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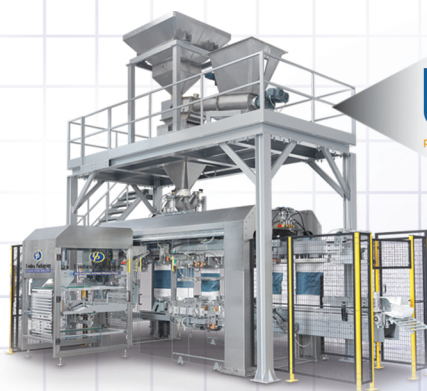
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## EDITOR'S NOTE

### A New Experience...

Have we witnessed a shift? Pre-pandemic, augmented reality packaging and labels were becoming quite popular. A favorite concept of mine that had the ability to take a product and bring it to life with consumer interaction capabilities. But what happens when consumers can no longer experience that in the same way? Time to shift gears.

In the last year, I have undoubtedly spent more time on my computer and on the internet than ever before. Not just in regard to work, but seeking entertainment value as well, being that most of my typical entertainment avenues were temporarily closed. One thing that caught my eye was the amount of product reviews that were filling social media. As consumers were no longer as eager to go to the store to see, touch, or even interact with products in person, influencers were popping up all over social media to help provide that missing experience of purchasing products.

Typically, I do not watch these types of promotions, however out of boredom, I found myself intrigued. "Look what TikTok made me buy..." Yes! Please show me!

What I found was that social media influencers were providing, not just a product review, but an overall experience from their eCommerce shipping encounter, the packaging and unboxing involvement, the label overview and insight, and then on to the product itself. I found that the most watched video

reviews started with the experience of the package (and I will admit, there were times when I too admired the package alone). Although this unboxing experience on social media is not a new concept, in the past year it has really brought a lot of products to the spotlight and highlighted some packaging worth watching.

Indeed, introducing new products using social media influencers has been one trend to step to the front lines this past year, but safety and sustainability have been trending behind the (consumer) scenes as well. Amongst the many articles in this issue, you can learn how packaging priorities shifted when the pandemic hit, and companies are seeking options to balance both safety and sustainability when it comes to their packaging in the feature titled, "Balancing Safety and Sustainability: Flexible Packing in a COVID-19 World."

As things settle will we see a merge in augmented relating and influencer unboxing trends? Time shall tell.

*Joan Mantini*

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## COVER STORY

### 8 Flexible Pouch Packaging: Disrupting the Status Quo

Look toward the horizon and be ready to adapt as the future dictates.

## FEATURES

### 12 Balancing Safety and Sustainability: Flexible Packing in a COVID-19 World

Packaging priorities shifted when the pandemic hit. Now companies are seeking options to balance both safety and sustainability when it comes to their packaging.

### 16 Is Stretch Wrapping Machinery Right for You?

A stretch wrapping machine can help your production line to reach its ultimate performance while maximizing the capabilities of your stretch wrap.

### 20 Understand, Engage Consumers Via Label Coding

Product manufacturers are using such time-tested technology as label QR codes and new Augmented Reality technology to better interact with and understand customers.

### 24 Reducing Food Waste Begins with the Label

A modern, centralized approach to label management is becoming more essential than ever for improving supply chains in the food and beverage space.

## DEPARTMENTS

4 Editor's Note

4 Online TOC

28 Packaging Perspective: Plastics

30 Product News

35 Ad Index



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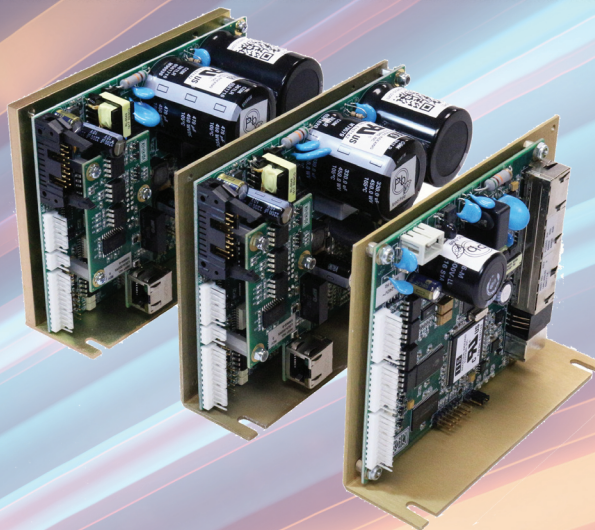
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# FLEXIBLE POUCH PACKAGING: DISRUPTING THE STATUS QUO

By Dennis Calamusa, President and CEO at ALLIEDFLEX Technologies, Inc.

**W**e hear a lot of negative press regarding “plastic packaging” and its reportedly adverse environmentally impact. There is a constant buzz in the press and by advocacy groups as to how plastic packaging is destroying the planet. Unfortunately, we do not hear enough about the massive benefits of flexible packaging when compared to the alternatives which have been embraced over many decades which have potentially caused much greater harm, but have been ignored and continue to be overlooked as a concern.

It is not unusual to be reluctant to change from what was to be considered standard to something new and different. There is always pushback against change and this pushback comes from a variety of directions including from what has been the traditional norm. In the case of packaging, it also comes from the legacy packaging industries and the challenges of changing the massive existing infrastructure that have been installed and in operation over many decades.

## What's Driving Packaging Change

- Growth of new value added product introductions
- New Product – New Packaging
- Existing Product – New Packaging
- Changing Demographics
- Cost Reduction and Sustainability Initiatives throughout the packaging process

Despite the reluctance, change in packaging is happening. We can see it happening all around us. Against all odds packaging change is occurring because it just makes sense. The shift to Flexible Pouch Packaging is inevitable, well underway and unstoppable.



Companies are changing to flexible pouch packaging globally since they are exploring more cost-effective alternatives. All packaging materials and types are increasing in cost. Cost goes well beyond the cost of the package. It also reflects in the cost of infrastructure that supports them.

The cost of logistics including transportation, fuel surcharges and material handling is now on the table and is having a huge impact on the total cost of packaging. This ripple effect is ultimately reflected in the costs of the consumer goods we purchase. This is particularly prevalent when it comes to rigid packaging (3 dimensional) formats including bottles, cans, jars and composite containers.

These traditional rigid packaging formats represent a huge percentage of total packaging usage and packaging waste worldwide.

Rigid packaging, particularly the glass and metal can industry are both dominate suppliers established over many decades. As a result, the rigid packaging industry is not so willing to dissolve into the pages of packaging history. They focus on the fact that their packaging is recyclable infinitely and key to supporting a circular economy.

Glass packaging is recycled at a rate of approximately 31 percent, steel cans are at a rate of approximately 70 percent and paperboard packaging is approximately 65 percent. Flexible Packaging recycle rate is approximately 8 percent however flexible packaging represents less than 1 percent of all packaging waste. We expect flexible packaging recycling to increase as infrastructure and mono material development expands.

### The Impact of LOGISTICS



20 Truckloads of Rigid  
=  
1 Truckload of Flexible

Transportation · Energy · CO2 · Material Handling · Warehousing

### The Real Cost and Environmental Impact of Rigid Packaging

Unfortunately, the energy to produce these legacy packaging formats is great in comparison to a flexible packaging alternative. And the fact that we would continue to promote a “circle of re-use” and continue to consume mass energy inefficiently over and over again cannot be a long-term practical or economically feasible strategy going forward.

True sustainability needs to take all elements into consideration, not just end of life. Life-Cycle Assessment (LCA) clearly illustrates the science that assesses the environmental impacts associated with all the stages of the life-cycle. It is reported that plastic packaging is actually greener than glass and steel packaging when evaluated by Life-Cycle Assessment compared to the alternatives when comparing raw material extraction, manufacturing / processing and transportation.

The energy that is consumed in the manufacturing process of rigid containers is not just limited to the production of these containers, but continues on into the transportation and distribution cycle of these packages from Point A (Manufacture) to Point B (Delivery & Beyond). We have seen well documented examples of 20+ truckloads of rigid packaging compared to an equivalent single truckload of flexible packaging.

### The Impact of LOGISTICS



20 Truckloads of Rigid  
=  
1 Truckload of Flexible

Transportation · Energy · CO2 · Material Handling · Warehousing

### The Real Cost and Environmental Impact of Rigid Packaging

Consider this scenario extrapolated globally “day in and day” out all over the world to the tune of millions and millions of truck and container loads. Now think about the negative impact of that on carbon CO2 emissions.

If you or any one you know who are truly concerned with the impact of global warming this fact should be sending shock waves though those advocates focused on demonizing flexible plastic packaging and promoting glass and metal packaging just because they are recyclable.

This simple transportation scenario alone does not seem to be enough of a reason to change from rigid to flexible packaging as it does not get the attention that it deserves from either the environmentalist or the packager since it is just considered a side effect of the massive infrastructure that they have learned to accept as “normal”.

During the pandemic we experienced firsthand the importance of safe secure product protection and the trust that is provided by all packaging. All packaging continues to serve its role which cannot be under estimated as critical or importance.

A new age of packaging is upon us where packaging is lighter, more efficient utilizing less energy to produce and transport and recycle. When it is disposed takes less space in landfills helping them to last longer and utilized more efficiently.

As we look to the future we can imagine the world of packaging differently than we have over the past 200 years as the stage is set for the new normal of packaging.

The transition to flexible packaging has started, and will continue to proliferate into the future. This shift will be driven by common sense and logic and the “new” consumer of tomorrow will embrace it.

A walk through your local supermarket or mega super center will illustrate that this change is already dramatically underway. Aisle by aisle we are seeing signs of transition across a multitude of markets and product categories. Some markets that were completely dominated by a legacy packaging format are now in some stage of transition.



Others who have not already started the transition will find it difficult to keep pace with the competition and other new entries into the market. Many of these new entrants to the market are clearly not choosing to utilize or introduce traditional legacy packaging that is dated, more expensive, more complicated to use and not feasible for their entrepreneurial start-up strategy.

This shift in packaging is not generally being driven as you would expect by the large multi-national consumer products company, but instead we are seeing packaging change driven by the smaller entrepreneurial company looking to enter the market and have found that by disrupting the category they are able to penetrate the market against some of the most dominant and powerful market leaders in the world.

You ask, why not just follow those multi-national leaders with the same packaging they have used for decades? This would seem so logical, after all that is what many did over the years "follow the leader" with every aspect of their marketing success including their traditional packaging. Many who followed that model over the past decades never made it, never were noticed, never could compete due to the "power of the brand" and the leverage that the multi-national brand could apply thorough out their retail, distribution and marketing dominance.

That dominance has proven to be less effective when you implement and support a flexible packaging renaissance strategy. The multi-national's size and massive existing infrastructure prevents them from responding to the market shifts that are occurring particularly when it comes to a revolutionary shift which includes a new packaging style and marketing strategy.

Luckily most shifts are gradual or transitional and as a result companies of all sizes can adapt if they are open to change and are willing to evolve and pay attention to regional, national and global market trends and conditions.



The flexible packaging material industry is continuing to evolve by developing mono-layer packaging structures which are "recycle-ready", not only for low barrier applications, but for applications requiring extended shelf life. Other substrate options are coming on the scene including bio-degradable, compostable, as well as paper-based materials in an effort to accommodate environmental concerns.

As flexible packaging machinery suppliers, our industry is very well positioned to see the trends and drivers in the market. We feel the pulse of the industry through the inquiries we receive and the collective feedback gained from our global machinery, automation and packaging material supply collaborators.

We are seeing the dynamics of packaging change up close and personal through the supply of thousands of machines to a multitude of clients and applications from systems to support a pilot plant or start-up operation to the supply of integrated - multi machine systems strategy to accommodate the shift from traditional high volume retail super market business to a multitude of SKU's providing consumer choice and package size ranges providing a variety of price points to accommodate convenience, retail, mega center, club store and food service package size range opportunities.

Look toward the horizon and be ready to adapt as the future dictates. There will be hard choices and it will take courage to change, but those who do will be rewarded with continued relevance and market success longevity. ■

#### About the Author

**Dennis Calamusa is president and CEO of ALLIEDFLEX Technologies, Inc based in Sarasota, Fla. He has dedicated the past 30 years of his career to the commercialization of the standup pouch and other flexible packaging solutions in the North America market. His company ALLIEDFLEX Technologies has supplied hundreds of machines to the food, beverage, household and personal care industries which have brought thousands of products to market in innovative flexible packaging.**





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Packaging priorities shifted when the pandemic hit. Now companies are seeking options to balance both safety and sustainability when it comes to their packaging. (Photo by eldarnurkovic)

# BALANCING SAFETY AND SUSTAINABILITY: FLEXIBLE PACKAGING IN A COVID-19 WORLD

By Todd Meussling, Senior Manager Market Development at Fresh-Lock®

**A**t the beginning of 2020, plastics were at the center of the sustainability conversation, facing frequent challenges of the role plastics have in packaging. However, as COVID-19 took hold across the U.S., heightened awareness of safety brought to light the necessity of plastic packaging.

As we continue to live in this “evolving normal,” brands, retailers, and packaging manufacturers continue to develop new ways to help keep consumers healthy while working to continue the sustainability initiatives their consumers are passionate about. By banding together to create safe and sustainable solutions, brands and converters can meet consumer demands as well as their own needs.

## Shifting priorities during a pandemic

As consumers and brands worked to “stop the spread,” sustainability initiatives involving packaging were put on the back burner. In many cases, single-use plastics became the ONLY acceptable option in

working to prevent cross contamination, and ensure product safety.

Take grocery stores as an example. Despite their rising popularity pre-COVID-19, reusable tote bags were banned by many major retailers, with single-use grocery bags regaining prominence as the safest and healthiest solution.

However, shifting policy and the reemergence of single-use plastics doesn’t mean consumers have stopped prioritizing sustainable products.

According to a July 2020 survey by Genomatica, 85 percent of Americans have been thinking the same or more about sustainability since the pandemic began. Additionally, the survey found that while 43 percent of respondents deem being less sustainable during the pandemic as a “necessary evil,” 43 percent of those laid off, furloughed, or having seen job disruption would still pay more for sustainable products.

Retailers, too, are again addressing their sustainability initiatives. At the onset of the pandemic, stores were solely focused on keep-

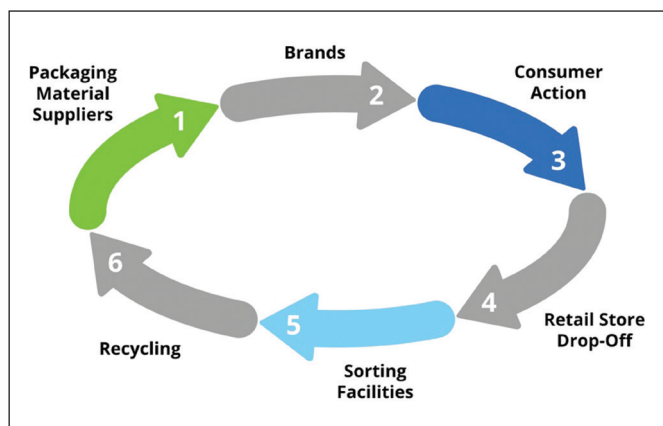


ing products in-stock and keeping customers safe. As we adjusted to shopping in a pandemic, their sights have shifted back to growing consumer demand for sustainable products. And, as state and federal governments resume discussions around recycling and waste reduction legislation, retailers are more focused on achieving their sustainability initiatives without sacrificing product protection or safety.

### The circular economy and flexible packaging

It's evident that sustainability will continue to grow as both a consumer expectation and a retailer's objective. This means brands must make adjustments and create packaging solutions that offer hygienic and environmentally friendly benefits. If there is anything COVID-19 has taught us, it's that rather than looking to eliminate plastic, we need to work on managing the circularity of plastic materials. One of the most viable solutions? Flexible packaging.

Flexible packaging can offer a variety of benefits to consumers, including product protection and consumer safety. Continued advancements throughout the industry are allowing packagers to design more sustainable options within flexibles as well. We often discuss a "circular economy" when considering how flexible packaging can enter into the recyclable recovery stream, as the model clearly outlines how all parties and practices are required for success.



To begin the process, flexible packaging suppliers need to offer sustainable, and in this case, recyclable solutions. With the growth of new mono-materials for pouches, this objective is showing realization, and kick-starting the circular process. From there, brands must work to integrate the technology and educate consumers to both buy the product and take action to properly recycle the packaging.

Retailers are also a key player in the circularity of flexible packaging as they provide and promote collection points for flexibles and work with brands to educate consumers. Then recovery resources need to

facilitate materials to a point where they can be converted to a usable form like resin and given a secondary life in new products. As more recyclable pouches continue to enter the market, all parties must work together and create agile strategies to help consumers embrace these new options and populate the recovery stream effectively.

### Overcoming current flexible packaging challenges

Like anything worth doing, embracing sustainable packaging solutions doesn't come without its challenges. Efforts need to be made to not only build on an infrastructure that allows consumers to easily incorporate plastics into the circular economy but also understand how to properly do so.

According to the 2020 Consumer Brands Association Reduce. Reuse. Confuse. Report, only 74% of Americans say their communities offer recycling programs, yet only 34 percent of material is recycled in the U.S. This simply isn't enough. Across the country, infrastructure needs to grow and evolve in order to properly collect, sort, and process materials to ensure recyclable packaging is kept out of the waste stream and into the recycle stream.

However, issues beyond the lack of infrastructure need to be addressed. The Consumer Brands Association 2020 report also found that 25 percent of recycled materials are contaminated – much of which is caused by consumers placing the wrong items into recycling bins.

Brands can educate consumers on how to properly enter packaging into the recovery stream through efforts like the How2Recycle program. How2Recycle labels clearly outline the packaging format, packaging material, and how to prepare the item for recycling in a uniform fashion that is easy for consumers to understand.

Similarly, brands and packagers can work to educate consumers on other sustainability features flexible packaging offers beyond recyclability. When compared to rigid options, flexible packaging reduces materials used and wasted during manufacturing. Additionally,



**Flexible packaging that utilizes compatible closures, like the Fresh-Lock® Zipper Top™ 8253 shown here, can offer a wide range of sustainability benefits. (Photo Provided by the Fresh-Lock Team)**



pouches offer a smaller carbon footprint during production, and the lightweight solution means less fossil fuels are consumed during transportation. Plus, with the addition of compatible, reclosable features like zippers or sliders, pouches can help to extend product life and freshness, enhancing consumer satisfaction and reducing food waste.

### Starting the sustainability journey

While these challenges may seem daunting, they can be addressed with the proper partners onboard. Brands influence consumer decisions simply by offering new products, and the pandemic has taught us to think on our feet when seeking safe and sustainable solutions. Collaboration is key as packaging manufacturers, retailers, and brands partner to introduce flexible packaging options and pursue a strategy for success.

Starting small and introducing a product line extension featuring new sustainable features is a great way for brands to gauge customer responses to new products without reworking an entire brand or product portfolio. After introducing new flexible packaging solutions, brands can communicate these efforts through public relations materials, blogs, and other outlets. We know consumers actively support and seek sustainable brands, meaning these efforts can directly lead to more money in your innovation pipeline.

Consumer brands and major retailers carrying their products can create and promote in-store programs that help packaging enter the recovery stream. It's vital that these programs are accessible to consumers and offer an easy-to-understand process.

Collectively, we can continue to adjust to this "evolving normal" and find solutions that offer consumers a safe yet sustainable option. While we may need to remain socially distanced, by combining efforts and creating partnerships to pursue environmentally sound solutions, the packaging industry will exceed consumer expectations despite the challenges of COVID-19. ■

### About the Author

**Todd Meussling is the Fresh-Lock® senior manager for market development. The Fresh-Lock® brand is the market leader in press-to-close zipper and track and slider reclosable solutions for flexible packaging. Fresh-Lock® products are designed and produced by Presto Products, a business of Reynolds Consumer Products.**

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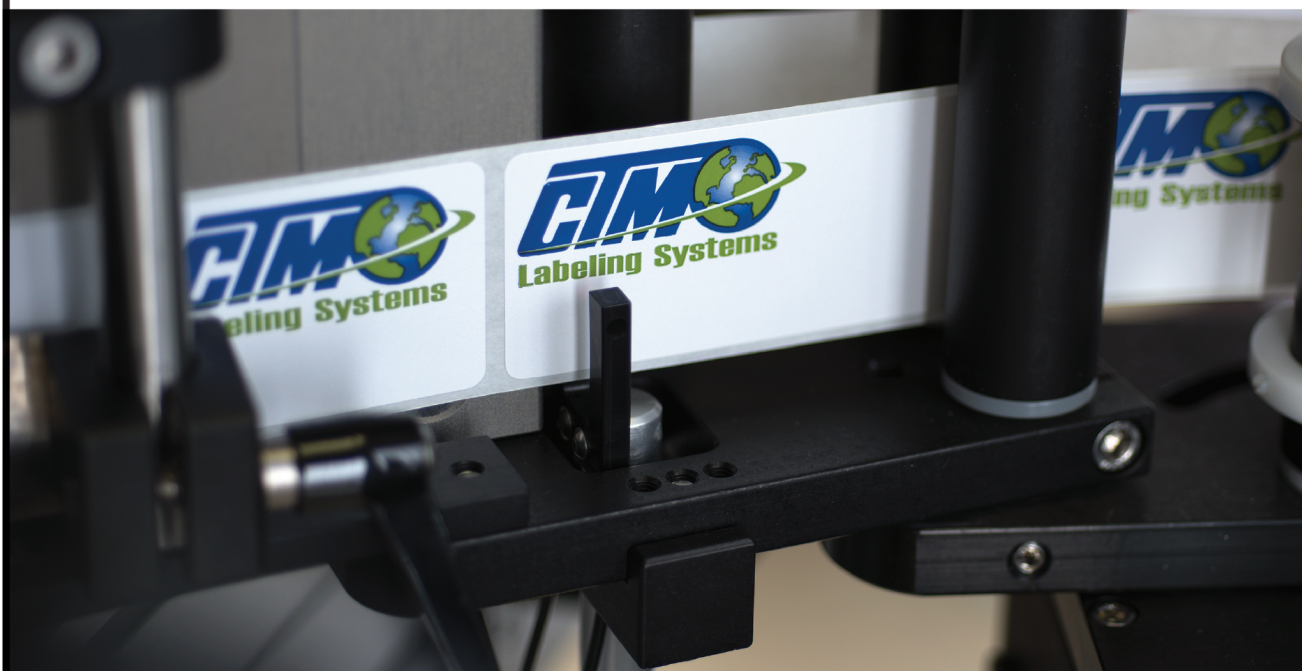
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# IS STRETCH WRAPPING MACHINERY RIGHT FOR YOU?

By Nathan Dube, Digital Marketing Specialist at Industrial Packaging

**S**tretch wrap is one of the most commonly used packaging materials across the globe. Hundreds of thousands of companies stretch wrap millions of pallets of product every day. While many companies rely on physical labor from human employees, stretch wrapping machines are a staple in high production packaging lines and even smaller companies who want the cost savings and related benefits of using a stretch wrapper.

That being said, what are the benefits of using a stretch wrapper? Who is a good fit for a stretch wrapping machine? Which type of machine is best for your company? Follow me into the article below and we will stretch your knowledge to its maximum capacity.

## Human labor vs stretch wrapping machines

Many companies start palletizing with hand stretch film (AKA hand stretch wrap) that is applied by manual labor via a tool called a stretch wrap dispenser. A roll of stretch wrap is loaded onto the device and the handle is held by the operator of the stretch wrap dispenser.

The stretch wrap is usually tucked between the corner of two boxes or at the edge of the pallet to hold it in place. Next, the person doing the wrapping walks in a circle around the pallet, continually keeping tension, until the pallet is completely covered with stretch wrap from top to bot-



Hand stretch wrap is applied by manual labor.



**Machine applied stretch wrap applies 200 percent to 300 percent to the stretch length, consistently.**

tom. The goal is to keep the products contained within safe during travel. When finished, the wrap is cut or torn from the roll and stuck to the pallet as the wrap will stick to itself.

Many companies utilize this device in thinking that it is less expensive than using a machine to do the work, however, depending on what you are paying the employees who work this job, that may not be the case. Manual labor does not always produce consistent or proper load containment nor does it maximize the stretch of your wrap, which creates more waste.

The problem here is that hand stretching is far slower and a human can only stretch the wrap at an average of 10 percent to 20 percent. Machine applied stretch wrap applies 200 percent to 300 percent to the stretch length, consistently! So while at first glance it may seem you are saving money over the purchase of an expensive machine, you are losing money on materials with every pallet wrapped. In many cases, the total cost of ownership for a stretch wrapping machine will be less costly than relying on manual labor.

But how do you figure out if manual labor or machine wrapping is a better choice for your business? That is where having a professional analysis of your packaging line and the related processes comes in. Reaching out to a local packaging vendor and requesting an analysis of your packaging materials and machinery or lack thereof will provide you with data on how you are currently doing things.

By comparing the data from the analysis on your current packaging processes and looking at the numbers when comparing human labor versus the use of a machine, you will be able to see which of these two options makes the most sense for your business.

### **Types of stretch wrapping machines**

OK, so you have done your homework and now you have decided that buying a stretch wrapping machine is the right choice for your business. But which type of machine should you buy? When beginning the journey of shopping for a stretch wrapping machine, you will soon discover that there are a few different types of machinery for this application.

First of all, you will need to decide if you want a manual, semi-automatic or automatic stretch wrapping machine\*. An automatic stretch wrapper takes a pallet and automatically puts it in the wrap zone where it is wrapped based upon the settings of the control system. When completed, the pallet moves down a conveyor to the end of your packaging line. As your fully wrapped pallet completes its journey, the next pallet

is automatically being conveyed into the wrap zone.

\*There is also another option called "simple automation". This option includes cut and clamp capabilities so that operators don't have to get off their fork trucks to run the control panel. They also can drop the pallet onto the wrapper and the machine pushes it onto a roller conveyor. See the video below...

On the other hand, manual and semi-automatic stretch wrappers necessitate an operator to complete various tasks associated with the wrapping of pallets including but not limited to loading and unloading the equipment and making continual adjustments to the machinery.

#### **1. Turntable Wrapper**

With this particular machine, the pallet is put on a turntable that spins while a wrap delivery system allocates the stretch wrap to the load being wrapped. The wrap delivery system generally begins at the bottom of the load and wraps up to the top and back to the bottom. Turntable wrappers are one of the most popular kinds of stretch wrapping machine and can be set up to work well with various types of applications.

#### **2. Straddle Wrapper**

With straddle stretch wrappers the load stays immobile while a wrap delivery system spins around the load being packaged. This kind of wrapper can wrap unstable, light weight, and heavier loads and is capable of wrapping from low to high volumes.

#### **3. Orbital Wrapper**

An orbital wrapper (also known as a "ringer") wraps a pallet by going over and under the load being packaged as the load travels on a conveyor into the machine. Orbital wrappers are primarily used for packaging flattened, or oddly shaped items such as pipes, rolled carpets, windows, etc.

#### **4. Ring Straddle Wrapper**

Ring straddle wrappers are fast wrappers which are generally able to wrap 200 loads per hour. These machines are often found in the toiletry and beverage industries. These machines are extremely specialized devices and only make up a small portion of the stretch wrapping machines currently in use.

### Choosing the right stretch wrapping machine

Now that you have some idea about the different types of stretch wrapping machines, you need to ask yourself a few questions to identify which machine is right for you.

#### 1. Volume Of Stretch Wrap Used

How much stretch wrap do you go through in a month? Taking a look at your monthly/annual volume of stretch wrap will give you an idea of which if any machine is right for your needs. Not sure how much stretch film you are going through on a monthly basis? Reach out to a packaging machinery expert and ask for an analysis of your packaging line. This report will provide you with insights into your current stretch wrapping practices and if they need to be altered to produce a more productive and efficient line.

#### 2. Amount of Products Wrapped

The amount of products you are packaging on a regular basis will give you some indication of the volume of stretch wrap you are using. If you are not already tracking this information in conjunction with a detailed KPI report, you will want to consider developing and implementing one ASAP. Not sure where to start? Again, reaching out to a local packaging expert and asking for an analysis of your packaging line will help you to gather all the data you need.

#### 3. Budget For Packaging Machinery

Professional packaging machinery is not cheap. It is a major investment for many businesses. Once you have researched all the information above and have had a professional analysis of your production line completed by your vendor of choice, you will be able to review all of the information and identify if a stretch wrapping machine is a good investment for your company.

#### 4. Purchasing The Right Stretch Wrapping Machine

Once you have done all the proper homework and chosen the right type of machine for your packaging line, you will need to identify a brand of machinery to buy. When you are ready to make a purchase but are unsure of which brand you would like to buy, you have two options...

One option would be to independently research at least three brands of machinery who offer the type of machine you are looking for and compare the cost, quality and serviceability of each machine. You will also want to seek out reviews from other customers to gauge which machine is or is not a good fit for your needs.

Once you have identified a brand, make and model for the machine you are interested in, you will want to get quotes from at least three local vendors for the machinery AND service and supply options. Keep in mind the services they offer and the quality of service you receive on your initial calls. Keeping these items in mind will help you determine the right fit for your business needs.

If you are not excited at the prospect of doing so much time consuming research on multiple brands of packaging machinery, you may want to consider buying from a distributor instead of an OEM. Where OEMs will usually tell you their machines are "the best" and provide information with little transparency, a distributor who sells multiple different brands is less concerned with selling you on one brand of machine, and more concerned with helping you choose the right brand, make and model for your particular needs.

Buying a stretch wrapping machine for your business is a big deal. It is a large investment in your company and it is not something you should rush into without being educated on in regards to all the dynamics mentioned above. When you are ready to begin the process of buying packaging machinery, consider reaching out to your local packaging expert for guidance.

Once you have chosen and purchased the machinery for your line, you will want to ensure that it is always running at peak performance with little to no downtime. In conjunction with a preventative maintenance program, a stretch wrapping machine can help your production line to reach its ultimate performance while maximizing the capabilities of your stretch wrap. ■

#### About the Author

Nathan Dube is the digital marketing specialist at Industrial Packaging. He is responsible for creating videos, writing blog posts and generating other pieces of content and multimedia for the company. View the latest podcast here: <https://www.youtube.com/c/IndustrialPackagingWorcester/featured>.



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# UNDERSTAND, ENGAGE CONSUMERS VIA LABEL CODING

By Gary Paulin and Mark Lusky

**I**ncreasingly, product manufacturers are using such time-tested technology as label QR codes and new Augmented Reality technology to better interact with and understand customers.

These are great marketing tools, helping manufacturers address consumer preferences by gathering information from them, and enabling personalizing messaging and offers on a truly individualized basis. Collectively, gathering of intelligence about overall buying preferences can serve as the basis of marketing campaigns going forward—impacting everything from social media messaging and advertising to direct mail, eblasts and editorial content development.

Following is a short primer about both technologies:

- QR code allows users to connect with digital content on the internet, add contact information or activate other functions like obtaining maps and GPS directions. Some firms have even begun linking their QR codes to blockchain databases, which can provide a wide range of supplemental information to shoppers, including details on product ingredients or manufacturing, as well as online

videos and other resources—in addition to capturing information from consumers.

- Augmented Reality (AR) is a next-generation technology that enables more robust and complete gathering and dissemination of information than QR codes. Think of AR as QR on steroids. This AR description sums it up: “Augmented reality brings interaction and product labeling together, using your smart phone camera or branded device apps to create an enhanced user experience that engage customers to your brand at a much deeper level. When viewers point their camera or custom at the product’s label, they can see an array of different options including videos, 2D/3D content, social media sharing options and marker-less content that lets you see products appear in the real world...by using AR features on product labels, customers are creating a trail of data for you to mine. The information generated from these digital interactions helps you know your customers, analyzing their preferences, buying patterns and willingness to engage with dif-



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**Industry 4.0, warehouse logistics, packages dispatching and delivery concept, mobile phone with augmented reality showing the orders labels on cardboard boxes at racks in storage.**

ferent types of messages. You can then power marketing and outreach efforts with those insights. The data gathered from smartphones may include location tags for extra-specific targeting, and it represents actual, verified interactions.”

Product manufacturers wanting to use coded apps to engage and interact with customers will be wise to invest some time and effort to compare options before making a decision. Three vital steps in this process are:

**1. Assess what you want to accomplish.** Entertain? Inform? Engage? Gather buyer preferences? Wow your audience? Set yourself apart from the competition? Schedule one or more discovery sessions to identify and prioritize desired objectives. If needs are sophisticated and complex, AR may provide the most high-torque, satisfying solution. On the other hand, QR codes continue to be relevant in some situations.

Think about your industry and current benchmarks. For example, craft beer and wine product manufacturers thrive on colorful and intriguing labels. Pairing these with AR labels that bring visually impactful imagery alive can be a compelling complement, adding movement and depth and elevating your brand above the competition

with an added dimension of “pizzazz.” For many industries, both QR codes and AR can prove capable of “doing the job.”

**2. Compare and contrast capabilities of QR Codes, AR and any other technology** thoroughly to see what they can do reliably and completely to meet your needs. Use findings from discovery session(s) to see which solution best fills the bill. This is a valuable and often eye-opening exercise can spur further brainstorming about ways to use versatile code technologies to best advantage.

Also think about the label terrain itself. Typically, QR codes need to be larger than AR digital marks. So, if label space is in short supply, AR may prove the better choice so as not to clutter up the label and necessitate eliminating other verbiage, graphic elements, or non-mandatory disclosures.

Of course, coded labels in and of themselves can open up terrain elsewhere for all types of information. Part of their appeal is being able to expand the amount of information and education provided to consumers.

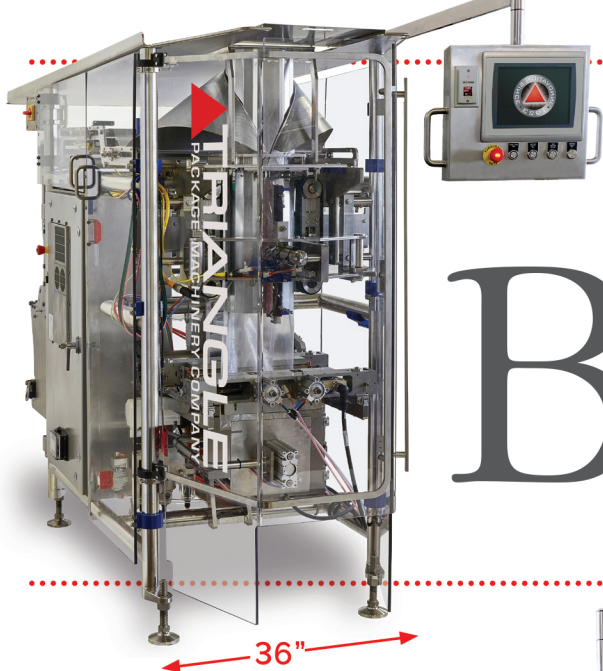
**3. Do a price comparison to see what truly is the most cost-effective way to go.** As a general rule of thumb, QR codes provide an affordable solution for basic information gathering and sharing. AR typi-

cally is more expensive initially. But, look at it from a value versus cost standpoint. What are potential paybacks in terms of improved sales using one technology versus the other? What is the “shiny new toy” value of AR to intrigue consumers versus older and therefore less-ebullient choices? What is the projected breakeven point?

Every product has intrinsic “DNA.” Finding the best “genetic code” for labels to generate interest and enhance product appeal is a challenge whose time has come. ■

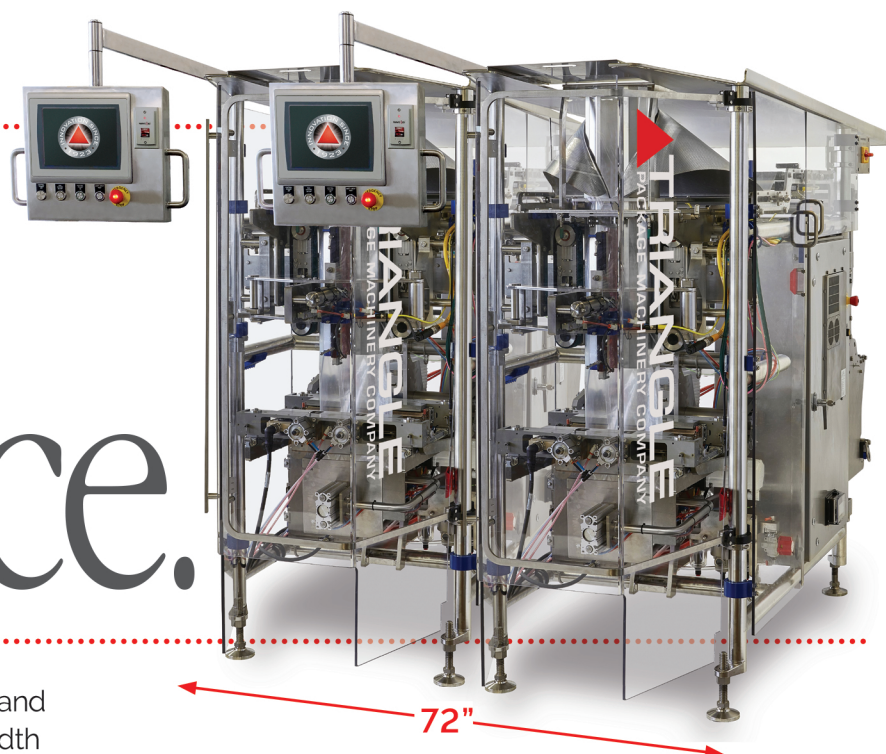
## About the Authors

Gary Paulin is vice president, sales and client services at Lightning Labels, a Denver-based custom label printer that uses state-of-the-art printing technology to provide affordable, full-color custom labels and custom stickers of all shapes and sizes. Mark Lusky is president of Lusky Enterprises, Inc., a marketing communications and content development company. Contact: sales@lightninglabels.com; 800.544.6323 or 303.481.2304.



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# REDUCING FOOD WASTE BEGINS WITH THE LABEL

By Lee Patty, Vice President and General Manager at NiceLabel Americas

**E**ach year, the U.S. alone wastes an astonishing 72 billion pounds of food, with a large portion coming from discarded produce and other perishables that never even reach the consumer. On top of this, a plethora of other resources are unnecessarily squandered from inefficient supply chain practices, all of which incurs extra costs and additional waste. It's simply not sustainable!

While food-related supply chain waste is staggeringly large, one small solution could make a very big impact: the label. The truth is, many legacy IT equipment and manual label management procedures simply bog down supply chains, making them inefficient, wasteful and unable to deliver accurately labeled perishables at the speeds necessary to prevent spoilage.

However, with a modern approach – such as dedicated systems for digital or cloud-based label management – labeling can be overhauled in a timely and cost-efficient manner. To that end, here are a few key points to consider when updating label

management to increase sustainability and prevent food waste.

## Improving quality control

For decades, manual procedures have led to cumbersome and unsafe labeling. For instance, a process known as “six eyes” requires three individuals to physically inspect labels for approval. Though this process at least involves multiple inspections, it's also very time-consuming, labor intensive and highly prone to human mistakes. Additionally, it leaves open the possibility that an error will get caught on the line, leaving organizations scrambling to resolve it.

With a centralized or cloud-based label management approach, human error can be minimized, and numerous issues can be prevented before a major problem arises. For example, standardized templates with the correct data can be centrally stored, and access can be given based on a user's role, which provides more oversight of who can create, edit and utilize label designs.

With a solution that's easy to use and de-

ploy, standard label designs can also be extended to third-party suppliers with little effort. This further ensures the correct labels are used and mitigates design errors leading to recalls or relabeling. Additionally, if labeling is centralized, unplanned delays and downtime can be lessened because there are fewer points of failure operating disparately.

## Centralizing labeling to prevent recalls

Recalls from mislabeling contribute to an enormous amount of food waste and could mean spoilage when shipping produce or other perishables. Therefore, a modern, centralized labeling solution is critically important because it can ensure greater accuracy while improving efficiency at the same time.

For instance, the produce industry often uses direct marking printers to ensure batch numbers and expiration dates are displayed correctly on products. And the label info fed into these printers often comes from a human machine interface (HMI), involving processes like physically entering data into

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**A centralized labeling approach makes direct marking safer and more efficient.**

touch screens.

Manual procedures like physical data entry can boost the chance of common-place errors, like the wrong lot number or best before date. And with these mistakes being all too regular, many perishables, like vegetables, must be quarantined or scrapped – leading to waste and lost sales.

A centralized labeling approach makes direct marking safer and more efficient because it can connect labeling with other business functions. For example, many organizations don't integrate direct marking with their larger systems, like enterprise resource planning (ERP) or manufacturing execution (MES) systems. In such cases, each individual facility in a network may utilize a varying process, making it harder to provide tech support or standardize labels.

## Going a step further with the cloud

Cloud-based labeling is one of the most efficient and easily shareable ways to gain capabilities like fully digitized quality assurance and the ability centrally store and retrieve labels from anywhere. Adding to this, cloud and other centralized approaches to labeling often need less infrastructure, which reduces the electricity consumption needed for largescale label creation.

Cloud labeling solutions are also now more often being configured to fit in seamlessly with cloud-connected printers and other next-gen technologies as part of a fully

integrated infrastructure. This means employees can print labels from any cloud-connected mobile application or device in their network, which mitigates the requirement for many pieces of always-on local infrastructure that constantly consume energy, such as PCs or servers.

Put simply, a cloud-based approach does more with less because it reduces waste created from siloed operations. With the cloud, users can unify their processes, requiring less separate pieces of hardware and IT resources. Organizations can also minimize extra shipping between suppliers and different facilities because labeling in the cloud does not require users to print labels at one specialized location.

## Meeting regulations and future-proofing supply chain operations

Labeling expectations and regulations change frequently in the food and beverage space, and they have never been more important. In the past few years alone, there have been major pushes in the U.S. to ensure stricter regulation on allergen and nutritional labeling. At the same time, there has been greater focus on identifying the source of produce and other foods, gaining visibility into how products are grown and preventing food fraud.

While these changes can protect consumers and boost sustainability goals, they're

also tangible proof that organizations must quickly adapt their labeling processes. And for those who operate internationally, are expanding their organizations or must work with third parties to ship and produce products, the call to adapt is that much stronger.

With so much pressure to improve, manual processes are simply not feasible for the future. This is why a modern, centralized approach to label management is becoming more essential than ever for improving supply chains in the food and beverage space. So, if labeling is obstructing your food and beverage operations, it may be time to move to a modern, centralized approach. ■

## About the Author

**Lee Patty is the vice president and general manager at NiceLabel\* Americas. In this role, he oversees the company's sales, project delivery and operations in the Americas. Prior to NiceLabel, Patty co-founded Niceware International, LLC, a NiceLabel distributor. NiceLabel acquired Niceware in 2013, adding him to the global executive team. Patty has over 20 years of AIDC industry experience.**

\*In 2021, NiceLabel and Software combined to extend global leadership in Enterprise Labeling and Artwork Management. The companies bring together 60 years of expertise to deliver customers and partners an expanded choice of solutions and enhanced capabilities.

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# PLASTICS AND THE CIRCULAR ECONOMY – BE PART OF THE SOLUTION

By Wesley Porter, Business Development Director and Sustainability Lead, Berry Global

**P**lastic has played a major role in supporting and shaping our modern world. Its many benefits, including strength, durability, and flexibility, mean it meets the needs of busy lifestyles, delivering, among other things, consumer convenience, high levels of product protection and on-shelf appeal.

Just as important for today's environmentally conscious world, plastic can contribute to companies' sustainability goals. Its light weight helps to reduce carbon emissions throughout the supply chain; by protecting and preserving products, it extends shelf-life to minimize food waste; and continuing technical advances mean the latest plastics deliver the same performance while being even lighter, thus contributing to material reduction targets.

Nevertheless, despite all this, plastic has a perception challenge associated with its waste. There is therefore an urgent need for all stakeholders involved in a plastic pack, in-

cluding plastics producers, brand owners and equipment manufacturers, to take collective responsibility for it from its materials and production to end of life, and to collaborate on both packaging and systems solutions.

There are signs that U.S. market demand is shifting. As consumers become more environmentally aware and this influences their purchasing decisions, brand owners and retailers are increasingly demanding solutions that address the issues surrounding end of life. Legislators too are taking action; we have seen bans on single use plastic bags in some states; Hawaii has banned food vendors from providing plasticware; and although California's proposed bill to tackle single use plastic did not pass into law, it illustrates how legislation will increasingly be a factor in tackling plastic waste.

If we look at what has happened in Europe, we can see parallels with our own situation. Individual governments there have introduced laws specifically targeted at reducing

plastic waste and increasing levels of reuse and recycling. In the UK, for example, from April next year, the Plastic Packaging Tax will apply to any plastic packaging that does not contain at least 30% recycled content.

At the same time, the European supply chain has collaborated to introduce its own commitments. The Plastics Pact, initiated by the Ellen MacArthur Foundation, is a network of local and regional (cross-border) initiatives that brings together key stakeholders to implement solutions towards a circular economy for plastic; the Circular Plastics Alliance aims to boost the EU market for recycled plastics to 10 million tons by 2025.

A major advantage of such initiatives is that they have enabled standards and protocols to be introduced that give structure and consistency to any industry response. For the flexible packaging sector, the Circular Economy for Flexible Packaging (CE-FLEX) initiative is a collaboration of over 160 European companies, associations and

organizations representing the entire value chain, which aims to make all flexible packaging in Europe circular by 2025.

The plastic industry has also worked to further enhance the material's recyclability. Flexible packaging has been redesigned into monolithic PE structures that are much easier to recycle. More advanced systems and technology for recovery and sorting are improving the quality of the recycled material and making it suitable for more, often higher value applications. This is vital work as many European brands are pushing for higher recycled content than legislation demands. As manufacturers we need to respond to this while ensuring any solution remains fit for purpose.

Plastic is far too valuable a material to waste and is already part of the circular economy. Recycled flexible plastic has traditionally been used to produce trash bags, agricultural film, and outdoor furniture and fencing. The industry is now transforming its use to replace virgin content in higher value items such as shrink film, retail and industrial packaging.

The further development of plastics recycling represents a major opportunity but, as in Europe, it is essential that all parts of the supply chain work together. We need to identify ways to make packaging even more recyclable; we must support the recycling industry to help expand its collection and reprocessing of flexible packaging; we have to work with machinery suppliers to ensure packaging equipment can convert this material efficiently and effectively; and we need to support brand owners in identifying more uses for the material.

There must also be a concerted effort in consumer education, to help them understand the benefits of recycling plastics and enable them to make informed decisions about what to do with a package at its end of life. EPRs or collaborations that support investments in infrastructure to encourage this change in behavior are critical.

This is starting to happen. The Recycling Partnership has introduced its Film and Flexibles Task Force to define, pilot and scale re-

cycling solutions for packaging that includes plastic film, bags and pouches. The US Plastic Pact was launched in 2020.

Leading retailers are introducing front of store collection for used film. Major ecommerce firms are introducing recycling systems for their used protective packaging. The How2Recycle label provides consistent and clear recycling guidance for consumers.

Such initiatives and the partnerships that are being created will help to stimulate demand, which in turn will bring commercial benefits, particularly in terms of a lower price point.

Plastic's role in society is changing, but it is a change for good. As we move from a linear to a circular economy, plastic is an important part of achieving this. However, to be truly successful, it will not be just technology that drives higher levels of recycled content in plastics packaging. It will be achieved through coordinated action across the whole supply chain, focusing on improved consistency and traceability of raw material, improved recyclability of films, the introduction of common standards, and the capability of packaging technology to handle and process these materials.

If stakeholders collaborate across the value chain to seize the initiative in concert with any legislative action, we will be able to better influence the debate and ensure that plastics remains as innovative to our world as it has been for the past 70 years. ■

#### About the Author

Wesley Porter is the director of business development, sustainability and innovation, at Berry Global. He can be reached at [wesleyporter@berryglobal.com](mailto:wesleyporter@berryglobal.com).



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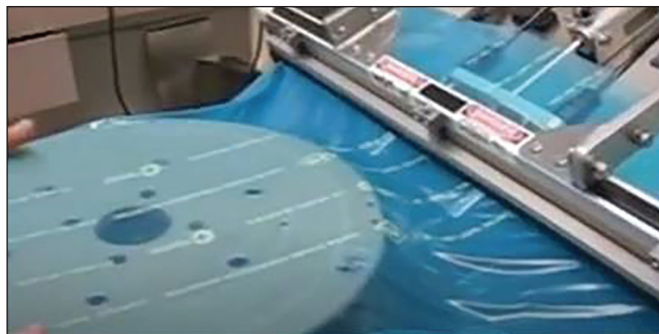
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VpCI-126 Vacuum Bags could be a great way to unitize loads and eliminate rubbing of small parts during transit and storage. Packaging is as simple as placing the clean dry parts inside the bags and sealing them with standard vacuum-packaging equipment.

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The divert will continuously rotate to fill five (5) full lanes, one at a time, of accumulation, should a problem occur upstream. The LBP (low back pressure) table top lanes are 25 feet long, for a combined total accumulation capacity of 125 feet of product. Each lane has a pneumatic end stop at discharge to halt flow on command.

A 5:1 combiner merges product at the accumulator discharge to reduce flow back down to single file. Product then moves

Continued on page 32

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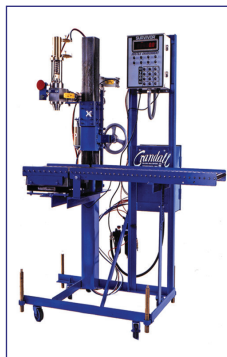
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Continued from page 30



onto pneumatic metering clamps, roller belting and more, ultimately discharging onto the customer's palletizing cell.

For more information, visit [www.multi-conveyor.com](http://www.multi-conveyor.com).



### New Chamber Belt Machine For Packing Ham, Cheese, Poultry and Fish Products

With the addition of the B 425 model, MULTIVAC has completed its range of chamber belt machines. When it comes to packing smaller products in particular, the B 425 offers a very high output thanks to its compact and narrow design.

The new model, which is designed in the MULTIVAC Hygienic Design™, is aimed at food processing companies, and it is particularly suitable for the automated packaging of sausage, ham, bacon, fresh meat, fish and cheese in film pouches.

As with all chamber belt machines from MULTIVAC, the new model is in its high level of production output and pack quality – even at maximum loading in non-stop mode. The proven design for minimizing the volume of air to be evacuated

ensures that a higher cycle output is achieved. The optional sealing height adjustment, which can be performed without tools, makes it easy to adjust the sealing height to the particular product.

An additional feature of the B 425 is its high level of machine availability. Intelligent solutions in the detail of the machine also ensure that its reliability is increased. The roller shear cutting before the chamber ensures that a smooth packaging process is achieved, even with film pouches that are very long. It is also possible as an option to sever the pouch neck by means of an automatic cutting unit.

The patented MULTIVAC suction system ensures that the pouch trim is removed reliably from the chamber. If a MULTIVAC SE 335 shrink tank or SE 120 shrink tunnel together with a TE 135 or TE 120 drying tunnel are added, the B 425 could be expanded into a highly efficient shrink packaging line.

For more information, visit <https://multivac.com>.



### Mondi Packages Potatoes in Award-Winning Paper Bag with Sustainex Bio-Based Coating

Mondi has partnered with SILBO, a Polish leading producer of compostable packaging, to create a paper-based high-strength packaging for the Irish farm potato business Meade Farm Group. The innovative bags replace hard-to-recycle plastic with paper, a renewable resource enhanced with a bio-based coating and are certified as compostable.

Working closely for two years, SILBO, Meade and Mondi developed the FSC®-certified bag using specialty kraft paper to ensure strength in handling while providing barrier properties to keep the produce fresh.

The bag has multiple sustainability features: a corn starch-based netting for a small cut-out window, water-based ink and

Continued on page 34

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Continued from page 32

Mondi's biodegradable Sustainex® coating, which provides heat sealing and moisture barrier protection.

For more information, visit [www.mondigroup.com](http://www.mondigroup.com).

## Glass Jar Sealing Research Puts Selig on Top

A new series of independent tests carried out to discover the best way to seal glass jars has put Selig's GlassFuze® on top. The research was commissioned by a peanut butter producer following complaints from customers relating to product spoilage. A new solution had to be found to seal the jars, as the company's brand reputation was being put at risk.

High oil content products, such as peanut butter, can be challenging to package as the oil makes it difficult to achieve a 100 percent hermetic seal between the liner and the jar lid. With this in mind, a packaging engineer tested five sealing methods on glass jars, using a 4-minute -300 mBar pressure test on a laboratory Pack-Vac leak detector.

The sealing solutions tested on 100-gram glass jars included a plastic screw cap and an induction seal liner, a plastic screw cap and a foam liner, a metal screw cap and a flowed-in seal and a metal twist cap and a flowed-in seal.

Overall, the screw caps were shown to be superior to the twist caps in terms of leakage prevention, but the leak test results showed that only one solution provided consistent,



secure sealing that showed no leakage. This was the jar sealed using Selig's induction heat seal liner with GlassFuze™ heat seal.

For more information, visit <http://www.seligsealing.com>.



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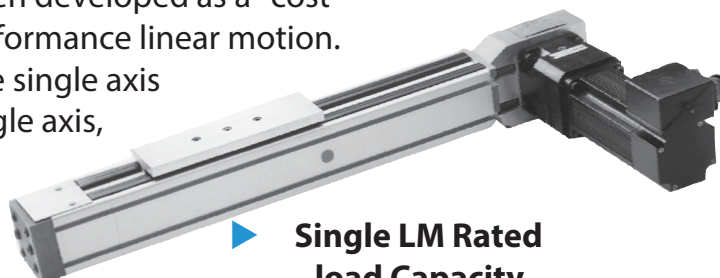
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### AD INDEX

Ace Controls Inc. ....	33
<a href="http://www.acecontrols.com">www.acecontrols.com</a>	
Alliedflex Technologies Inc. ....	2, 3
<a href="http://www.standup-pouch.com">www.standup-pouch.com</a>	
All Packaging Machinery, Corp. ....	FC
<a href="http://www.standup-pouch.com">www.standup-pouch.com</a>	
Crandall Filling Machinery ....	31
<a href="http://www.crandall.com">www.crandall.com</a>	
CTM Labeling Systems ....	15
<a href="http://www.ctmlabelingsystems.com">www.ctmlabelingsystems.com</a>	
EBS Ink Jet Systems USA ....	19
<a href="http://www.ebs-inkjet-usa.com">www.ebs-inkjet-usa.com</a>	
Filmquest Group ....	FC
<a href="http://www.petfilm.com">www.petfilm.com</a>	
HMC Products Inc. ....	34
<a href="http://www.hmcproducts.com">www.hmcproducts.com</a>	
Industrial Indexing Systems ....	7
<a href="http://www.iis-servo.com">www.iis-servo.com</a>	
Logical Machines ....	35
<a href="http://www.logicalmachines.com">www.logicalmachines.com</a>	
Lotar Enterprises ....	14
<a href="http://www.lotarenterprises.com">www.lotarenterprises.com</a>	
Mettler-Toledo ....	11
<a href="http://us.mt.com/us/en/home.html">http://us.mt.com/us/en/home.html</a>	
Northcore Industries ....	18
<a href="http://www.northcoreind.com">www.northcoreind.com</a>	
Omtec Corp. ....	29
<a href="http://www.omtec.com">www.omtec.com</a>	
Paxton Products ....	25
<a href="http://www.paxtonproducts.com">www.paxtonproducts.com</a>	
Raco International Inc. ....	35
<a href="http://www.racointernational.com">www.racointernational.com</a>	
Schober USA Inc. ....	31
<a href="http://www.schoberusa.com">www.schoberusa.com</a>	
Totani America, Inc. ....	21
<a href="http://www.totaniamerica.com">www.totaniamerica.com</a>	
Triangle Package Machinery ....	23
<a href="http://www.trianglepackage.com">www.trianglepackage.com</a>	
Universal Labeling Systems ....	5
<a href="http://www.universal1.com">www.universal1.com</a>	
William B Rudow Co. ....	27
<a href="http://www.suckers.com">www.suckers.com</a>	

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# Packaging

TECHNOLOGY TODAY

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- Thermoforming
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- Beer/Wine/Spirits
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- Food
- Household
- Personal Care
- Pharmaceutical/Medical

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- Rigid Containers
- Sustainable

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