

Intelligent Integration

In this issue's cover story, Stefan Hantke describes an evolving marketplace that requires smarter components and more integrated solutions. In fact, Hantke, who was recently named head of global industrial sales for the Schaeffler Group, goes so far as to predict that within a few short years, every bearing will have a wire coming out of it.

Those wires will carry all sorts of useful information about the operation of the bearing, letting maintenance staff know about any problems with lubrication, temperature or vibration. The wires will also allow various components to com-



municate speed, torque and other information with each other and with intelligent controls, making individual smart components even smarter by combining information and creating smart systems.

The organizers of Hannover Messe and many of the exhibitors there focused quite heavily on Industry 4.0—the largely European concept of the fourth industrial revolution, wherein manufacturing becomes computerized and smart factories use connected systems to monitor physical processes and enable centralized control and decision making. At Hannover Messe, a lot of companies demonstrated the smart capabilities of their components.

So clearly the transition to more intelligent components isn't just Hantke's vision. It's a vision that's already begun taking shape in industries around the globe. We've noticed the trend not only at Schaeffler, and not just with bearings, but throughout the mechanical components industry.



Nowhere was that more clear than at the 9th CTI Symposium in Novi, MI, which I attended in May. There, automotive engineers gathered to discuss the future of transmission technology. Obviously electronics and controls make up a big part of that discussion: Millions of lines of code are required to control and coordinate the various mechanical functions of an automobile. On top of that, engineers are beginning to think very seriously about autonomous vehicles.

Smart components are a necessary part of the solution.

But perhaps just as important at CTI was the discussion of integrated systems. Because components have to talk to each other, and because sensors and electronics have to be integrated, suppliers are being asked to provide more than they ever have in the past. Nobody wants to buy just a bearing anymore. They want to buy an integrated assembly or a complete control unit. Components are turning into component systems, and the engineering integration is being pushed down the supply chain. More and more, component suppliers are being forced to view themselves as solution providers.

So what does all of this mean for those of you who design, specify and develop products that use mechanical power transmission components?

For one, it means more and more options for what your equipment can do.

For another, it means that more than ever, you're going to have to trust your suppliers. If you're asking them to do more of the engineering in order to give you plug-in systems, you have to give up some of the control over the design process. The alternative is to develop and integrate yourself, and in today's market, that's just not often economically feasible.

Of course, the most important step in being able to trust your suppliers is being able to find suppliers you can trust. In that, at least, I hope *Power Transmission Engineering* can continue to be a vital part of the process, by presenting you with the trends and technologies that are of most interest.