 cases per minute. The M3000 Case Packer is designed to fill a need for mid-range manufacturers of packaged personal care and food products to pack up to 50 wrap-around or tray-style cases per minute.

Edson (Booth N-5348) is debuting its new KDF (knocked down flat) Stack Prep System, a robotic cell that automates the infeed area of case packer. The KDF Stack Prep System was developed in response to customers looking to integrate automation into more aspects of packaging. Automating the stack prep process frees up an operator to other areas of production when their skills can be put to better use, especially amid industry-wide staffing shortages.

Matrix (Booth N-5334) is launching its newly designed MVC-300 continuous box-motion bagger with the latest high performance servo system control. The MVC-300 allows users to run a variety of films at faster speeds and with better accuracy. Updates also include enhanced remote connectivity for service, updates, and diagnostic capabilities without danger of facility firewall compromise.

Orion (Booth N-5646) is displaying its vast array of stretch and pallet wrapping solutions, including its S-Carriage Insta-Thread Pre-stretch Film Carriage and LoPro Drag Chain Conveyor. Both machines are impressive to see, and will be in action showing how they added efficiencies and productivity to end-of-line operations.

Ossid (Booth N-5330) is bringing its food and medical-related packaging machines, including the ReeMatic 250 tray sealer, to the show. Designed to meet the needs of medium- to high-level processors, the ReeMatic 250 produces ambient, modified atmosphere packaging (MAP), and vacuum skin packaging (VSP) styles.

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PACK EXPO **PREVIEW**

Quest (Booth N-5440) is playing a major role in a large, fully operating integrated flexible pouch packaging line involving Wexxar Bel and Bartelt. The integrated pouch packaging line stars a Quest Quik Pick QP100 robotic case packer and a Quest Box Bot palletizer. The Quik Pick QP100 is an ideal pick-and-place robotic case packing solution for direct food handling. The Quest Box Bot, a space-saving robotic palletizer with a small footprint.

Rennco (Booth N-5648) is debuting its new TruSeal Sealing System, which is the perfect blend of new technology and Rennco's proven heat-sealing concepts. Its new technology provides a square or "true" sealing environment, perfectly executing proper alignment while giving the operator an easy and straightforward process that eliminates guesswork.

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