

Everything's Connected

The theme of this issue is integration.

Mechanical components are being developed with embedded sensors. The components are talking to each other, sending information to the cloud and producing terabytes of big data to help manufacturers better understand their processes, predict problems and control costs.

For evidence, look no further than our article on smart components for heavy industry, beginning on page 36. Maintenance managers at steel mills, mines and refineries now rely on their cell phones and tablets more than wrenches and rags. "Heavy Industry and Smart Technology" describes how the major manufacturers of heavy-duty mechanical power transmission components are making it easier for those managers by building sensors into bearings, motors and gearboxes to capture and analyze data – even in the most remote, difficult to access places.

This issue also takes a look at mechatronics, which is all about the combination of mechanical motion with electronic control. Our article on electromechanical linear actuators (page 18) provides an overview of the different types of mechanical systems available, along with the choices in motors and controls that turn them into smart automation systems.

And if you're looking for the latest in mechatronics and automation, I suggest you consider attending one of the upcoming trade shows where the newest technology will be on display. The biggest of those, of course, is Hannover Messe, which takes place April 1–5 in Hannover, Germany. Our preview of the show (page 22) describes how manufacturing integration and industrial intelligence are taking center stage. Industry 4.0 and the Industrial Internet of Things are two of the buzzwords circulating among the show's organizers and exhibitors.

If you can't make it to Germany this spring, then perhaps Chicago will do. The Automate and Promat shows take over McCormick Place April 8–11. Although you'll have to wait until next issue to read our Automate show preview, you can definitely get a head start by visiting the news sections on powertransmission.com, where we've posted booth previews from a number of exhibitors. For more information about the show, go to automation-show.com. If you're coming to Chicago, stop by our booth and see us.



But there's one more show I want you to think about and make plans for. It doesn't take place until October, but you should start making plans now. I'm talking about the new Motion + Power Technology Expo, a show that explores the idea of integration in a whole new way. Organized by the American Gear Manufacturers Association, Motion + Power Technology Expo is an evolution of the show that was formerly known as Gear Expo. Instead of just gears, the show now encompasses electric devices and fluid power components. You can read about the new show—including comments about the ideas behind it from AGMA President Matthew Croson—in our article beginning on page 32.

We're already making big plans for our booth at Motion + Power Technology Expo. We'll be recording several sessions of our popular *Ask the Expert LIVE!* show, and we'll be doing live interviews with technology experts throughout the event. By the way, you can watch past episodes of *Ask the Expert LIVE!* online at www.powertransmission.com/tv/.

Whether or not you attend any of these shows, we'll be at each of them, gathering information about the latest ways technology is being integrated into mechanical motion. Either way, we hope you enjoy the issue. Thanks for reading.

A handwritten signature in black ink that reads "Randy Stott". The signature is fluid and cursive, with a large, stylized 'R' at the beginning.