

March 2022

Packaging

TECHNOLOGY TODAY

Trends, Solutions and Package Innovations of Today

rdgmedia
PUBLICATION

WE ARE LABELING.

EVERYTHING WE ARE GOES INTO EVERYTHING WE DO.

30,000 plus labeling machines and systems have been produced by Universal over our 33 successful years in the industry. All machines are designed and built in the USA at our St. Petersburg Florida facility. Your ULS machine is sold and supported through a worldwide network of Authorized Distributors, and backed by our expert technical staff. And at ULS, we do more than talk as our Performance Guarantee states: "All equipment manufactured by Universal Labeling Systems carries a 30-day performance guarantee. If your labeling machinery does not perform as stated, we will take your machine back and reimburse you in full." 33 years and 30,000 plus machines later, we still honor this pledge.

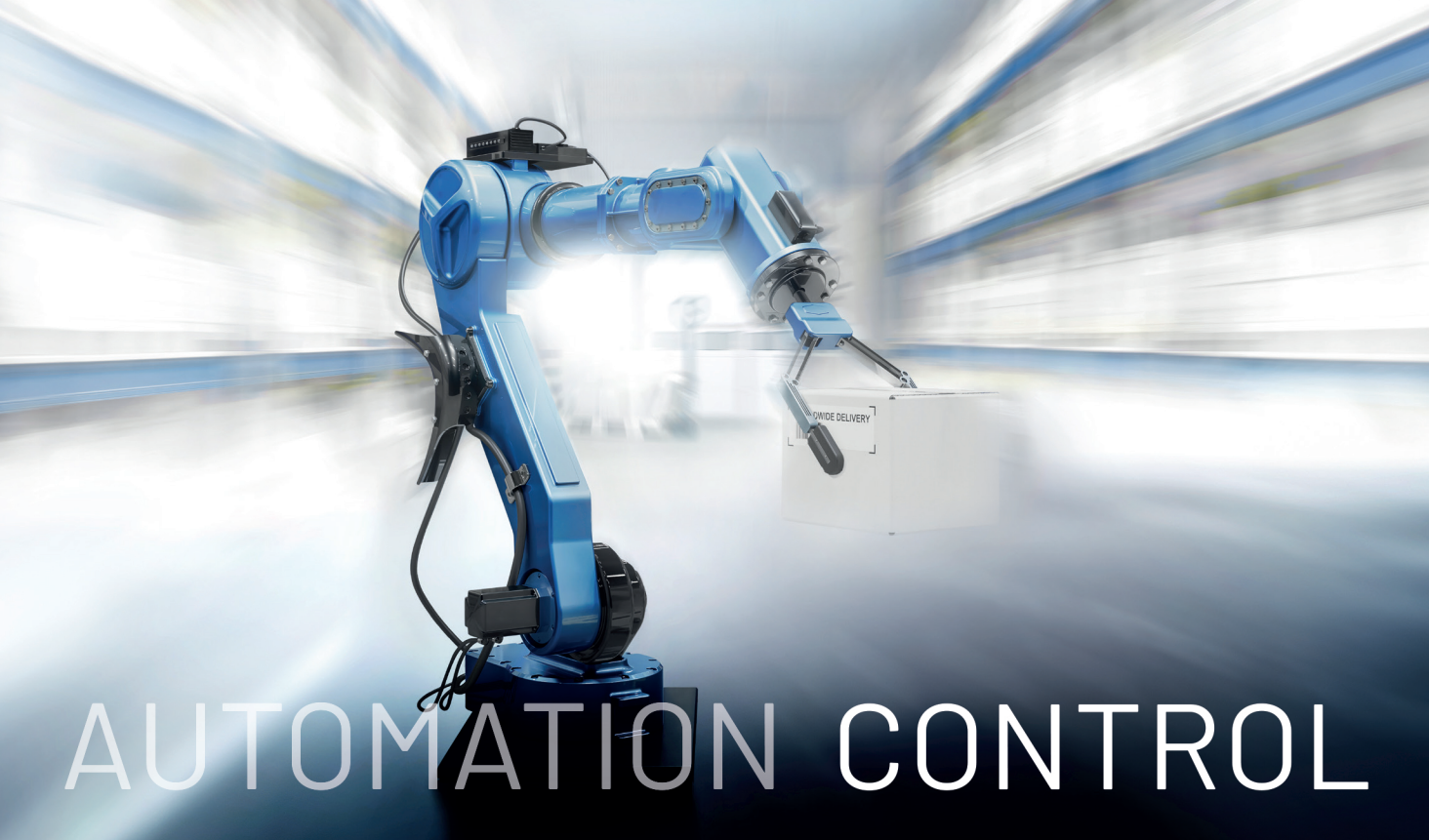
UNIVERSAL

labeling systems

Just getting started?

- World's best tabletop labeling system
- Rounds from .5 - 6" diameters
- Label up to 8,000 products per day
- Same day shipping

Call 1-877-236-0266 or see videos of our machines in action and more at universal1.com



AUTOMATION CONTROL

INDUSTRIAL SHOCK ABSORBERS QUICKLY DECELERATE MOVING LOADS

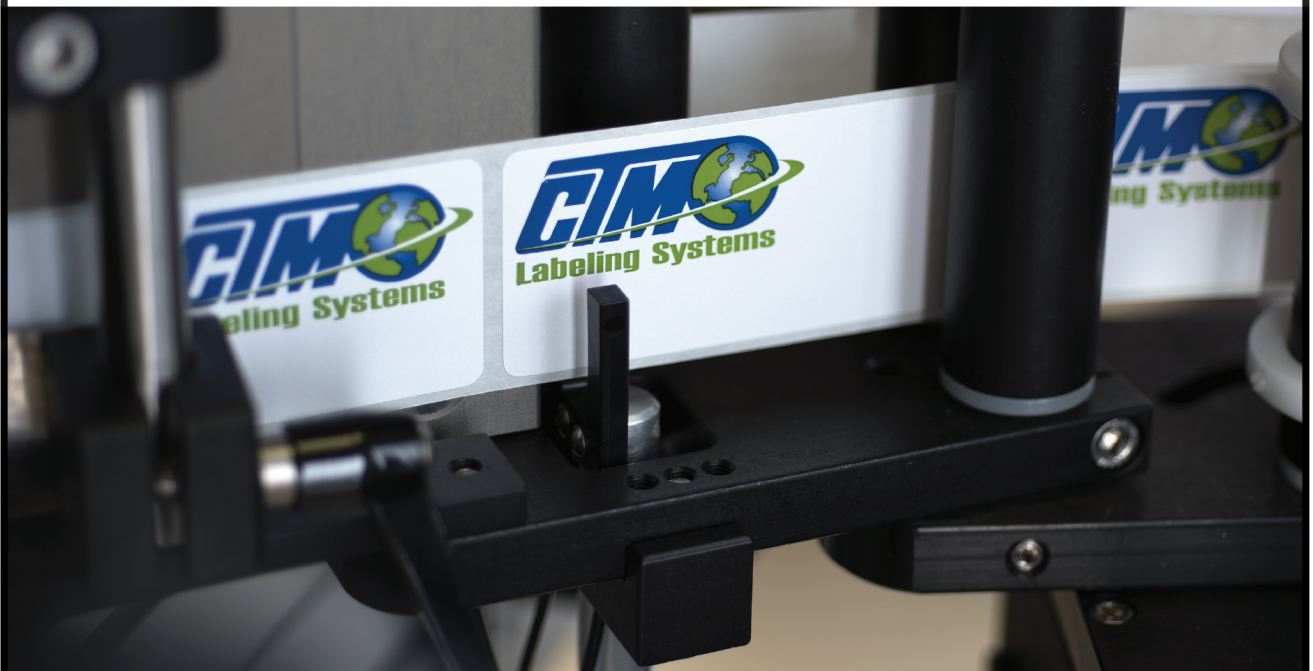
- Low-temperature (LT) varieties developed for refrigerated or below freezing production plants and warehouses
- Stainless steel options for wash down and sterile environments such as processing facilities
- Controlled acceleration of flying knife for case packing and shrink wrap machines
- Increase production and system performance



A STABILUS COMPANY

Engineering & Support

Because Precision Matters



Setting Global Standards

One Customer at a Time

www.ctmlabelingsystems.com



EDITOR'S NOTE

Where's the Industry Headed?

A big shift in consumer habits, values and shopping behavior since 2019 is driving demand for faster equipment and different packaging materials. This month, our contributing authors explain where the packaging industry is headed:

e-Commerce Packaging: People of all ages learned to love the convenience of online shopping during the pandemic, and more brands are shifting to direct-to-consumer retail platforms. Discover the packaging strategy that enables e-commerce operations to become faster, more accurate and efficient.

Labeling Equipment: The affordability, speed and precision of industrial inkjet technology is a game changer for private labels and businesses that need fast and precise labeling, marking and coding capabilities. And specialized inks empower businesses to meet regulatory requirements, prevent fraud and customize labels and packaging, fast.

Palletizing Equipment: The Great Resignation and e-commerce are straining end-of-line packaging operations, and robotics lends a helping arm to manage palletizing, with intuitive systems that only require one operator.

Snack Food Packaging: Millennial and Gen Z snacking habits and values are driving packaging trends due to their preferences for private labels, healthier snacks, convenience and sustainability.

Food Safety: After enduring the pandemic, people have a heightened sensitivity to hygiene and food safety. Learn about advancements in inspection and detection technology, and five key testing practices proven to increase food safety.

Sustainable Materials: More corporations are setting sustainability targets, and consumer demand for eco-friendly packaging materials is growing. Learn what it will take to establish the infrastructure for compostable packaging.

Would you like to share your expertise with our readers? Send me a note! See the topics we are planning to cover in our editorial calendar at:

www.packagingtechtoday.com/packaging-media-kit/

Thanks for reading!

Vicki McDonald-Kastory
Editor, *Packaging Technology Today*
vickik@rdgmedia.net

ONLINE TOC

Check out what **Packaging** has on our site.

TECHNOLOGY TODAY

Visit www.packagingtechtoday.com where you can...

Download our eBooks at:

<http://www.packagingtechtoday.com/ebooks/>

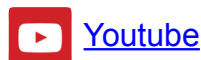
See our library of videos:

<http://www.packagingtechtoday.com/category/videos/>

Did you miss our February issue? Read the digital edition online:

<https://cloud.3dissue.net/33877/33789/34114/69121/index.html>

Packaging Automation Center - Employing Cobots for Picking, Packing & Palletizing: <https://www.packagingtechtoday.com/infocenter/packaging-automation-center-employing-cobots-for-picking-packing-and-palletizing/>



The Future of ink-jet printing is here...NOW

*30 days start up and shut down
without touching the printhead
Optional capacitive back-up
system in case of power failure*



Inside the EBS-6600 Series

The EBS-6600 Series is an entirely new and improved small character ink-jet system designed for exacting in-line product and package coding.

It starts with an all-new cabinet configuration that includes a ventilation process incorporating moisture traps, filters and a chemical-resistant keypad that will protect the unit in even the harshest environment.

The EBS-6600 Series also integrates a touch-screen display for easy message creation and operational control. The result is an innovative ink-jet system that prints startlingly crisp, multilingual alphanumeric text and bar codes that provide error-free product identification.



Easy, no-spill ink-solvent exchange



Splash-proof cabinet



Touch-screen control



EBS Ink-Jet Systems USA, Inc.
1840 Industrial Drive, Suite 200 • Libertyville, IL 60048
Phone: 1-847-996-0739
www.ebs-inkjet-usa.com • sales@ebs-inkjet.com

An RDG Media, Inc. Publication
P.O. Box 80915 • Rochester, MI 48308
www.PackagingTechToday.com

PRESIDENT/PUBLISHER

Randy Green . randy@rdgmedia.net
586-227-9344

EDITOR

Vick McDonald-Kastory . vickik@rdgmedia.net

ACCOUNTING MANAGER

Kristen Green . kristin@rdgmedia.net
586-242-8397

PACKAGING/IMS AUCTIONS

Angi Hiesterman . angi@rdgmedia.net
515-351-7973

OPERATIONS/CUSTOMER SERVICE

Jody Kirchoff

ART DIRECTOR

Jake Needham

Web Design

Josh Scanlan

PACKAGING TECHNOLOGY TODAY will not be responsible for any errors in placement or content after first run of ad. Publishers shall not be liable for any costs or damages if for any reason it fails to publish advertisement. Packaging Technology Today recommends that you take appropriate caution before buying items sight unseen. Packaging Technology Today is not responsible for misrepresentation of advertisers. We suggest you contact your own attorney, the Better Business Bureau, or appropriate government agencies if you experience a problem.

Randy Green, President & Group Publisher

Advertising rates, deadlines, and mechanical requirements furnished upon request. Copyright 2019 Packaging Technology Today All Rights Reserved. Reproduction in part or in whole without written consent is strictly prohibited.

rdgmedia
PUBLICATION



COVER STORY

- 8 Cover Story | e-Commerce**
The Packaging Strategy Everyone Should Know
Automating e-commerce operations provides a path for growth through speed and accuracy.

FEATURES

- 12 A Packaging Perspective**
Five Trends for Industrial Inkjet Technology
Demand is growing for faster digital printing and specialized ink for coding and labeling requirements, and new consumer preferences.
- 16 Q&A | End-of-Line Automation**
The Emergence of Robotic Palletizing
Robotic palletizing is efficient, fast and a viable solution for the labor shortage.
- 18 Market Topic | Snack Food Packaging**
Snacking is Changing CPG Equipment Needs
Millennial's snacking habits are the driving force behind new food packaging trends.
- 20 Spotlight | Inspection & Detection**
Five Key Tests Increase Food Safety
Including validation, verification and routine performance monitoring in five key testing practices improves foreign body detection.
- 24 Q&A | Sustainable Materials**
Manufacturers Can Impact Composting
Composting food service packaging diverts waste, reduces emissions, creates jobs —and its future hinges on industry leadership.

DEPARTMENTS

- | | |
|------------------------|-----------------------------|
| 4 Editor's Note | 26 Supplier Products |
| 4 Online TOC | 31 Ad Index |



BETTER DRYING, BLOW OFF AND AIR RINSING



ENERGY EFFICIENT DRYING

Paxton's high efficiency blowers and air delivery devices improve drying of cans and bottles for high quality labeling and coding, while using 60-80% less energy, typically giving a one year ROI.



BOTTLE & CAN RINSING

NO WATER / COMPRESSED AIR NEEDED

Paxton's New Ionized Air System replaces both water rinsing and compressed air rinsing, using less energy and no wasted resources.



DUST & DEBRIS BLOW OFF

Paxton's powerful air delivery removes particulates, dust and debris efficiently and effectively. And if static cling is an issue, Paxton's Ionized Air Systems dissipate the static then blast the debris away.

All Paxton Air Systems are custom-engineered to maximize performance and minimize energy usage.

All Paxton Blowers carry a full three year warranty.

PAXTON
PRODUCTS

800.441.7475
PAXTONPRODUCTS.COM



Labeling systems can be integrated to automatically generate, print and place shipping labels. Image Courtesy of Texwrap

THE PACKAGING STRATEGY EVERYONE SHOULD KNOW

AUTOMATING E-COMMERCE OPERATIONS PROVIDES A PATH FOR FUTURE GROWTH BY ADDING SPEED AND ACCURACY

By David Nettles, Director of Sales, Texwrap Packaging Systems

Effectively managing a business's e-commerce operation can be challenging, especially when it comes to the packaging process.

For many companies, e-commerce packaging is a labor-intensive endeavor that is not a very efficient operation. As the retail industry continues to evolve, companies are shipping direct to consumers more than ever before. This shift in retail buying patterns shows no sign of slowing down.

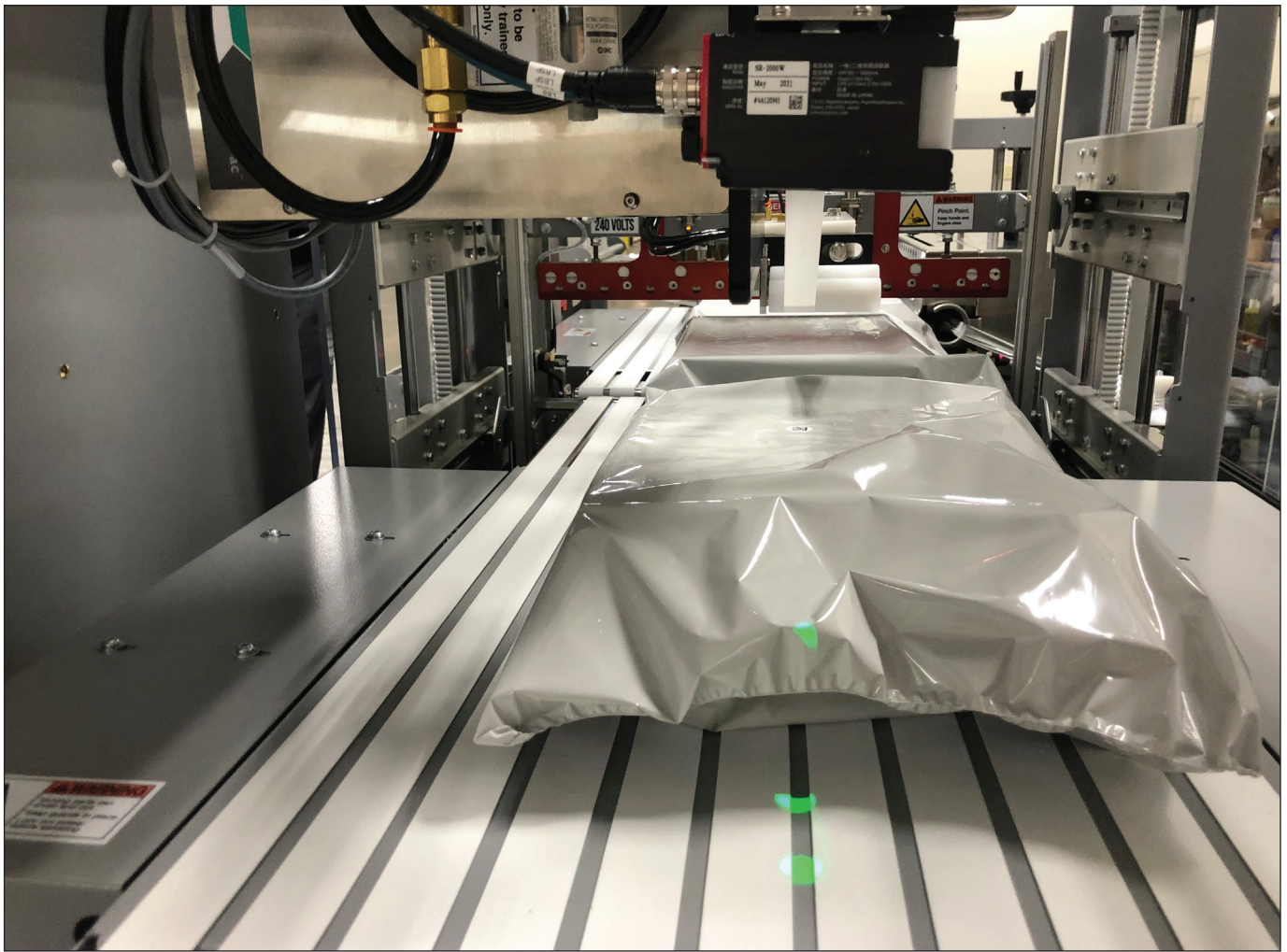
According to Statista.com, a business data platform that specializes in market and consumer data, e-commerce sales in the United States accounted for 13.3% of all retail sales for the second quarter of 2021, which represents an increase of 2.5% from the same quarter just two years ago.

Similar trends are seen worldwide, as e-commerce sales that accounted for \$4.28 trillion in 2020 are expected to grow to \$5.4 trillion by 2022.

The key for many companies growing their e-commerce operation is to select partners that have deep application knowledge and proven solutions. Possessing that type of industry insight can be the catalyst to help companies automate their e-commerce packaging processes to reduce labor, minimize material usage and control their shipping expenses.

The value of automated e-commerce packaging operations

For some manufacturers, the path into e-commerce is a relatively



Automating e-commerce packaging systems reduces order fulfillment errors and brings speeds up to 40 packages per minute. Image Courtesy of Texwrap

new venture. Traditionally, manufacturers shipped their product in bulk to stores or distribution centers. This straightforward process typically involves product in cases, loaded securely on pallets and shipped to its destination – a method which protected their merchandise fairly well.

The main difference in packaging for e-commerce is that you're now mainly shipping individual products direct to consumers. The challenge is how to best package individual products that are secure enough to protect the contents during shipping, yet do so in an efficient and cost-effective manner. The answer can be found in automation.

Pack efficiently

For businesses that are somewhat new to e-commerce, looking to expand their presence or rely heavily on e-commerce operations, one of the best ways to be successful is to select packaging that's as close as possible to the size of the product you're shipping. You don't need a large, oversized package when shipping a small item. That excess material is not necessary, and only costs you money in the end. This is what's known as dimensional (DIM) weight.

DIM weight, is the amount of space a package occupies relative to its actual weight. The idea is that since most freight costs were negotiated by the pound, airlines wanted to make sure they could maximize profit by assigning a minimum weight value by volume. This means if someone is shipping a box of feathers, the carrier charges the dimensional weight instead of actual weight. The same principles apply to e-commerce shipments – since many of these are shipped via air. The more

space in the package that is occupied with "air" (including packing materials, air pillows or other fillers), the greater the minimum weight of charge for the shipment. By reducing the amount of air to the size of the actual contents, the shipper minimizes the overall shipment cost.

Often companies are engineering direct-to-consumer packaging that can withstand the rigors of shipping, only to have it packaged in an oversized box that does nothing but add cost to the shipment.

These features are important because some companies do ship their products in packaging that's generally too big or more than needed. This is typically the case with many smaller companies that follow a manual process for packing products. A common practice is to package using pre-made bags.

The problem this can lead to is the pre-made bag doesn't offer a tight, secure fit for the product, or the bag will be too large, forcing an employee to overstuff it with material. Either way, this choice does not offer a solid containment for that product. After the bag is packed, an employee needs to close and seal it, print a shipping label, and then manually attach it correctly to the bag. All of these steps are labor intensive and not very efficient with speeds limited to, on average, less than 10 packages per minute.

E-commerce technologies at work

A better option that many small-to-medium sized companies are embracing for their e-commerce operations is to automate the entire process, which can lead to significantly faster and more accurate rates than manual packing operations.



Smart scan technologies detect if a package is removed from the sequence after scanning and stops the machine, ensuring product is not shipped to the wrong customer. Image Courtesy of Texwrap

Two common automated packaging systems for e-commerce are ones that can create custom-sized flexible packaged bags around the product, or shrink-wrap products for a tight, secure seal. Clothes, blankets and other unique-sized products are ideal for flexible packaged bags; while boxed products, such as shoes, electronics, food and related items tend to be a better fit for shrink wrapping. However, both operate in a similar fashion.

Automated e-commerce packaging systems rely on a series of photo-eye tracking and verification sensors to create right-sized packaging for each individual product. During normal operation, product moves along the infeed conveyor, being tracked by photo eyes that detect the products leading edge, along with the length and position. Then, an induction camera triggers and scans the product for a unique code. The information is passed along to the customer's warehouse management system. The system accesses the data file of addresses and cues up the correct information at the labeler.

As product advances into the wrapper and just before entering the sealer, a photo eye confirms the position of the product, and scans its length and height. Once this process is complete, the wrapper will seal and create a fully enclosed bag. The label is then applied to the bag during the seal cycle. At this point a verification camera confirms the sequence of the applied label is correct, and is ready for shipping.

One of the final benefits of using an automated system is product

concealment. Many brands involved in e-commerce ship their products in logoed packaging to advertise themselves. While that makes sense for the brand, the consumer may not be that thrilled with others knowing who they purchased from. Logoed packages left outside residences loudly advertise where it's from, which can be a target of unwanted attention.

Automating e-commerce operations can spur growth

E-commerce is certainly here to stay, and you need to be positioned to best capture your share of the growth. One way to do that is through automating your e-commerce packaging operations. Not only will you save time and money, but it will give you the flexibility to handle additional e-commerce business. Your selection and method of packaging directly impacts your bottom line. ■

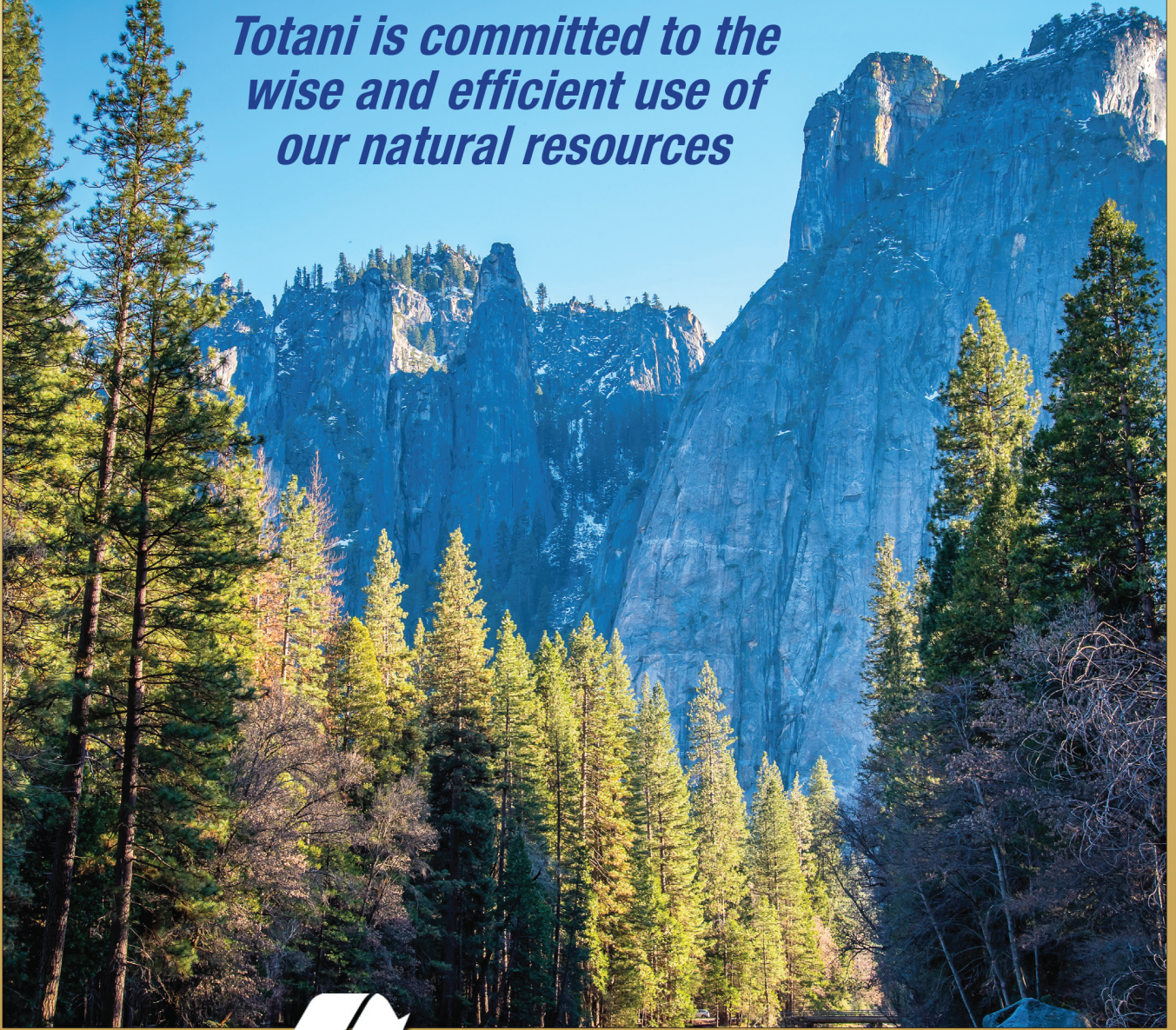
About the Author

David Nettles is the Director of Sales at ProMach's Shrink Systems Group. He can be reached at David.Nettles@promachbuilt.com. Learn more at www.texwrap.com



Earth Friendly

*Totani is committed to the
wise and efficient use of
our natural resources*



Film with Recycled Content
Recycle Ready Films
Less Film Waste

*Less waste means more
protection for our environment*



The World Leader in
Pouch Making Machinery

TOTANIAMERICA.COM

920-632-7319



FIVE TRENDS FOR INDUSTRIAL INKJET PRINTING IN 2022

DEMAND IS GROWING FOR FASTER
DIGITAL PRINTING AND SPECIALIZED INK
DUE TO CODING AND LABELING REQUIREMENTS,
AND NEW CONSUMER PREFERENCES

By Kristin Adams, Marketing Manager at Kao Collins

New risks have cast a shadow on 2021's robust economic recovery. Businesses are struggling to meet the pent-up consumer demand that grew during the global pandemic. Further, workforce shortages and the fragile supply chain remain wildcards heading into 2022, on top of concerns about new COVID-19 variants that could continue to threaten waves of business shutdowns.

This kind of uncertainty favors agile businesses. As industrial printers prepare for uncertain times and evaluate their production alternatives, the integration of digital printing takes on a new urgency.

Digital printing allows businesses to leverage the versatility of industrial inkjet inks that print many materials, combined with other

benefits, such as a reduction in pre-press costs and make-ready waste, while delivering mass customization and shorter production runs.

We anticipate five trends and opportunities for industrial inkjet printing in the packaging industry in 2022 due to regulatory requirements for medical devices and pharmaceuticals, as well as the effects of new consumer shopping behaviors driving e-Commerce and demand for private label grocery items.

1. Medical UDI coding takes on greater urgency globally

Global standards for Unique Device Identification (UDI) of medical devices and equipment have simmered on the back burner for years since Japan first introduced requirements in 1999. The United States



While already well established for printing on flexible packaging, more companies are choosing LED-curable inks for cardboard packaging.

passed legislation requiring coding in 2007.

Most countries have now enacted similar regulations, or they are slated for implementation over the next few years. These regulations mandate UDI coding on medical devices, labels, and packaging for products ranging from bandages and tongue depressors to hospital beds and implants.

With a wide range of inks suitable for printing the many medical products, inkjet printing stands to come out as a winner for medical coding, marking and labeling.

2. Pharmaceutical regulations and fraud are increasing the need for coding and marking

The major factor driving the growth of the global security ink market is the increasing regulatory requirements involved with product tracking and the supply chain. Pharmaceutical companies face increasing pressure to adopt security practices that comply with shifting regulations, on top of curbing fraud and counterfeiting—and they are not alone.

Many industries fight a continuing battle against counterfeiters. The cost of counterfeit products in the United States alone totals \$600 billion, according to the FBI's Intellectual Property Rights division.

Coding and marking with overt and covert security inks makes it simpler for brand managers and regulators to identify counterfeit products. Overt or Level 1 security printing on packaging or labels appears visibly to the eye or tactilely. Visible fluorescent inks may be used for direct coding or incorporated in intricate label designs.

3. E-commerce is boosting demand for labeling and customized packaging

E-commerce emerged as a clear winner in 2021, offering consumers a convenient alternative to traditional brick-and-mortar shopping. As retailers pivot to this new normal, they face the challenge of building

customer relationships.

Digital printing offers personalization, customization, and the opportunity to create a brand experience with packaging that enhances the e-commerce experience and strengthens the brand's connection with the end consumer. Look for eco-friendly LED-curable inks to fill this void for wide-format cardboard printing because of its many benefits over water-based inks, including:

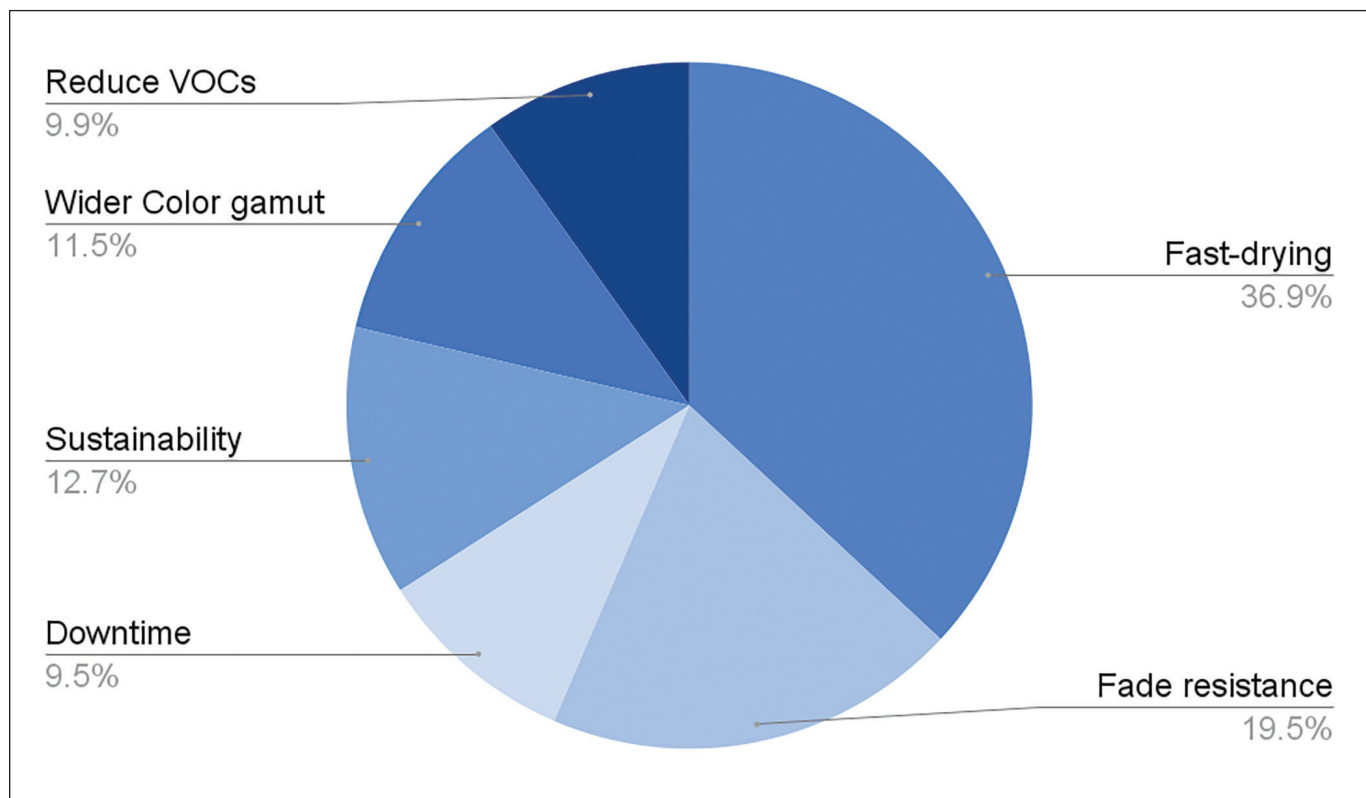
- Weather resistance
- Excellent ink-to-substrate adhesion
- Wider-color gamut
- Rapid curing

While already well established for printing on flexible packaging, more companies are choosing LED-curable inks for cardboard packaging. The rapid, low-heat curing makes LED inks ideal for a wide range of cardboard and label facestock, especially compared to traditional UV-curable ink that uses mercury arc lamps for curing. LED bulbs last longer, use less energy, and don't emit ozone or UVC radiation.

4. Consumer interest in private label products is boosting demand for digital printing

In 2020, grocery brands saw three consumer groups attracted to their private label products: Gen Z, Millennials and parents. While big brands regained some market share in 2021, the interest among these three groups reflects the elasticity of price and demand.

The expanding private label food industry stands to win more market share in 2022, as consumers look for quality alternatives to more expensive national brands to help manage their grocery costs. In November, the U.S. Bureau of Labor Statistics reported prices surged almost 7% for the previous 12 months. According to the Consumer Price Index, food prices increased just over 6% for the period.



The Kao Collins substrate and ink matching database shows over 36% of users are looking for information about fast-drying inks. Fade resistance attracts about 20%. Solving downtime problems with inks attracts less than 10% of searches.

Competing on price alone for food staples isn't enough to propel sales of private label products. Consumers want premium products and a variety of flavors and packaging sizes. Combining premium food products with eye-catching packaging can elevate private label brands during inflationary periods and beyond.

Industrial inkjet printing offers private label food manufacturers the opportunity to produce segmented SKUs with efficiency and flexibility for brand packaging, and for the necessary marking and coding on shorter production runs.

5. Faster printing technology requires fast-drying inks

Advanced inkjet printing systems run faster than just a few years ago, and inks now have to dry or cure rapidly to keep pace with the new technology. In fact, interest in fast-drying ink outpaces other production priorities for users of industrial inkjet ink, based on analysis by DBS Interactive, a digital marketing agency in Louisville, Ky.

Advanced inkjet printing systems run faster than just a few years ago, and inks now have to dry or cure rapidly to keep pace with the new technology. In fact, interest in fast-drying ink outpaces other production priorities for users of industrial inkjet ink, based on analysis by DBS Interactive, a digital marketing agency in Louisville, Ky.

When applied to the proper material, most inks can achieve relatively fast dry times. Solvent and curable inks already dry or set rapidly – in a second or less. And manufacturers are always looking at ink formulations to improve aided and unaided dry time, reduce fading and prevent downtime.

Packaging printing and label printing are the common threads for almost all of the industrial inkjet trends for 2022, and the key drivers are:

- Integration with automated production systems
- Compensating for increasing SKUs (“SKU-mageddon”)
- e-Commerce market growth
- Mass customization
- Improving return on investment
- Growing adoption of digital over analog printing systems

Market demand and the need to squeeze more out of the benefits of digital printing will continue to drive the need for technology to develop inks and faster industrial inkjet printers. ■

About the Author

Kristin Adams is the marketing manager of Kao Collins Inc., based in Cincinnati, Ohio, and has been with the company for almost 20 years. She works closely with the R&D and technical teams to increase opportunities for existing and emerging applications of industrial inkjet printing. Kao Collins supplies a wide range of inks for thermal, piezo and continuous inkjet systems. Learn more online at www.kao-collins.com/inks.





Maximize Productivity & Profit With A PFlow VRC System

- Ideal for high-capacity, high-cycle automated systems
- Capable of 400 FPM vertical travel
- Conveys loads up to 10,000 lbs to unlimited floor levels
- Continuous-duty cycle motors for higher cycle rates

CONTACT US TODAY!
www.pflow.com | (414) 352-9000



MATERIAL HANDLING SOLUTIONS



THE EMERGENCE OF ROBOTIC PALLETIZING

ROBOTIC PALLETIZING IS EFFICIENT, FAST AND A VIABLE SOLUTION FOR THE LABOR SHORTAGE

By Ryan Womble, Director of Sales at Quest

Robotic automation has become the go-to engineering design for gaining efficiency, speed and addressing the ongoing labor shortage within the packaging industry. Whether it's forming cases, packing cases or building pallets for shipping, robotics are everywhere within the industry.

Ryan Womble from Quest explains how robotics lends a helping arm to palletizing operations:

Why are more companies looking at robotics to palletize products?

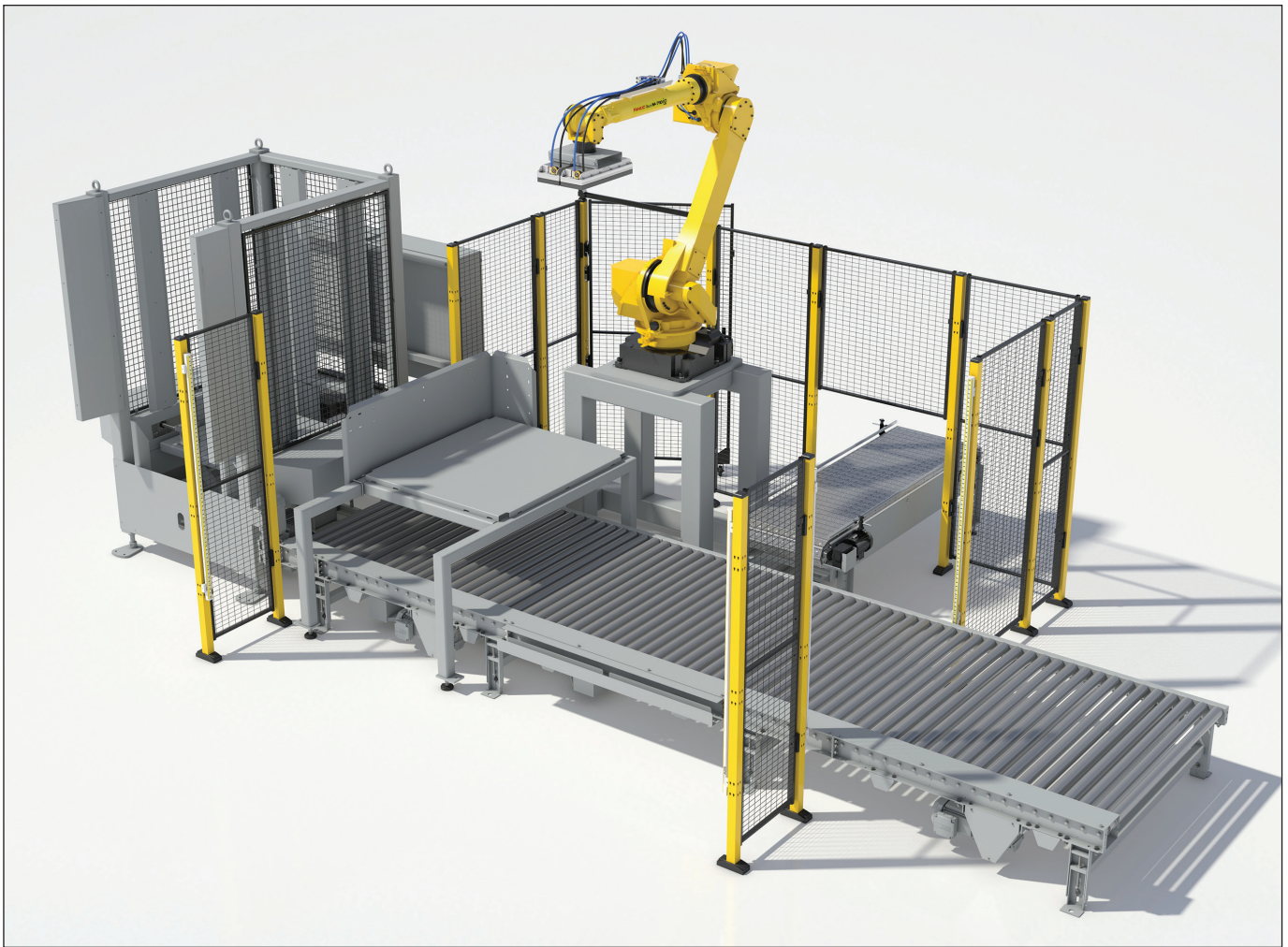
As companies explore new ways to become more efficient, adding automation to their end-of-line packaging operations often is an ideal way to achieve that. And one area of the end-of-line that makes sense

is palletizing. Robotic palletizing greatly increases a company's packaging speed, while also providing newfound flexibility in being able to create customer-specific pack patterns.

It also helps from a labor standpoint. Trying to hire and retain staff to manually build pallets all day is extremely difficult. Robots don't call in sick; they reliably operate around the clock. A well-designed robotic palletizer can be operated by just one person, and offers great opportunities to maximize efficiencies to an end-of-line system.

Are robotic palletizers difficult to program or operate?

The intelligence behind robotics has come a long way in recent years to the point today where they are extremely easy to operate. Many robotic packaging OEMs are going to great lengths to engineer and design their systems to be intuitive and easy to operate.



Box Bot palletizers feature a long-reach robot that provides higher stack patterns, which better maximize tractor-trailer loading for more efficient shipping. (Image Courtesy of Quest)

This point is very important to companies who may not have a seasoned staff to operate packaging machinery or that have staff from a range of backgrounds. The workforce is changing. Baby boomers are retiring and taking with them years of tribal knowledge that's not easily replaced. The workforce is more diverse, and operators don't necessarily speak the same language, which can create training challenges.

the need to have a service programmer onsite to perform the task.

Robotic design has increased functionality while simplifying operation – both of which are opening up new opportunities in palletizing and other packaging functions.

Which applications make sense for robotic palletizing?

Its versatility and overall consistent performance position robotic palletizers to work well in many packaging applications. Robotic palletizers operate in a footprint as small as 8'x10', and come with long-reach Fanuc robots to build higher stack patterns, which better maximize tractor-trailer loading for more efficient shipping. ■

About the Author

Ryan Womble is the Director of Sales at Quest. He can be reached at Ryan.Womble@promachbuilt.com, and you can learn more about Quest at <https://www.questindustrial.com/>



TESTING INKS & PENS *Surface Tension Testing*

For Adhesion AND Cleanliness Testing

Quick • Easy • Clean



LOTAR ENTERPRISES
(T) 920-465-6678
sales@lotarllc.com
www.lotarllc.com

How can robotics improve end-of-line packaging?

On the end-of-line, creating specific pallet patterns is a fundamental element of robotic palletizing. To make this task easier, suppliers are designing machine operator interfaces that are visually and technologically intuitive.

Users can modify box dimensions, drag-and-drop cases to form desired pack patterns, or let the program automatically calculate the most efficient pattern structure to optimize product density on the pallet. The ability to build your own patterns saves time and money by eliminating



HOW SNACK FOOD TRENDS ARE CHANGING CPG EQUIPMENT NEEDS

MILLENNIAL'S SNACKING HABITS ARE THE DRIVING FORCE FOR FIVE FOOD PACKAGING TRENDS

By: Sean Riley, Senior Director, Media and Industry Communications, PMMI

Five consumer trends driven by convenience are dominating the snack food market and ultimately packaged snack food. Healthy snacks, single-serve, flavor variety, resealability and combination mini-meals are all pushing snacks to new heights as a market segment, according to Trends and Advances in Food Packaging and Processing, a recent report from PMMI, The Association for Packaging and Processing Technologies.

All five trends are largely driven by the growth of Millennials as a legitimate buying force, with nearly 75 million Millennials currently in the U.S. This demographic is the largest in the U.S. workforce at

53 million, slightly ahead of Generation X. By 2025, Millennials will represent 75% of the global workforce, and they've become an established factor influencing consumer trends overall.

The growth of healthy, portable snacks

Healthy food options are reaching the level where labeling them a fad no longer applies. Consistently emerging as the top consumer request, healthy choices are growing significantly, with the global healthy snack market projected to surpass \$108 billion by 2027 at a 4% compound annual growth rate (CAGR), according to Market Research Future. Often referred to as "better for you" snacks, the seg-



Nut, seed and fruit snacks are projected to represent more than 25% of the entire bakery and snack market, creating a need for entirely new production lines dedicated to healthy snacks.

ment exploded in the last five years. By 2025 nut/seed and fruit snacks are projected to represent more than one-fourth of the entire bakery and snack market. From a production and packaging standpoint, this creates a need among consumer packaged goods (CPG) companies for entirely new production lines dedicated to healthy snacks.

Availability is the secondary driver of healthy snacks. With demand from Millennials increasing, convenience stores have expanded to include healthy options. Additionally, as single-serve healthy options grow, large retailers such as Wal-Mart are asking for smaller packages that allow them to meet demand and stack more on the store shelves. The packaged fruit snacks market alone is poised to grow by \$2.54 billion during 2020-2024, progressing at a CAGR of 9% during the forecast period, according to research from Technavio.

Equipment requirements for snacks on the go

Like the better-for-you trend, young consumer lifestyles are driving the single-serve movement. Millennials want reduced portion snacks for on-the-go consumption at lower calorie counts. These single-serve portions can be tricky to package, often containing combinations of meat, cheese, nuts, fruits, veggies and dips. While running somewhat counter to the single-serve trend at first glance, resealability continues to expand the possibilities of on-the-go snacking. Combination snacks, for example, can offer meats, cheeses, fruits and vegetables in containers that can be closed and finished at a different time without spoilage. An added zipper or slider assures the buyer that the product maintains freshness for bagged snacks.

CPGs need flexible equipment that can deal with various packages and packaging formats to handle these requirements. The packaging implications include growth in flexible pouch filling machinery (especially form/fill/seal equipment); shelf-ready secondary packaging machinery for single-serve natural snacks, like fruit or flow wrappers for bars; and an expansion in rigid tray filling and sealing equipment for combo snacks.

The expansion in package sizes for these combination and resealable snacks also creates more operational challenges for CPGs, who now face producing more SKUs than ever before. This explosion of SKUs is enhanced by the growing need to satisfy consumers' unique snacking preferences. CPGs are forced to find ways to package an ever-changing number of sizes and flavors, particularly in the savory snack market where tastes span the widest.

The value of automation

These consumer trends point to equipment investment as a necessity for CPGs in the next two to three years. Machinery needs to offer flexibility, increased speeds, and some level of modularity to allow baking and snack purveyors the opportunity to run different products with little downtime.

This need for greater flexibility will inevitably lead to increased automation use in the snack sector. PMMI's Automation Timeline: The Drive Toward 4.0 Connectivity in Packaging and Processing indicates that machine automation will rise from 65% to 95% over the next 10 years. In the same period, process optimization will increase from 30% to 90% and the practice of calculating overall equipment effectiveness (OEE)—a potential motivator for manufacturers to implement automated solutions—from 44% to 84%. In addition to calculating OEE, snack brands are adopting automated packaging solutions throughout their lines to achieve greater flexibility, labor utilization and sanitation.

Find solutions at PACK EXPO East

No other east coast event will offer a wider range of state-of-the-art packaging and processing solutions than PACK EXPO East, March 21-23, 2022 at the Pennsylvania Convention Center. With 400 exhibitors, it is conveniently located just a drive or train-trip away for most of the east coast, and provides a rewarding opportunity for CPG and life sciences professionals to explore packaging and processing technology, connect with suppliers and find the solutions needed to compete in a changing marketplace. To register or learn more, visit www.packexpoeast.com. For information about the PACK Ready Health and Safety plan, visit www.packexpoeast.com/packready. ■

About the Author

Sean Riley is the Senior Director, Media and Industry Communications at PMMI, The Association for Packaging and Processing Technologies.





FIVE KEY STEPS TO INCREASE FOOD PRODUCT SAFETY

ROBUST TESTING PRACTICES FOR FOREIGN BODY DETECTION REQUIRE VALIDATION, VERIFICATION AND ROUTINE PERFORMANCE MONITORING

By Robert Rogers, Senior Advisor of Food Safety and Regulation of Mettler-Toledo Product Inspection

If food contaminated with foreign bodies reaches retailers or consumers, the direct and indirect costs for food manufacturers are immense: high recall costs, a damaged brand image and customer cancellations of supply contracts.

This is why it is so important to install inline product inspection systems to detect foreign bodies on the production line. However, simply installing the machines is not a silver bullet. To be truly effective, they must be backed up with robust testing practices and staff must adhere to a number of process steps over the entire lifecycle of the inspection system. Only regular testing can confirm that system performance is within the set detection sensitivity specification, and that product standards of retailers, consumers and the Global Food Safety Initiatives (GFSI) are met.

There are five key steps to increase product safety, and within these steps, the issues of validation, verification, and routine performance monitoring are intertwined.

- Validation ensures the device meets the requirements for the detection of likely contamination risks with the specific product, and does so without exceeding the permissible false reject rate.
- Verification through regular assessments ensures the system works as expected, with test results documented. The expertise and qualifications of line personnel to carry out local tests and monitoring can also be included.
- Routine Performance Monitoring is a series of performance tests that are performed at short, regular intervals, confirming that the inspection system is operating according to expectations and within the defined limit values. If a critical limit value is exceeded, corrective measures are required to ensure non-compliant products are efficiently and cost-effectively removed from the production process.

With those issues in mind, here are the five steps to robust testing practices.

Step 1: Use of Correct Test Samples

The use of certified test samples and weights helps to ensure compliance with food safety standards, guidelines, and legal regulations, and guarantees that the inspection systems operate according to the correct specifications. Test samples are available in many different formats, with test cards being the most common format for dry applications, test balls or tablets suitable for applications with powdery materials, test rods recommended for free-fall metal detectors without a reject mechanism, test balls or rods for pipeline applications, and tablet-shaped test samples available specifically for X-ray inspection. For vertical metal detection applications, an Automatic Test System (ATS) is also suitable to detect metal contaminants such as ferrous, non-ferrous and stainless-steel metals.

Step 2: Use of suitable test products

The specification of suitable test products as well as the following requirements should be defined and integrated into the test procedures:

- the process of ensuring that a product is free of foreign bodies before test samples are inserted or attached
- the manner in which test products are prepared, including the positioning of the test sample inside or outside the test product
- the frequency with which the test products should be created, taking into account properties such as durability and shelf life of the product
- the procedure for marking test products to prevent them from entering the supply chain inadvertently in the event of a failed attempt

Test products outside of the food item can be used to test the fail-safe system. However, they should be similar in size, shape, and weight to the food products that are transported on the line.

There are a number of particular recommendations here that are specific to different applications. For instance, with packaged products, test samples should be placed at those points of the product that are most difficult to inspect. With metal detectors, they should be placed in the front, middle and rear section of the test products, while with X-ray inspection systems, the samples should be positioned both on and under the product.

Test tablets or test rods are usually used for bulk or loose products, and for free-fall applications with unpackaged products, the test samples should be introduced directly into the product flow. For pipeline applications, the test samples should be introduced into the production flow via a filler opening, and the product with the foreign body is then passed through.

Step 3: Compliance with recommended test procedures

Different test procedures may be required to comply with specific food safety codes of conduct. When testing for different types of foreign bodies, these tests should at least meet the following requirements:

- relevant standard recognized by the GFSI
- possible external customer specifications
- rules and regulations of the retail industry
- company-specific guidelines and test requirements

There are differences in test procedures when using either conveyORIZED metal detectors or conveyORIZED X-ray inspection systems. For metal detectors, the basic test and the preferred method is to test consecutive products, with (as a minimum) one test sample in the front, one in the middle, and one in the rear section of the test product. The metallic test sample should pass through the geometric center of the metal detector, as this is the least sensitive area. As an alternative, companies can choose to test isolated products, but this method has the drawback of not checking the reliability of the metal detection system with regard to the detection of several consecutive contaminated products.

For conveyORIZED X-ray systems, the tests should be carried out in the

most difficult area of the product in order to push the X-ray inspection system to the limits of its detection performance. Test samples should be placed randomly to ensure that the system is able to detect contaminated products regardless of their position in the production line.

In addition to testing consecutive products, retailers may require additional performance monitoring tests to be performed. These might include the memory test and the 'Large Metal Test'. With the memory test, three contaminated products (which should be rejected) and two non-contaminated products (which should be accepted) should pass through the metal detector. This is to confirm that the metal detection system is capable of distinguishing between 'good product' (no metal contaminants) and 'bad product' (metal contaminants present) when working at high speeds, with packs placed closely together on the line.

The large metal test serves to confirm that the photogating system on the metal detector is working properly, and it is recommended that the test is undertaken at least once a day, and ideally once a shift. In the test, a large metal test piece of 20 millimeter ferrous is introduced to the metal detection system, either on its own, or among other packs. The test is successful if the product contaminated with a large metal foreign body is detected, the test product is rejected and the production line is not blocked.

Step 4: Compliance with test intervals

GFSI recognized standards, customer and retail requirements and company guidelines regarding shelf life and product blocking times must all be considered when setting the frequency of tests. As a general rule, the test intervals must always be situated within the quar-



Northcore
INDUSTRIES

**Intuitive. Efficient.
Family-Owned.**

CALL
608 355 2898

EMAIL
info@northcoreind.com

EXPLORE
northcoreind.com


International Organization for Standardization
9001

antine period time, which is the time between when a product is produced and when it leaves the production site. The performance tests at the beginning and end of daily production should be emphasized, as these serve to confirm that the detection and rejection takes place in accordance with the specified standards and that any additional warning systems are functioning properly.

It is also advisable to carry out performance tests at regular intervals during the production run and at the beginning of a new product run. The aim is that every product that has passed the inspection system, since the last successful performance test, can be retrieved while still on site if the system does not pass the test. In addition, a performance test should be carried out with every batch change – especially if there are changes to the product type, or changes have been made to the product and/or system settings. A performance test is also required after repair-related downtimes, to ensure that the product inspection system and the reject mechanism are still operating according to the established standards.

Step 5: Electronic data management

The trend to automate data collection processes is rapidly accelerating. There are benefits in terms of time saved in the documentation and recording process, as well as a reduction in human error endemic to any manual data capture process.

A secure and up-to-date data solution actively supports food safety regulation compliance and helps prove due diligence. In addition, in the event of a product recall, all product quality data can be easily retrieved. Real-time documentation of all inspection test results,

and machine parameter changes also allows production issues to be quickly identified and resolved.

The proven method to automate data collection processes is to directly connect data management software to the inspection device. This facilitates communication between multiple product inspection technologies, and connects to a manufacturer's enterprise resource planning (ERP) or manufacturing execution system (MES).

Good testing guidelines and training ensure food safety

There are many considerations to make, and many procedures that must be followed, if food manufacturers are to detect foreign bodies on the production line and reduce the risks of product recall. The keys are to establish good testing guidelines at the start; to ensure that staff understand what is required and are able to perform suitable tests; and to maintain accurate, easily accessible records of testing activity. Product inspection technology of course plays a critical role, but it must be backed up by good operational practice which is demonstrated through robust and regular testing. ■

About the Author

Robert Rogers is the senior advisor for food safety and regulation at Mettler-Toledo product inspection. For more information, visit www.mt.com/pi.



www.hmcproducts.com

7165 Greenlee Drive • Caledonia, IL 61011

800-423-4198 • 815-885-1900 • F: 815-885-2775

email: hmc@hmcproducts.com

Bartelt® is a registered trademark of KHS-USA

the **NEW** Pouchmaster H/F/F/S

- Leasing Available
- Manufactured in the USA
- Zipper/Standup
- Trailing Clips - Large Pouches
- Special Die Cut Shapes
- Servo Retrofits
- Rebuilt Bartelts®/New HMC's Available
 - (1) IM 9-12
 - (2) IM 7-14
 - (1) Servo IM 12-9
 - (1) Liquid Post Fill Die Cut - 100 PPM



SUCKERS **BY THE ZILLIONS!**

FOR PRINTING, PACKAGING, & COLLATING



**A large variety of Rudow
Suckers available in rubber,
vinyl, silicone and other
materials**



William B. Rudow Inc.

Phone (941) 957-4200

Fax (941) 955-7666

www.suckers.com info@suckers.com

P.O. Box 2300 • Sarasota, FL 34230



THE ROLE OF THE INDUSTRY TO BOOST COMPOSTING

CENTRALIZED COMPOSTING DIVERTS FOOD PACKAGING WASTE FROM LANDFILLS, REDUCES EMISSIONS AND CREATES JOBS

By Douglas Horne, founder and CEO of Evanesce

Biodegradable materials may have been a good start, but they are just one step forward in a continuum to create a true circular economy. In the same way that resources and infrastructure needed to be put in place for recycling, so too must infrastructure be implemented to truly embrace the long-term benefits of composting.

Developing compostable products is a priority for the food service packaging industry, and packaging manufacturers are in a unique position to advocate for these sustainable packaging solutions.

Why is composting important?

Over 40% of municipal solid waste, in the form of food scraps and yard trimmings, ends up in landfills according to the U.S. EPA. Composting can dramatically reduce, if not eliminate this waste.

Further, food scraps and yard trimmings produce methane, a greenhouse gas with a global warming potential that in the short

term is more powerful than carbon dioxide. According to the EPA, landfills are the third largest source of methane emissions, annually emitting the carbon dioxide equivalent of nearly 250 million barrels of oil. The United States alone consumes about 20 million barrels of oil daily.

Lastly, composting can contribute to soil health. About 100 million acres, or roughly 30%, of US farmland is experiencing rapid erosion and taxing yield productivity.

What is the difference between composting and biodegradable packaging?

Waste that is “biodegradable” will disintegrate through a biological process. The challenge is that numerous biodegradable products, particularly plastics, can take years, even centuries to degrade.

Composting, depending on the process and the feedstock, can be accomplished within weeks or months. This process is different be-

cause it produces a nutrient rich, dirt-like material that can be used to enrich soil and nourish growth. Biodegraded material generally has no further purpose.

How much does packaging contribute to landfills?

Packaging and containers account for approximately 23% of waste in landfills. Compostable packaging, which circumvents landfills, can reduce this volume. Further, in the process, compostable material reduces methane gas emissions, preserves landfill space, and provides soil enrichment material. Along the way, it also conserves energy, reduces costs, and lowers the presence of litter on beaches and city streets.

How does compostable packaging aid in diverting food waste from landfills?

A landmark study by national nonprofit ReFED, found that out of the 27 solutions for reducing food waste that were studied, centralized composting was the most effective in terms of waste diversion, emission reduction and job creation.

A detailed analysis of a large, all-day festival, Farm Aid, and an evening concert at the Jiffy Lube Live Pavilion in Bristow, Virginia, found that the use of compostable material increased the potential for landfill waste diversion rates by approximately 81%. This composting infrastructure was in place for back of house preparation and at front of house waste disposal.

The study shows how composting diverts waste, but further, that the infrastructure, planning and organization around the process offers the opportunity for other material landfill diversion benefits.

Why is it important to introduce compostable packaging and composting infrastructure?

In one word, volume. As we have seen with recycling, the larger the profit opportunity, the more recycling occurs. The same principal applies to composting. Industrial-sized composting infrastructure requires industrial-sized investments. While this capital may be available, lenders and operators alike will need to develop the comfort that there will be enough production volume to achieve profitability. Compostable packaging can generate this volume.

The same principal applies to the supply side of the equation. Agricultural producers may favor the use of composting; however, need assurance that there is an adequate, stable supply before making the commitment.

Though there is the chicken and egg aspect to the challenge, large composting vol-



Introducing more compostable packaging and a composting infrastructure will ensure an adequate, stable supply of material for agricultural producers. (Image Courtesy of Evanesce)

ume and the investment it provokes are powerful drivers helping to launch industrial scale infrastructure initiatives.

Composting, like recycling, is a complicated and multi-faceted topic. Unlike recycling however, unravelling its challenges and complexities, leads to sustainable solutions, with larger and more important impacts. The critical path forward relies on understanding, but with action too. Industry leaders need to be advocates for composting solutions and continue to provide insights, actionable ideas, and leadership in the growing and vital role of these sustainable initiatives. ■

About the Author

Douglas Horne is the founder and CEO of Evanesce, and a serial entrepreneur specializing in corporate development across several industries. After decades of running successful companies, he founded Evanesce with a mission to challenge the crisis of plastics. He is a passionate advocate for sustainability and is dedicated to finding solutions throughout the industry. For additional information about composting and the sustainable packaging industry from Evanesce, visit their website www.evanesce.com.





See industry news and more product announcement online at www.PackagingTechToday.com

Glenroy, Inc. Joins APR

Glenroy Inc., a leading sustainable flexible packaging company joined the Association of Plastic Recyclers (APR) to support the success of plastic recycling and the future of the industry.

The TruRenu sustainable flexible packaging portfolio from Glenroy features high-barrier, recyclable pouches and film laminations that qualify for the How2Recycle store drop-off label program and the NexTrex Recycling Program. Their high-barrier post-consumer recycled (PCR) pouches and film laminations are made with up to 53% recycled content, and the award winning premade STANDCAP Pouch in a PCR format has up to 48% recycled content. The new recycle-ready premade STANDCAP Pouch is a 100% Polyethylene structure engineered to enable the future of recycling. For more information, visit www.glenroy.com.

The Association of Plastic Recyclers (APR) is an international trade association representing the plastics industry, and is The Voice of Plastics Recycling. For more information, go to <https://plasticsrecycling.org>.



The Association of Plastic Recyclers

Proud Member

COMBiLiFT

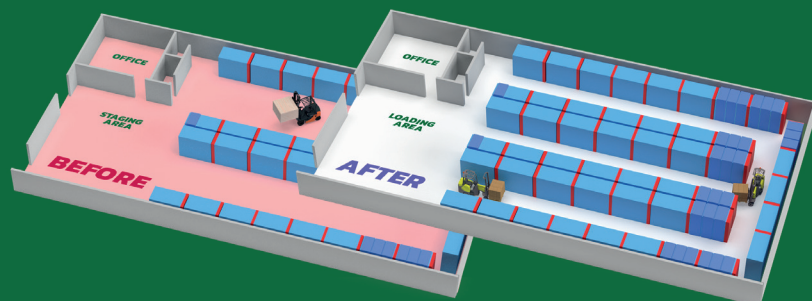
LIFTING INNOVATION

Safety / Storage / Efficiency

Gain up to 50% more storage with Combilift

Before you invest in upgrading the infrastructure of your warehouse, find out how Combilift can increase your storage, improve productivity and enhance safety. With over 23 years' experience in volume optimization, our team of warehouse planning experts know how to make your space work harder for you.

Contact us today to arrange a site survey! Our warehouse design consultancy service is **FREE** and without obligation.



Check out our website
Combilift.com

Tel: 877-266-2456





SUPPLIER PRODUCTS

Mondi & Henkel partner to launch fully recyclable mono-material refill pouch for Pril

Mondi has created a recyclable refill pouch enabling Henkel consumers to reduce plastic by 70% and helping Henkel to move closer to its sustainability targets.

Henkel's Pril hand dish-washing liquid is available in a 100% recycled PET pump dispenser bottle which can be re-used many times using refills packaged in Mondi's recyclable mono PE refill pouch.

The innovative pouch is light-weight, convenient to use, certified as leak-proof and highly durable even for home deliveries.

<https://packagingtechtoday.com>.



A-B-C Introduces Economical Snack Packer

Snack manufacturers looking to upgrade their hand packing lines have a simple, cost-effective and reliable solution with A-B-C's Model 19 packer. This efficient machine can reduce the labor required and eliminate the liability associated with the repetitive motion of hand packing, providing smooth and gentle product handling to maintain package integrity.

The packer automatically indexes and accumulates each product load before sliding it through stainless steel loading funnels into the shipping case. The operator simply supplies cases to the packer. This compact machine occupies only 75 square feet of floor space including infeed and takeaway conveyors. It runs speeds to 15 cases per minute depending on

cama
NORTH AMERICA
Innovation meets Experience



March 21-23, 2022
Philadelphia, PA USA
Booth 1906

IMMERSE YOURSELF IN GENERATION 4.0



Cama Group is a leading supplier of advanced technology secondary packaging systems, continuously investing in innovative solutions.

/CamaNorthAmerica

/company/cama-north-america

/user/Cama1Spa

Buffalo Grove, IL, USA . 847-607-8797
www.camagroup.com



Scan to Download
Brochure

the product and the pack arrangement.

Standard features include powered infeed with product sensors, no case-no load and no product-no load protection, full guarding with see-through panels, easy access operator controls, and product takeaway conveyor. It packs cartons, shrink-wrapped multipacks, rigid and semi-rigid containers into RSC, HSC and display cases and has features to ensure quick changeover.

A-B-C manufactures depalletizers, decasers, case erectors, sealers, packers, palletizers and accessory equipment for a wide range of applications. For more information, visit www.abcpackaging.com.

IMA Dairy & Food USA Zero Technology Tools

IMA Dairy & Food USA has introduced a set of ZERO Technology tools ideally suited for food brands utilizing sustainable mono-material packages. The company's patented tools are designed for manufacturers hoping to transition their packaging to more eco-conscious materials, such as PET, PP and PLA.

Ideally suited to IMA's Erca, Hassia, and Intecma brands of form-fill-seal (FFS) machines, ZERO Technology utilizes a patented punch process providing high-quality cutting and pre-cutting of PET, PP and PLA. This allows for easily breaking multipacks into individual units – a notoriously cumbersome



process that has limited the use of eco-friendly, mono-material packaging materials in many applications.

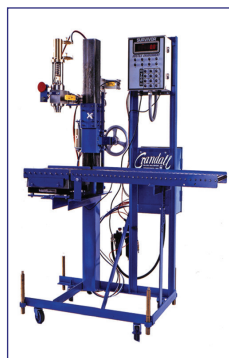
ZERO Technology uses independent sleeves that allows cup design changes without the need to manufacture an entirely new thermoforming mold. The solution can be easily dismantled for hassle-free maintenance, which can significantly extend the mold's lifespan while maintaining peak performance. For more information, visit www.imadairyfood.com



**110 + YEARS
IN THE PACKAGING INDUSTRY**

Crandall Filling Machinery, Inc.

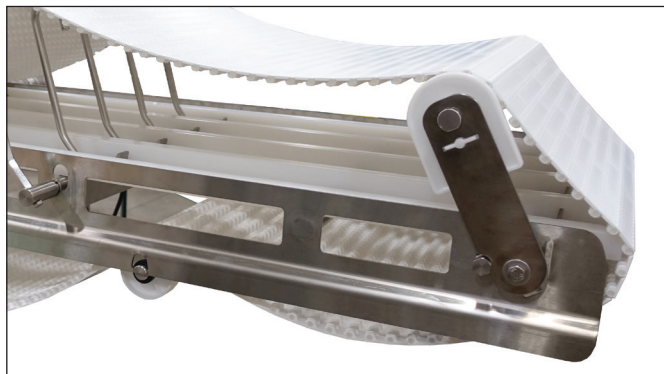
Family owned and operated since 1906, Crandall Filling Machinery, Inc. has been a leader in the design and manufacture of liquid filling machines and closing machinery for the food, chemical, paint and petroleum industries for a century. Recognized worldwide, our name is synonymous with quality when it comes to producing filling and closing equipment.



CRANDALL FILLING MACHINERY, INC.
80 GRUNER ROAD * BUFFALO, NY 14227
PHONE: 716-897-3486 * 800-280-8551
FAX: 716-897-3488
WWW.CRANDALL.COM
EMAIL: INFO@CRANDALL.COM

Crandall is the registered trade mark of the Crandall Filling Machinery, Inc.

- * CAN FILLERS
- * PAIL FILLERS
- * DRUM FILLERS
- * TOTE FILLERS
- * PAIL CRIMPERS
- * CAN CLOSERS
- * CAPPERS



Dorner's AquaPruf Ultimate Conveyor Platform Earns 3-A Certification

Dorner's AquaPruf Ultimate conveyor earned 3-A certification and meets the sanitary standards for the design and fabrication of equipment used in food processing. The 3-A certification was granted following an objective, independent third-party verification inspection.

Recent updates to the platform incorporate the latest engineering designs to provide the highest level of sanitary standards, and the fastest cleaning times for applications such as meat, poultry, fish and ready-to-eat foods. For more information on Dorner's AquaPruf Ultimate conveyor visit <https://www.dornerconveyors.com>

R.A. Jones Offers Machine Line Evaluations and Training

R.A Jones has expanded its asset management program to include comprehensive machine line evaluations and new training services. The program ensures CPG companies maximize their manufacturing uptime and are able to maintain a robust production line.

Part of a diverse, customizable service package that also features audits, preventative maintenance and field service agreements, the new elements provide even greater support for customers focused on improving overall equipment effectiveness (OEE), maintaining a skilled workforce and minimizing costly downtime.

R.A Jones also offers extensive evaluations to review the upstream and downstream activity of a complete production line to identify opportunities for operational improvement. Customers have the option to select the full suite of services, or individual elements. The program is currently available in North America, with select services available globally. For more information visit www.rajones.com/en

Pharmafill Conveyors Include Standard Pre-Threaded Hole Pattern

CV Series conveyors in the Pharmafill line from packaging machinery manufacturer Deitz Co. feature a clever design that repeats a series of pre-threaded mounting holes every 12

Replacement Lighting Systems Available

48" LED, color balanced, energy efficient with mounting hardware included. Direct replacement for older less efficient fluorescent lights. *Improve your productivity!*



Progressive Ergonomic Movement



Proudly Made in the U.S.A.

Since 1984

BRUTE Not Needed

CM3000 - 2000 lb capacity
Heavy-duty extruded aluminum with adjustable height and shelf height

Ergonomic Work Stations Meeting the Needs of Warehouse Facilities

Dealer inquiries accepted.

Contact us for information and your local dealer today at:

Call: (508) 481-3322 • Email: info@Omtec.com • www.Omtec.com

Innovative, modern and adjustable design. Affordable and well built with the highest quality non-corrosive materials.

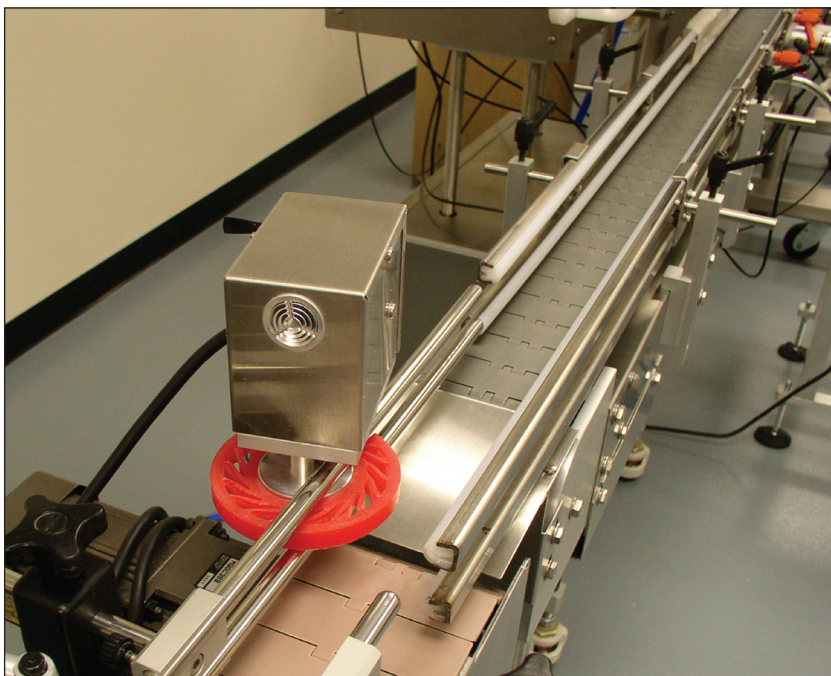


inches on both sides of the conveyor body.

Devised to help food, pharmaceutical, nutrition, and contract packaging companies manage a wide variety of products on the same filling and packaging lines, the Pharmafill conveyors enable reject stations, spacing wheels, transfer plates, rotary turntables, bottle indexing air cylinders, and other attachments to be quickly added and removed as needed based on the product.

The modular conveyors allow segments to be added in standard three- and six-foot sections plus one-foot increments to fit neatly in any configuration. Stainless steel construction, variable speed drive, adjustable guide rail system, and adjustable-height support legs with floor levelers are included as standard.

The motorized chain conveyors are manufactured with the pre-threaded mounting hole system at the company's Wall, New Jersey headquarters. A full warranty is included. For more information, go to www.deitzco.com.



Electronic Article Surveillance
RFID-Labels
Airline-Tickets
Inmould-Labels

Development and design of machines,
modules and spare parts for the
production of
Labels

Register Punching
Parking-Tickets
Price Labels/Hang Tags

Bottle Labels/Wet Labels Razor Blade Holders
Perforating Rules

Hollow Spring Knives
Entry-Tickets

Transport Holes

Punch Cards

Selfadhesive Labels

Tea-Tags/Tea-Bags

Vector technology, suitable for Digital, Flexible packaging and Foil printed materials

With the RSM-DIGI-VARICUT, a new generation of Rotary die cutting, using a modular system for materials with a web width upto 850 mm wide and a print length up to 1.220 mm. There are several systems available for the collection and distribution of the finished product including the High Speed Robot "Spider". Contact us.

www.schoberusa.com

if you are interested in Die Cutting, Punching,
Cutting, Perforating, Creasing, Scoring,
Embossing, Sealing, Ultrasonic
Welding, Dispensing, Cut & Place,
Collating, Folding, Gluing/Bonding
or Laser Applications...

Please contact us, we can assist you!

SCHOBER USA

4690 Industry Dr., Fairfield, OH 45014

Ph: 513-489-7393 Fx: 513-489-7485

solutions@schoberusa.com



ROYAL[®]

BASKET TRUCKS

www.royal-basket.com
800.426.6447

**Collect, Sort, &
Transport with
Efficiency!**



Experience the Difference in Quality. [f](#) [in](#) [ig](#) [tw](#)

AD INDEX

Ace Controls Inc.	2
www.acecontrols.com	
CAMA North America	27
www.camagroup.com	
Combilift USA	26
www.combilift.com	
Crandall Filling Machinery	28
www.crandall.com	
CTM Labeling Systems	3
www.ctmlabelingsystems.com	
EBS Ink Jet Systems USA	5
www.ebs-inkjet-usa.com	
Fibre Box Association	BC
www.fibrebox.org	
HMC Products Inc.	22
www.hmcproducts.com	
Logical Machines	31
www.logicalmachines.com	
Lotar Enterprises	17
www.lotarenterprises.com	
Northcore Industries	21
www.northcoreind.com	
Omtec Corp.	29
www.omtec.com	
Paxton Products	7
www.paxtonproducts.com	
Pflow Industries Inc.	15
www.pflow.com	
Royal Basket Trucks Inc.	31
www.royal-basket.com	
Schober USA Inc.	30
www.schoberusa.com	
Totani America, Inc.	11
www.totaniamerica.com	
Universal Labeling Systems	FC
www.universal1.com	
William B Rudow Co.	23
www.suckers.com	

The Perfect Coffee Filling Machine

**We understand the needs of
coffee roasters. The Model
S-4 Coffee Filling Machine:**

- Arrives fully assembled
- Is easy to set up, maintain, and operate
- Allows you to start filling coffee quickly without a lot of fiddling with controls and settings
- Has proven user friendly design and trouble free reliability
- Is made in the USA by a company that supports your values
- Is available in floor stand and table top stand models



Model S-4
with Table Top Stand

For more information visit our website:

www.logicalmachines.com/coffee-machine

**LOGICAL
MACHINES**

1158 Roscoe Rd., Charlotte, VT 05445
lminkler@logicalmachines.com
802.425.2888

Made in Vermont, USA

Packaging

TECHNOLOGY TODAY

PACKAGING TECHNOLOGY TODAY
A RDG Media, Inc. Publication
P.O. Box 80915
Rochester, MI 48308

BOXES.

THE MOST *extraordinary* ORDINARY THING IN THE WORLD.

Meal kits. New shoes. Home décor. Only one container is flexible enough, clean enough, cushioned enough and strong enough to ship all the products today's consumers shop for online. They click it, corrugated ships it. Cushioned. Clean. Extraordinary.

Learn more about the renewability, recyclability and responsibility of boxes at boxesareextraordinary.com.



FIBRE BOX ASSOCIATION®