

# Pack Expo: Automation and Education

As Pack Expo approaches Chicago this year, education remains a focal point, while automation continues to rise.

Alex Cannella, Associate Editor

Ask any exhibitor at Pack Expo International and the co-located Healthcare Packaging Expo (Oct. 14-17 at McCormick Place, Chicago) why they're there, and you'll probably get the same response: end users.

"Pack Expo is about getting machine builders and end-users in one place," Tom Jensen, SVP and general manager at AMK Automation, said. "You can turn in any direction and see a customer or a prospect. It's a community and the show provides a great backdrop for collaboration."

Chris Radley, senior manager of global platform commercialization at Kollmorgen, sees it in similar, if differently worded terms. He views most trade shows as either vertical, covering all of a specific industry's processes from start to finish, and horizontal, where the show is focused on many industries and the technologies and products they use, such as automation. And as a vertical show, Pack Expo brings Radley in contact with all manner of OEMs, who are "generally the right people for [Kollmorgen]."

"We can talk to the packaging industry about what the packaging industry needs and what we can do for the packaging industry, as opposed to talking in more of a generic product-centric way that doesn't resonate with everybody," Radley said. "If you're in our business, torques and speeds and power and connectors and things like that may be interesting. If you're in the packaging industry, you're a lot more interested in the product you're producing; not in what we make, but in what we can do to help enhance your value in the product you make."



Photo courtesy of PMMI.



Photo courtesy of Kollmorgen.

That's not their only reason for being there, of course, not by a long shot. Pack Expo also has the benefit of being a massive show, as well as one of the premiere meeting places for the packaging industry's experts, and this year won't be any different. The show is going to cover over 1.2 million net square feet, with 2,500 exhibitors and 50,000 attendees expected, according to Laura Thompson, senior director of expositions at PMMI, the Association for Packaging and Processing Technologies and the owner and producer of the Pack Expo portfolio of trade shows.

And, as ever, educational opportunities are a massive draw for all involved.

"It's a learning venue for us," Radley said. "Because this is where the OEMs come and they roll out their newest machine ideas, so that means we need to be walking around and looking at what they're doing and asking: Are we going where they're going? And if we're not, do we need to change something?"

Naturalistic observation is certainly one way to learn what you need to know about the industry at Pack Expo, but if you don't know where to start, Pack Expo has a heap of educational opportunities.

As ever, educational opportunities remain a focus at Pack Expo, and you'll have no shortage of options to pick from. Their Innovation Stage is packed with 65 different sessions this year. And many of Pack Expo's educational opportunities are also designed to cater to the busy attendee's schedule. They're often quick, 30 minute lectures or discussion panels on topics ranging throughout the packaging industry that take place across multiple stages

directly on the show floor.

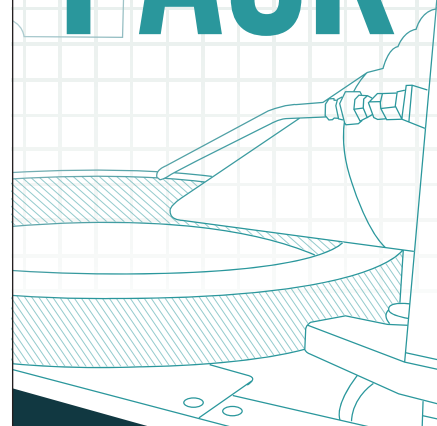
"People want the education, but you have to find that balance," Thompson said. "You have a huge show floor to cover and so much out there on the show floor. So we've really found that these quick presentations have really resonated with attendees, and that they're able to get some good content and make some connections and still have time to see what they need to see at the show. We know people's time is valuable and we want to make their experience at the show as efficient and educational as possible."

Most notable will be a new stage PMMI has dubbed The Forum, where they're planning on presenting more interactive activities such as small group discussions, hands-on activities, and Q&A sessions. The Forum was a hit at the previous Pack Expo East in Philadelphia, but this will be its debut in Chicago.

Those opportunities are also being extended to students, whom Pack Expo are embracing more than ever. PMMI is expanding their push to get the next generation interested in the packaging industry and will have several events for them to participate in. One will be the Future Innovators Robotics Showcase, which will feature teams of high school students showcasing the abilities of their robots. The other will be the Amazing Packaging Race, a scavenger hunt for college students meant to get them on the floor and interacting with exhibitors.

And alongside all of these opportunities will be the Packaging & Processing Women's Leadership Network breakfast, which according to Thompson, is growing by leaps and bounds each year. Last year saw more than 400 attendees,

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and PMMI is expecting even more to show up this time, as well as several food and packaging industry executives who will be speaking at the event.

“This has really taken off tremendously,” Thompson said. “We’re always happy to see the number of people who come out for these women’s events.”

Outside of PMMI’s official offerings, there will also be plenty to pursue on the floor.

In particular, automation is becoming increasingly prevalent. Over 50 advanced robotics experts will be exhibiting this year, and while that might sound small compared to the full list of over 2,000 exhibitors, it’s a contingent almost as large as some of the show’s pavilions, and they have a lot to show off.

A relative newcomer to the scene, AMK Automation is back for their second Pack Expo. Also a newcomer to the North American market, that means that much of what they have on offer is “new.”

“We have what machine builders need to grow their business and be more innovative in their offerings,” Jensen said. “And we have a solid motion control technology built on decades of experience used worldwide.”

Headlining AMK’s booth will be their AMKASMART iSA decentralized machine controller. The iSA combines a PLC and drive into a single unit, and when combined with one of AMK’s motors, can create a full motion control system without a control cabinet. The iSA also features a three-phase connection and integrated DC-bus power supply. But what Jensen is most excited about is AMK’s MAKE middleware, which reduces the expertise needed to run machinery by automatically detecting its components.

“Essentially it removes the need for end-user or OEM engineers to learn proprietary software to program a system,” Jensen said. “Plug it in, parameterize the system, and this program



Photo courtesy of AMK Automation.

auto-recognizes your components and before you know it, your machine is doing what it’s supposed to do, when it’s supposed to do it. All through a simple to use interface.”

On the other side of the automation field will be Kollmorgen, a decades-long veteran of the show that will have their full suite of servomotors and other motion-based automation offerings. Last year, Kollmorgen introduced the AKM2G, a servo motor that iterated upon previous designs to provide 30 percent more torque in the same size housing, and this year, they’ll be unveiling the AKD2G servo drive alongside it.

The AKM2G provides a little more than just improved torque. It also has a three-piece housing design instead of the usual two-piece. And thanks to improvements in Kollmorgen’s precision during casting, they managed to accomplish said three-piece design without sacrificing sealing integrity. The result for customers is increased flexibility to custom-build their motor using swappable “building blocks” that don’t necessarily change the motor itself, but offer more options for housing design. The three-piece design allows for customers to swap out one piece without having to completely change the entire design.

Like the AKM2G, the AKD2G is an iteration on previous models that focuses on significant internal changes. Overall, the focus has been on improving the drive’s flexibility while reducing its complexity. The size has been

optimized. Customization has been expanded and the drive is now capable of running customized control loops. There’s a new, larger screen that can give simpler, more readable information than just an error code. The drive now features an SD card slot, allowing designers to plug a pre-made program directly into the drive, simplifying setup.

“That’s one of the big headaches people encounter with drives is the more flexible the drive is, the harder it is to program and set it up,” Radley said. “So we’ve done a lot to enhance that. And at the same time, we’ve added even more flexibility.”

There’s more to see than just automation suppliers, however. NORD Gear Corporation is attending Pack Expo for their fourth year, and they’ll be presenting a full line-up of helical bevel gearboxes among numerous other products in a brand new booth that will be their largest yet. As James Wubbolding, VP of sales at NORD, put it, NORD plans on presenting both entirely new products, as well as old ones in a new light.

One of the examples of the latter that will be on display will be NORD’s SK-02040.1, the smallest of their helical worm gearboxes, which has recently been redesigned to utilize an aluminum alloy housing, making it more lightweight and better able to dissipate heat than it previously was.

The main draw, however, will be their new LogiDrive solution, a combination package of an IE4 permanent magnet



motor and a helical bevel gearbox run by a decentralized variable frequency drive. The gearbox is an existing NORD product, but the drive and motor it's attached to are both brand new.

"The whole idea behind the Logidrive system is reduced energy consumption," Wubbolding said.

Each part is designed with energy efficiency in mind, but the central focus is the IE4 motor. The IE4 rating is a step up from the baseline requirement of premium/IE3 motors as mandated by law. And while it may not be the absolute most efficient motor on the market, it offers noticeable returns over what an IE3 will do. Plus, due to its permanent magnet-based design, the motor still offers its energy savings across variable load points.

"Whether the packaging machine is running fully loaded or lightly loaded, you're able to take advantage of lower energy consumption because you've got a constant magnetic field due to the permanent magnet motor," Wubbolding said.

At first glance, reduced energy consumption might not sound like a winning feature to base an entire product around. After all, energy efficiency is all well and good, but the motor often costs more. But time and again, the

math has proven that a more energy efficient motor will be cheaper in the long run by reducing daily operation costs, especially with machines that are always running. In most situations, it's ultimately more cost-productive to go with the more efficient motor.

Wubbolding also believes that, when looked at as a comprehensive package, the LogiDrive's modular nature also provides some additional benefits.

"One of the major advantages are that these are individual components," Wubbolding said. "If for some reason, you did have to replace something at some point in time, you can replace them individually versus having to replace an entire package."

Thanks to the drive's plug and play features, the LogiDrive system is also cheaper and easier to install. And one final benefit is the LogiDrive's ability to control a conveyor system's speed.

"Because you can utilize the variable frequency drive in connection with the permanent magnet motor, you can consolidate the number of ratios that are required for the gearbox," Wubbolding said. "You can optimize the number of units and reduce them by using the motor and the variable frequency drive to control the speed, plus reduce engineering effort and

spare parts inventory."

But these are just a few of the thousands of exhibitors that will be descending on Chicago in October. Automation will be a hot topic and motors and drives will be on every corner, but there's plenty more to see in the various pavilions devoted to everything ranging from specific sub-industries such as confectionaries to individual growing technologies such as reusable packaging. And educational opportunities, both from PMMI's bountiful lineup of presentations and from the exhibitors themselves, will be ever-present no matter where you go. No matter what your focus, if you do something in the packaging industry, you'll find something worthwhile at Pack Expo. You'll probably learn something, too!

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