

Adapt, Embrace and Innovate at Pack Expo 2019

Matthew Jaster, Senior Editor

Pack Expo Las Vegas (Sept. 23-25; Las Vegas Convention Center), co-located with Healthcare Packaging EXPO, showcases the latest packaging technologies to help manufacturers improve operations and stay competitive.

The show brings together 2,000 exhibitors and 30,000 attendees over 900,000 net square feet of exhibit space from 40+ vertical industry markets and nearly 130 countries.

Trade Show Talent

PTE magazine recently caught up with **Laura Thompson** who began as the PMMI receptionist 20 years ago, fresh out of Baylor University. She received her first taste of the show department as the international expositions coordinator before a brief stint in global marketing organizing international pavilions for PMMI members at both PMMI and non-PMMI events. When PMMI took over sole ownership of Expo Pack México, Thompson moved back into the show department managing the PMMI Pavilion and all show operations for the largest packaging and processing event in Latin America.

Upon her promotion to director of trade show operations, all operations in the Pack Expo portfolio of trade shows became her responsibility. As Thompson's role expanded to the overall management of the Pack Expo portfolio of events as well as PMMI's contracting business Pack Expo Services (PES), she was promoted to senior director, expositions. Thompson has had responsibility for the operations of all Pack Expo events in the U.S. and Mexico, and helped lead the successful launch of three new shows: Expo Pack Guadalajara, Pack Expo East and ProFood Tech. In April 2019, Thompson was promoted to vice president, trade shows.



New for 2019

This year's show will include never-before-seen features that will connect visitors with the latest robotics technology, showcase suppliers' innovative solutions and provide opportunities to meet with students and veterans exploring careers in packaging and processing. Here's a rundown of some of the new features, technologies and presentations available at this year's show:

The Robotics Zone debuts in Las Vegas, featuring the latest advancements in industrial robots, with live demonstrations of artificial intelligence, end-of-arm tools, collaborative robots (cobots) and pick and place/relocation activities, including:



- Object Detection and Flexible Grasping with Artificial Intelligence Demo sponsored by Siemens Digital Industries US
- Comau's Interactive Wearable Exoskeleton, allowing attendees to try on a wearable suit and perform assisted tasks and product handling
- Soft Robotics' End-Of-Arm Tool Exhibit, demonstrating an end-of-arm tool designed to mimic the human hand to grasp and manipulate items that vary in size, shape, and weight
- The KUKA Robotic Pianist live in concert
- The Ready Robotics Bowling Robot
- Pick and Place/Relocation activities in action, compliments of the University of Waterloo and Septimatech Autonomous Robot
- Omron Greeter Robot
- PACK for a Purpose: Robots Fighting Hunger, robots will be packing food into backpacks to feed children on the weekends, in collaboration with Blessings in a Backpack. Exhibitors Bosch Packaging Technology, Inc., Chicago Electric, FANUC America, ProMach Performance Services with ABB, Soft Robotics, and Cognex and Universal Robots in partnership with Allied Technology will supply robots for this cause.

The industrial robot market in the Americas was estimated to be \$3.5 billion in 2017, with the U.S. accounting for more than 70 percent of sales, according to PMMI's whitepaper Industrial Robot Opportunities in Food and Beverage Processing.

"Also new in 2019, the first Technology Excellence Awards will recognize exhibitors' innovative technologies being shown for the first time at Pack Expo Las Vegas and Healthcare Packaging Expo. All registered attendees will be able to vote during the show on their favorites among the finalists selected in specific market segments," said Thompson.

Finally, CareerLink, PMMI's online job board, is going live for the first time at Pack Expo Las Vegas and Healthcare Packaging Expo in 2019. CareerLink LIVE @ Pack Expo is an opportunity for PMMI, CPA, The Association for Contract Packagers and Manufacturers, Institute of Packaging Professionals (IoPP) members and consumer packaged goods (CPG) companies to conduct one-on-one, on-site interviews with students and veterans pursuing careers in packaging and processing.

Smart Packaging

PMMI's 2019 Flexible Packaging Marketing Assessment reports that the U.S. flexible packaging market witnessed accelerated growth of 61 percent from 2000 through 2017. The market is expected to continue to expand in almost all categories and will continue to increase at a 3.1 percent CAGR through 2023, reaching a market size of \$391.6 billion USD.

"This growth is driven by both consumer preferences for convenient packaging and industry demands for sustainable and consumer-friendly packages. Food remains the largest end-use industry for flexible packaging, and two segments—processed food and vegetables and baby food—are expected to outperform the overall food market through 2023," said Thompson.

"The report also notes that key technology developments, like intelligent packaging, continue to support packaging growth across a broad variety of manufacturing segments. Active and intelligent packaging through RFIDs and smart labels can be used to identify product location. RFID labels, which are easy to add to most flexible packaging could diminish the number of stolen items and allows for cashier-less stores like the one Amazon is opening," she added.

By implementing RFID within its flexible packaging, companies can scan and obtain data for all inventory items immediately across the entire value chain. The constant need to monitor the state of goods is fueling the growing popularity of sensors being used to track temperature and quality, especially in the food, beverage and pharmaceutical industries. 2D barcodes are also a major opportunity within smart packaging and is being enforced by serialization laws, Thompson said.

Pack Expo Las Vegas attendees can find the flexible and smart packaging solutions to suit their needs in industry-specific pavilions. The PACKage Printing Pavilion in the Central Hall will focus on the advantages of digital printing, showcasing the latest in cost-effective solutions for smart packaging, as well as short-run, on-demand, cost-effective, variable data and personalized packaging. The Reusable Packaging Pavilion, sponsored by the Reusable Packaging

Association (RPA) and located in the Upper South Hall, will showcase sustainable packaging solutions, to help reduce waste, cut costs and gain chain efficiency.

The Containers and Materials Pavilion in the Lower South Hall will showcase the latest innovations in flexible, resalable, paperboard, glass, metal and plastic packaging as well as containers and materials. The Showcase of Packaging Innovations, sponsored by Dow, is located within The Containers and Materials Pavilion and will display award-nominated, creative packaging solutions.

"Attendees can also join educational sessions on smart and flexible packaging presented by exhibitors at the Innovation Stage in the Central Hall. This year's presentations will include insights on sustainability in flexible packaging, films, gas permeability and smart packaging advances. Sessions are free and open to all attendees," Thompson said.

Mobility and Automation

Thompson believes automation in the packaging industry is at a pivotal juncture. New technology is available and underway, and there is a competitive demand to adopt technology on the plant floor to obtain flexible and efficient operations. According to PMMI's 2017 report The Evolution of Automation, 69 percent of end users forecast increasing capital spending budgets, and some have a dedicated budget for automation. Automation on the plant floor is being driven by lack of skilled labor and labor shortages, global increase in product demand, flexible manufacturing, demand for consistent quality products, overall operating cost reductions and smart machine technology and cobots.

"Packaging operations are embracing automation in case tray handling machinery. With the increase in the number of case shapes and sizes, the reduced thickness of the material, and the need for unblemished end products, automation is being used to ensure smooth acceleration and precise movements throughout the packaging process. Automated machinery is also being used in form, fill and seal, with advancements including servo-driven jaws and vacuum belts for sealing applications," Thompson said.

Sustainability and Energy Efficiency

Sustainability and energy efficiency have become an integral part of packaging industry due to consumer demand and game-changing trends like the heightening demand for organic products and rapid growth of online retail. The push for more recyclable materials in packaging is leading to creative developments like a recyclable bottle made of paper.

Demand for ready to eat or convenience foods and sustainability trends have helped to bring about a recent surge in polypropylene demand. Benefits of using polypropylene include its lightweight, clarity (allowing customers to see through to the product), affordability, sustainability and resistance to high and low temperature, such as that in a microwave oven or a freezer, while maintaining freshness and durability. As this material satisfies many current consumer and manufacturer packaging concerns, it is expected that demand for polypropylene packaging will increase and potentially take share from PET in food packaging applications, according to

PMMI's State of the Industry 2018 report.

"Sustainability concerns have also helped to drive other changes such as cap size reduction, use of lighter materials and reduced label thickness and material waste. To enable this, OEMs are making efforts to ensure that machines can handle thinner materials and optimize material usage. This will reduce material consumption and therefore product weight, ultimately reducing material and transportation costs," Thompson said.

Demand for sustainable packaging is pushing flexibility in case handling machinery as end users are looking for the flexibility to handle both non-recycled and recycled materials in with the same machine. "Additionally, sustainability is driving demand for non-heated adhesive application machinery, which eliminates the need for heat by using adhesives such as foam, ultimately saving energy and increasing safety. The amount of material being used in packaging operations is also being optimized to reduce waste while maintaining the integrity of the case," she added.

Robotics

For Thompson, robotics is no longer just a tool; it is a force in the industry driving a revolution of change in manufacturing. Improved vision sensors have allowed robots to become more accurate when picking objects, safer when operating around humans and more consistent in their ability to reject faulty products. Robots are also becoming more affordable and simpler to operate. PMMI's 2019 Robotics Innovation 2 Implementation Report found that 70 percent of OEMs interviewed predicted increasing the use of robotics on their machines to meet the application demands of end users. OEMs adopting robotics can expect to achieve increased speed and throughput, reduction in labor costs, improved product quality, more flexible manufacturing and improved worker safety.

"Cobots are some of the newest tools available to companies of all sizes—they are compact, moveable and affordable. Although traditional robot adoption is more widespread, cobots will find their niche along the line for simple, slow motion applications and for reducing repetitive tasks, like pick and place, assembly, dispensing, loading and unloading. Cobots can also be used in secondary packaging applications like carton loading, case packing, case sealing, retail ready, tray unloading and variety packing/bundling," Thompson said.

Some of the cobot products and devices currently on the market are not able to fully meet all the requirements expected of safe human-robot collaboration. The development of new sensor and robotic technologies, like capacitive skins that react to contact, along with intelligent control systems, is fundamental for future cobot applications. Robot software is becoming easier to manage for most commonly used robots, especially cobots, but it can still be a challenge, and the lack of skilled workers to operate robotic machinery is top of mind across the industry.



Additional Highlights

As augmented reality (AR) and virtual reality (VR) technology advances, companies can leverage data to develop packages that will catch consumer attention. Clemson University's Data Driven Packaging Design exhibit in the Upper South Hall will provide insight on real-time consumer preferences from Clemson's eye tracking study; dive into AR/VR demonstrations and test live emotional analytics.

Thompson said that the packaging industry, like other manufacturing industries, is facing a shortage of skilled labor to operate advanced machinery. The Workforce Development Pavilion is PACK EXPO Las Vegas' one-stop-shop for resources to strengthen the current workforce and grow the existing workforce. Visitors will learn about PMMI U offerings, including training workshops. Schools will present mechatronics, packaging and processing offerings, and you can meet students interested in careers in the industry. "PMMI is also offering training workshops in Las Vegas to coincide with Pack Expo Las Vegas. Attendees can join a risk assessment workshop, a certified trainer workshop and a fundamentals of field service session," she said.

Packaging Evolution

The Pack Expo portfolio of trade shows is constantly evolving to meet changing industry needs and provide solutions for new challenges.

"With the introduction of the Packaging & Processing Women's Leadership Network (PPWLN) Breakfast, Pack Expo Las Vegas offers attendees the opportunity to hear from women leaders in the industry and connect with peers through networking exercises and shared experiences. Ellen Ochoa, the first Hispanic woman ever to go to space, is the keynote speaker at PMMI's PPWLN breakfast taking place during Pack Expo Las Vegas. The latest in a series of networking events, this year's theme Exploring New Territory, will shine a spotlight on Ochoa—who, in addition to her four space missions, is only the second female Director of NASA's Johnson Space Center where she led the human space flight enterprise for the nation from 2013 to 2018. The breakfast will take place on Tuesday, Sept. 24, 2019 at 7:30 a.m." Thompson said. **PTE**

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