Stefan Schönegger, Marketing Manager, B&R

"A whole new generation of automation"

The field of machine manufacturing stands before some monumental challenges. Increasingly flexible production systems and mass customization are causing an explosion in the number of machine variants each manufacturer offers. In turn, automation technology takes on an increasingly significant role, as a recent trend study by the VDMA confirms. B&R's marketing manager, Stefan Schönegger, explains how his company intends to help machine manufacturers overcome these new challenges with Scalability+.

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Integrated automation
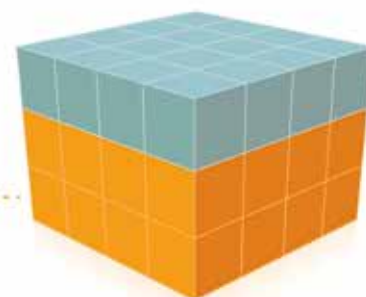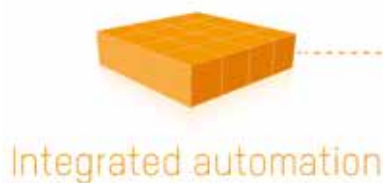
Next generation automation

Stefan, for a number of years now, the idea of integrated automation has been something of a silver bullet in your industry. Does the focus on Scalability+ mark the end of this era?

Not at all. Integrated automation – the seamless interplay between PLC, HMI, motion control and safety components – is the very foundation of Scalability+. Only when customers are able to select exactly the products they need to build their ideal machine can they expect long-term success on the market. What's also important is that they are able to develop, diagnose and maintain their automation solution with only a single tool.

These days there are many automation suppliers out there with quite extensive product portfolios, so B&R is no different than other manufacturers in that regard.

That's only partially true. Most of them specialize in a particular area, such as motion control. There are certainly a number of manufacturers with a full portfolio in that area. When it comes to areas like PLC and safety technology, on the other hand, the selection is much thinner, and the user is always forced to make compromises in one way or another. For most machines, this is not acceptable. What's more, the different systems aren't even always compatible with each other. With B&R you don't have these problems. Our solutions are built from a fine-grained selection of homogeneous products that cover every area of automation. And whether you're talking about a standalone machine, an integrated production line or an entire factory, they are implemented using the same universal software tool: Automation Studio.

For a long time, IEC 61131 was all you needed to program an automation solution. Is that still the case?

IEC 61131 continues to be a core element of any open automation system, but by no means is it the end-all, be-all solution. Functions based purely on IEC 61131 don't even make up 10% of what a modern B&R controller offers. The other 90% is added value for our customers. It can generally be said that the capabilities of an automation system extend far beyond those of the

Our technology packages   Your machine technology

hardware alone. With the growing complexity of machines and plants, software is taking on an increasingly important role in the development process. This is where the second layer of Scalability+ comes into play. An extensive range of software function modules makes it easy for our customers to integrate CNC, robotics, motion control or safety features into their applications. They can also take advantage of complete closed-loop control libraries for things like hydraulics, temperature and pressure control. Communication technologies such as OPC UA, POWERLINK and IO-Link, as well as our newest additions, mapp and reACTION, bear mentioning here as well. These all follow the same underlying principle: By removing burdens and simplifying processes for our customers wherever we can, we allow them to focus on their machines' core functionalities. At the same time, we reduce their costs since many of their dedicated hardware solutions are simply no longer needed.

How much freedom do customers have in implementing these software packages?
They have as much freedom as they want – our system is completely open. We provide all the tools they need to convert their know-how into a world-class machine. They can use an IEC 61131-3 language, C or C++, and they can choose whether or not to use object-oriented programming. They can use any of the available PLCopen function blocks or take advantage of our mechatronics libraries. Or they can go up a level of abstraction and use mapp to get things done even faster. Our customers can design every process exactly as they want it, or they can leverage existing functions, technology packages and libraries.

All of these approaches can be mixed and matched as needed, too. You can use a mapp block for the alarm system, implement the motion control application using PLCopen and develop a special closed-loop controller for a particular machine function in C code or as a MATLAB model. Our products perfectly complement the customer's machine, and that's where Scalability+ comes full circle. When you bring together our integrated automation, our software packages and the customer's own technology, what you get is a whole new generation of automation. ←