

Interview

Converging the worlds of IT and automation

Although Industry 4.0 and the Internet of Things (IoT) have long existed in relative isolation, efforts to align the two concepts are now rapidly gaining traction. We sat down with Tony Shakib of Cisco and Stefan Schönegger and Marc Ostertag of B&R to discuss the two approaches' similarities and differences – as well as the potential for synergy between them.



Marc, as president of the American subsidiary of a European automation supplier, where do you feel more at home: in the Internet of Things (IoT) – shaped largely by the U.S. – or in the primarily German-speaking world of Industry 4.0?

Marc Ostertag: First and foremost, I'm at home where my customers are. I think OEMs on both sides of the pond are driven by common ambitions – to optimize their processes, to expand into new markets and to find new ways to solve their customers' toughest requirements, such as batch-size-one production. As an automation provider, what we're concerned with are the nuts and bolts of how to turn those ambitions into realities.

That's where the concepts of Industry 4.0 and IoT come in.

Stefan Schönegger: Yes, and from our perspective, both certainly

have important roles to play. The goal of Germany's Plattform Industrie 4.0 project is to conduct a very detailed examination of the manufacturing process, to describe it – and ultimately to improve it. This is some very important groundwork that will serve as a foundation for many long-term improvements.

Tony Shakib: That's actually the crux of it: Industry 4.0 deals primarily with theoretical concepts, whereas the Internet of Things is focused on practical applications. The testbeds operated by the Industrial Internet Consortium (IIC) are a perfect example. There you'll find companies like B&R, Cisco and National Instruments experimenting – under real-world production conditions – with ways to implement technologies for the smart factory of the future.



Tony Shakib
Vice President, IoT Vertical Solutions Unit, Cisco



Marc Ostertag
President, B&R North America



Stefan Schönegger
International Marketing Manager, B&R

Was it this focus on the practical aspects that led B&R to join the IIC and participate in the TSN testbed?

Schönegger: It was definitely a key factor. After all, we want to offer our customers solutions that they can start using right away. The other reason we got involved is that what we're talking about is a revolutionary transformation in manufacturing, and it's not one we want to wage on separate fronts in every region. A global market demands global solutions – and of course global standards as well. If we want to be part of creating these things, we have to be active in the groups all around the world who are working on them.

Shakib: I couldn't agree more. Whether it's through Industry 4.0 or IoT, our goal is to facilitate flexible new manufacturing solutions with intelligent machinery. That was one of our motivations to help form the IIC in the first place. We also agree that a transatlantic approach is the best way forward. That's part of the reason we – an American company – opened an innovation center in Berlin last year with a focus on Industry 4.0 and IoT solutions.

Stefan, you mentioned a need for open standards. What form might those standards take?

Schönegger: Well, the first one is already here. OPC UA will be the vendor-independent communication protocol for the factory of the future. It will provide seamless communication from individual sensors and actuators up to ERP systems and the cloud – and it won't matter who makes the hardware.

Tony, so far we've concentrated on manufacturing. Yet there's more to the Internet of Things than that, isn't there?

Shakib: There certainly is. Industrial production is of course a very important aspect, but the influence of IoT technology will be far more pervasive. The networking of household appliances, intelligent energy distribution systems (smart grids) and networked transportation systems (smart mobility) are only a few examples. The core focus in all these areas is connectivity that transcends traditional disciplinary boundaries. That's the only way the digital transformation will succeed.

Do these topics have any relevance for B&R?

Ostertag: Though we surely won't be entering the networked appliances market, the idea of cross-disciplinary connectivity is absolutely relevant to industrial applications as well. One of the many benefits is that, as semi-conductor components are produced in high quantities for consumer products, we'll also be able to use them in industrial production.

It seems we've come full circle to understand how two companies as different as B&R and Cisco ended up sharing a table here today...

Schönegger: Exactly right. To realize the smart manufacturing solutions of the future, we must succeed in converging the worlds of IT and automation. That's precisely what we see reflected in the cooperation between our two companies. ←