

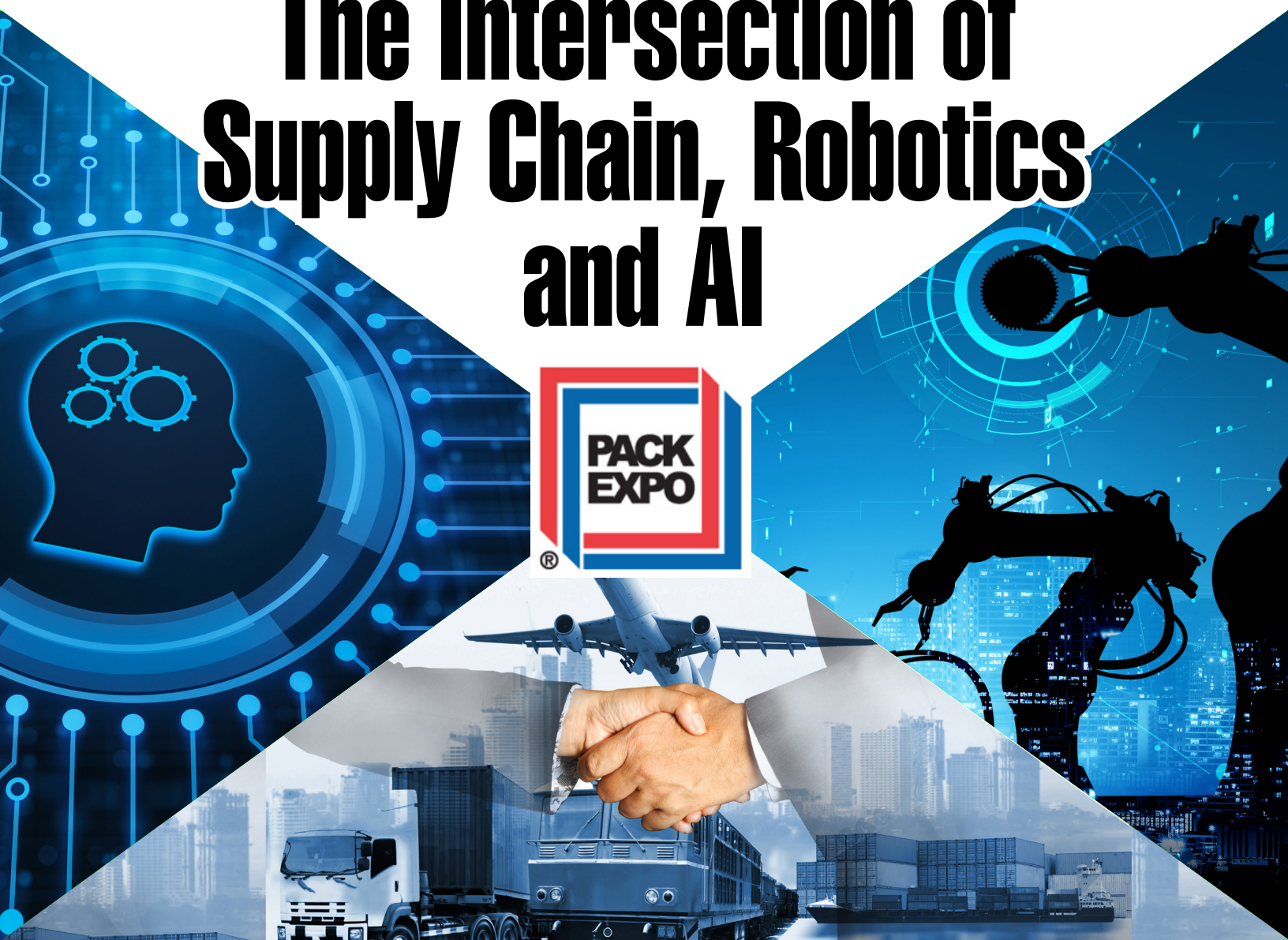
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PACK EXPO 2023:

The Intersection of Supply Chain, Robotics and AI



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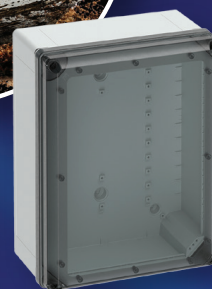


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AKIII

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12.4 x 11.8 x 6.1 in to 12.4 x 29.5 x 6.1 in

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- Top/bottom interchangeable flange endwalls
- Height-adjustable mounting rail

GEOS

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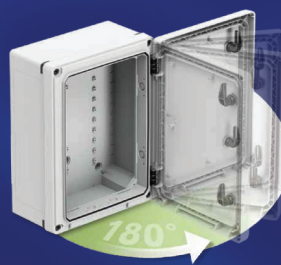
11.8 x 11.8 x 7.1 to 19.7 x 15.7 x 8.9 in

- 20 configurations
- Hinged and non-hinged
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- Corrosion resistant
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System



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**PACKAGING.
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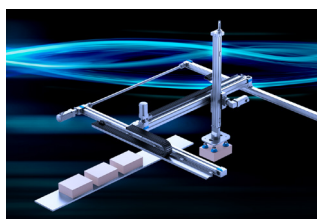
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- Push Pull

22 mm Uni-Body

- Momentary
- Push Pull
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Shrouds



Mechanical Indicator

- 22 mm Plastic

Padlock & Lock-Outs



Metal Enclosure



Complete Assembly



Legend Plates



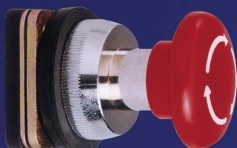
22 mm

- Momentary
- Push Pull
- Push Turn
- Key Release



30 mm

- Momentary
- Push Turn



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WEBINAR

A Dynamic, Connected Supply Chain

Machine Design webinar discussion with MxD CEO Berardino Baratta looks at how technology is strengthening the material handling industry.

At [Pack Expo 2023](#), the supply chain was a major topic of discussion. A recent *Machine Design* webinar, “[A Dynamic, Connected Supply Chain](#)”, took a much deeper dive into the topic. [Sponsored by Fabco-Air](#), the webinar featured a discussion between MxD CEO Berardino Baratta and Bob Vavra, senior content director for *Machine Design*. Among the topics covered:

- What’s the current state of the supply chain? How have manufacturers and suppliers addressed the systemic failures of the past two years.
- How do technologies such as motion control, sensors and vision systems work together to deliver improved efficiency and pick accuracy on plant floors.
- How do manufacturers better secure their supply chain data to

MachineDesign.

Industry insights



Hosted by **Bob Vavra**
Senior Content Director
Machine Design

WEBINAR

A Dynamic, Connected Supply Chain



Berardino Baratta
CEO
MxD

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ensure data flows smoothly and swiftly to improve productivity while minimizing the threat of cyberattacks.

- What strategies should packaging and manufacturing teams employ to

ensure greater efficiency—and what strategies most often get overlooked? To review this informative and entertaining webinar and other *Machine Design* webinars, go to www.MachineDesign.com/webinars.

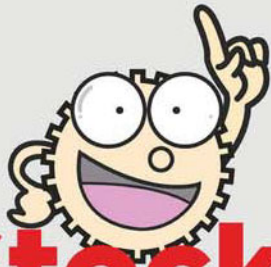
VIDEO

On The Floor At Pack Expo With Altech

Dave Krochta, national sales manager for [Altech Corp.](#), discusses Pack Expo 2023 and Altech’s connections to the event as well as some of the protect offerings at this year show in Las Vegas.

courtesy of Altech





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INTRODUCTION

Big Ideas, Smaller Packages

Pack Expo 2023 conveys a strong, strengthening supply chain



Bob Vavra,
Content Director for
Machine Design and
Power & Motion

After a week of record attendance and an optimistic view of the future of supply chain management, [Pack Expo 2023](#) ended its three-day run in Las Vegas with show officials crowing about the event's success.

"Pack Expo Las Vegas was a huge win for the packaging and processing industry," said Jim Pittas, president and CEO of PMMI in a press release. "From attendance to exhibition space to educational sessions, the show surpassed expectations to provide our largest, most comprehensive show to date. This is proof that the industry continues to thrive and show-up to provide the most innovative, sustainable, effective solutions the world has to offer."

Pack Expo set a record for attendance, with more than 32,000 packaging professionals traversing the 1 million sq ft and 2,300 exhibitors from Sept. 11-13 at the Las Vegas Convention Center.

In its first full post-pandemic year, Pack Expo delivered value. Show officials, exhibitors and attendees all said they found value in the chance to showcase



image courtesy of PMMI

not just the latest technology breakthroughs around robotics, sensors, data management and equipment, but also strategies to enhance sustainability and energy management.

“Our goal was to meet potential customers and share more about our company offerings and values in an up close and personal way. It was pretty amazing to have this level of access to buyers and experience all the machinery in action,” said Ryan Cabral, sales and operations manager, Ideal Solution LLC, in a press release.

The sustainability theme was among the most discussed—and visible—issues on the floor at Pack Expo. The circular design process looks at the life-cycle of any machine from its inception through design, operations, end of use, and then considers decommissioning and the recycling of the machine components into other new design. Beyond that, individual exhibitors were touting use of new materials and manufacturing and packaging techniques to advance the use of sustainable materials throughout the packaging process.

A PMMI study cited at the show found consumer package goods brands and retailers were using “flexible film” in industry packaging. The report stated 79% use plastic in packaging and 61% using paper, while just 14% are using glass

and 13% use metal in packaging. Despite the value to both consumers and the environment in the use of plastics and paper, the report cited a key barrier in the effective use of sustainable materials.

The PMMI report summarized [a study by The Recycling Partnership](#): “Establishing a circular economy for flexible films will necessitate a substantial expansion in recycling infrastructure that involves better collection, sortation and end-of-life reprocessing potentially including widespread use of chemical recycling,” a process that reverses the creation of plastics and polymers.

The PMMI/AMERIPEN report concluded, “A circular economy can be achieved by focusing on how best to invest in recycling and composting infrastructures across the U.S. and tying that dialog to what is happening with packaging design and the multiple variables packaging designers must juggle.”

Those thoughts were echoed by show attendees. “We came to PACK EXPO Las Vegas to find more sustainable packaging options,” said Brooke Ervin, packaging engineer, Mopar (Chrysler Service Parts Division). “Particularly, we’re interested in returnable packaging. We’ve already seen possible solutions on the show floor and visited Sustainability Central. This show is where we need to be.” ••



image courtesy of PMMI

FEATURED PRODUCT PROFILE

BALLUFF

How do you avoid unplanned machine downtime?

Balluff's condition monitoring toolkit (CMTK) provides a plug-and-play unit that contains everything needed to monitor the condition of your processes and machines, including data acquisition and visualization.

CONDITION MONITORING DATA allows for predictive maintenance, minimizing unplanned downtime and unnecessary costs. Until now, retrofitting plants to add condition monitoring has been a costly and time-consuming venture that manufacturers wouldn't or couldn't take. The CMTK provides an easy-to-implement solution for adding condition monitoring to existing machines and applications. It allows manufacturers to quickly gain insights into the actual condition of their machines and systems, allowing them to detect problems early.



The CMTK runs independently, providing actionable data no matter what controls systems are in place. The base unit is a miniaturized computer which can be installed on a DIN rail in a control cabinet for easy deployment. Four IO-Link ports allow the addition of sensors to measure factors like temperature, vibration, humidity, and pressure. Built-in software stores this data, visualizes it on a dashboard, and sends alerts. Built-in LAN ports connect the CMTK either directly to a computer or to an existing computer network.

This flexible system provides a smart and low-cost way to retrofit plants with comprehensive machine monitoring.

www.balluff.com

- Unified retrofit solution for machine and process monitoring
- High flexibility through the connection of up to four arbitrary IO-Link sensors
- Plug-and-play commissioning of the system and visualization of the data
- Output of warning messages when adjustable limit values are exceeded
- Self-sufficient system with data storage – independent of cloud and machine control
- Remote monitoring from any location thanks to network integration

NEW PRODUCTS

Pack Expo Products Put Innovation On Display

Solution debuts extend beyond the packaging and distribution space.

Product innovation introductions are the life-blood of trade show events. At Pack Expo 2023 on Sept. 11-13 at the Las Vegas Convention Center, exhibitors rolled out new ideas that are specific to the packaging industry but have applications beyond the conveyor line. It also featured some new alliances and mergers that will shape the packaging industry for the future.

The swirling movement of product demonstrations throughout the Pack Expo 2023 show floor in Las Ve-

gas conveys more than materials. The strong industry growth cited by PMMI officials at the start of Pack Expo was on display, and the large crowds that showed up for the week were looking not just at new product lines, but at new ways to manage materials and systems.

Pneumatics remains a primary driver of packaging and conveyance systems for the industry, but the continued rise of electrification for either material movement or packaging was evident at the show. One leading example of this was [Emerson's acquisition of Swiss linear mo-](#)



image courtesy of PMMI

tion company Afag in August. Pack Expo was the first chance to showcase the combined technologies between Emerson and Afag, one that Emerson officials said in a press release would “enhance Emerson’s capabilities in factory automation, one of the Company’s four priority adjacencies, and create a leading motion portfolio combining Afag’s electric linear motion solutions with Emerson’s pneumatic motion technology.”

“As discrete and hybrid customers continue to accelerate electrification across their manufacturing processes, Afag’s technology is ideally suited to provide improved energy efficiency and performance gains,” said Ram Krishnan, chief operating officer of Emerson, in a press release. “We look forward to combining Afag’s motion capabilities with our existing pneumatic leadership, creating a unique and differentiated solution for our customers.”

Other companies were showing how their use of emerging technologies were remaking—or in one case, remarking—some traditional systems.

Videojet offered an array of new solutions for the laser marking, laser printing and vision systems with a focus on Wi-Fi and cloud connectivity.

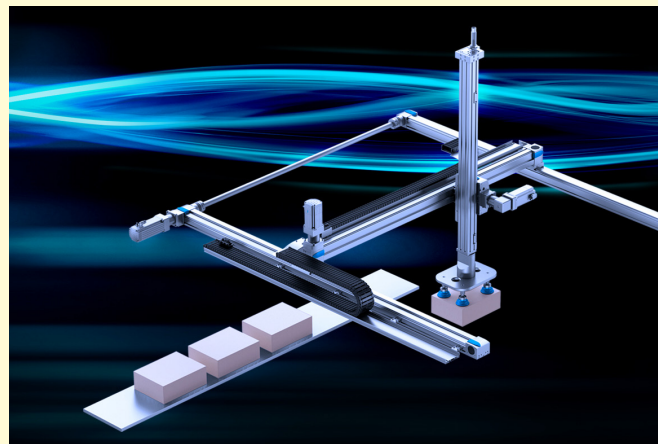
“As part of its core commitment to innovation, connectivity and sustainability, Videojet is laser-focused on developing and enhancing digitally enabled solutions for remote service and support, sensors, marking and coding control systems, vision systems and software for IoT and Industry 4.0 applications,” company officials said in a press release.

One example is the [Videojet 1580 +](#), which offers Wi-Fi and cellular connectivity to measure fluid consumption in the printing of codes, dates and other variable data on products and packaging.

At the other end of the packaging process, PCB Linear was showcasing how robots and cobots could be deployed to augment or supplant human interaction with potentially unsafe case packing. Company officials said [the PCB Linear Cobot Feeder](#) “addresses the problem of finding enough workers to tend machines.”••

New Products On Display

Among the new products on display at the show:



[Festo](#) presented the CPX-AP-A distributed I/O solution. The CPX-AP-A distributed I/O has modules attached within a terminal. AP modules, whether on-terminal or individual, are IP65/67 rated and can be located in cabinets, in clusters around the cell, individually placed, or separated at great distances.

Festo also will debut its multi-axis solutions shown at Pack Expo, including rotary and linear single axes, multi-axis design tools, and cable management. All the axes are designed to integrate for quick assembly while expanding the range of multi-axis motion.



[Beckhoff](#) showcased the North American debut of its integrated Beckhoff Vision portfolio. “The introduction of new cameras, lighting and lensing

will enable engineers to implement robust image processing directly in a standard PLC environment with perfectly paired hardware. The new equipment complements the proven TwinCAT 3 software, which covers machine vision and all other areas of automation,” Beckhoff officials said in a press release.

Beckhoff also will showcase updates to the TwinCAT 3 automation software, including a technical preview of TwinCAT Chat, which integrates ChatGPT directly into the controls environment. This will allow engineers to harness generative AI to automate everything from debugging and adding notes to programming function blocks from scratch.



Bosch Rexroth displayed both product technologies and factory automation solutions for CPG manufacturing. The booth featured the ctrlX AUTOMATION-powered demo in conjunction with a Kassow collaborative robot. Sean Spees, the Bosch Rexroth market segment manager for CPG, spoke at a presentation entitled, “Harmonizing Factory Automation and Digitalization”.



BW Packaging, Barry-Wehmiller’s packaging division, showcased its five business lines. The booth will be aligned with BW Flexible Systems, BW Rigid Systems, BW Labeling, BW End-of-Line and BW Integration.

INNOVATORS HONORED AT PACK EXPO –

Pack Expo attendees voted for the most outstanding innovations on the show floor.



The **winners of the 2023 Excellence Awards** were:

- Aneko Emsys for Food/Beverage
- AI Enabled Augmented Reality for Transforming Packaging Operations
- Harpak-ULMA Packaging for General Packaging and Processing
- Catalyx Digital LineClearance Assistant for Personal Care/Pharma
- Amcor HealthCare Recycle Ready Sachet for Sustainability

EXPO BRIEFS

Packaging Growth Focuses on Strong Markets, Changing Consumers

Pack Expo 2023 opens with a look at the state of the industry

By Bob Vavra

The packaging industry is taking a respite from its double-digit growth of the last two years, but that doesn't mean a decline in business, according to a new report released at Pack Expo 2023 in Las Vegas on Sept. 11.

Jorge Izquierdo, vice president, market development for PMMI, the presenting association at Pack Expo, said in his overview of the State of the Industry Report, said there were a number of packaging sectors that grew rap-

idly during the pandemic, which fueled overall industry growth. On the other side of the pandemic, growth is still expected to be solid.

"Industry-wide, packaging industry remains strong," Izquierdo said. "We're expecting growth in pharma in next two years, and there are other areas of the market where we are finding opportunities. COVID delivered significant growth for e-commerce, and direct sales are having a lot of impact."

Coming off its two highest years of growth ever, the packaging industry expects to continue to grow at more typical rates, Izquierdo told members of the media at a Monday luncheon. "It's not a double-digit growth year. We're expecting between 3.5% and 4% growth," he said. "If you look at 2020, it was complicated. We saw a slowdown in first half of the year, and then growth was sustained into 2021. We had close to 16% growth in 2021, fueled by effects of COVID and us changing our habits. We saw a slowdown just a bit to 12.4% in 2022. But that still was very robust growth, fueled a lot by industrial automation."

Izquierdo also noted the supply chain challenges that disrupted packaging and other industries are still working themselves out in 2023, which also has impacted growth numbers. ••



Sustainability Is The Word at Pack Expo

By Bob Vavra

In an industry noted for its consumables, the packaging industry is looking past simple recycling of materials into a sustainable and even circular packaging future.

In his overview of global packaging trends, Pierre Pienaar, president of the World Packaging Organisation, told a media luncheon that sustainability tops the list of major issues facing global package suppliers and customers. He also noted the efforts have gone beyond merely a tagline for a public relations effort.

“Sustainability is #1,” Pienaar said. “The word was spoken, but there was no action. The picture seems to be changing.”

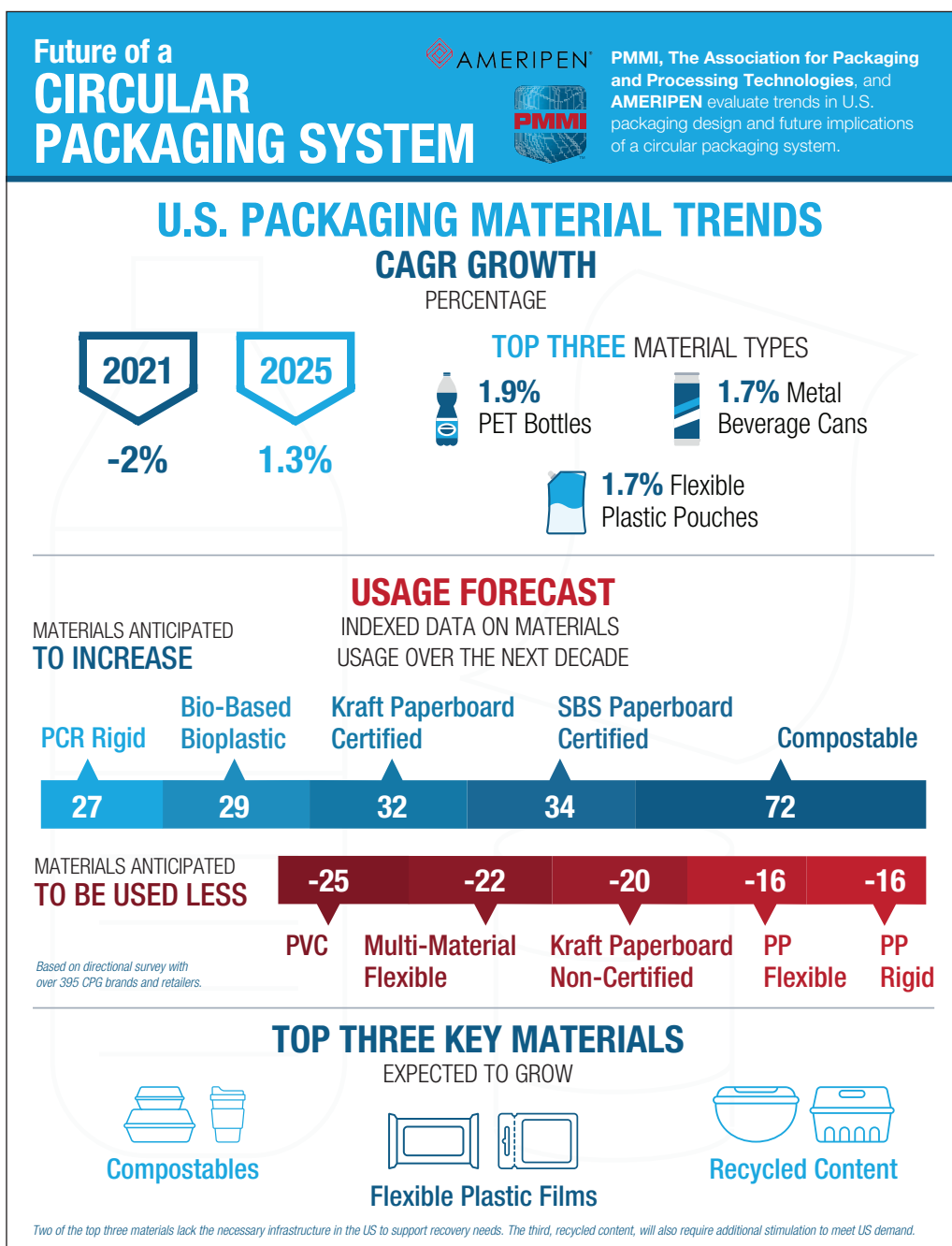


image courtesy of PMVI

That was echoed by PMMI president and CEO Jim Pittas. “At this show, we’ve really tried to focus on sustainability, workforce and automation. Sustainability has got to be the number one most talked about topic.”

Pack Expo’s Sustainability Stage at Booth N-9967 is featuring continuous presentations from major suppliers, equipment manufacturers and end users

around the topic of sustainability. The discussion was opened on Monday, Sept. 11 with a presentation from Dow, the official sustainability partner at this year’s Pack Expo on new ways to manage resources at every stage of packaging process, including post-usage management. The infographic provided by PMMI offers some insights into the trends—and future needs—in a circular packaging ecostructure. ••



Pack Expo Growth Looks To A New Generation

By Bob Vavra

Pack Expo 2023 touted its growth over time. Officials for PMMI, the presenting association for Pack Expo, noted the first Pack Expo has 532 exhibitors and more than 200,000 sq ft of exhibitor space. The 2023 show featured almost 1 million sq ft of exhibit space spread across three halls at the Las Vegas Convention Center and more than 2,300 exhibitors. And while not many people from the original Pack Expo were at this year's event, the exhibitors on the floor expressed enthusiasm for both the foot traffic and the interest in new technology and new solutions.

For future Pack Expos, including the 2024 event

Nov. 3-6 in Chicago, the industry will continue to need to develop the next generation of talent. Two events at the 2023 show focused on those future packaging professionals. The Future Innovators Robotics Showcase, sponsored by Bastian Solutions highlighted the work of Las Vegas-area high school robotics design teams. The Amazing Packaging Race, sponsored by Emerson, connected teams from U.S. colleges, trade schools and universities as they maneuver through the Pack Expo show floor to complete challenges at the exhibitor booths. They were two of many programs at Pack Expo targeting the next generation of workers. ••



image courtesy of PMMI