



“We are the automation engineers for the factory of the future.”

As head of the new Rexroth business unit Automation & Electrification Solutions (AE) I am frequently asked where the journey is headed strategically and technologically. Here are our ideas and what our customers can expect.

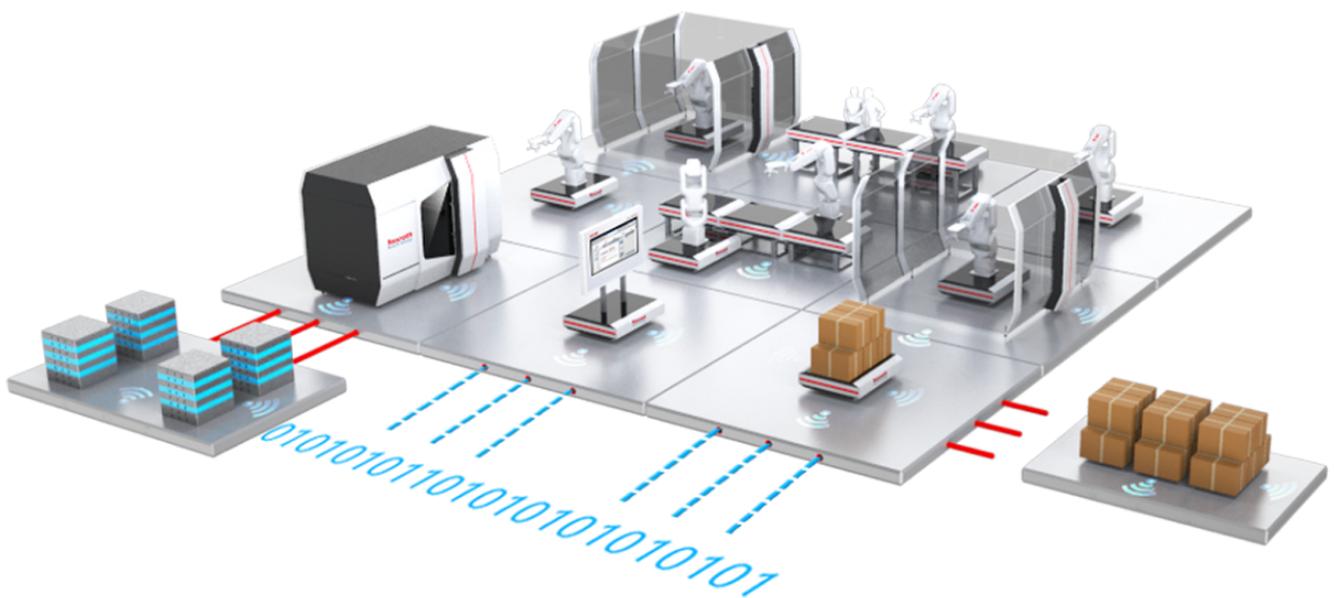
Automation and electrification

The name more or less explains its function: In the new business unit Automation & Electrification (AE) Solutions, we bundle the expertise developed over decades at Bosch Rexroth in the two eponymous growth fields. From my previous position as President Europe & Asia at the machine tool manufacturer MAG IAS I bring not only the necessary perspective from an OEM point of view, but also the necessary knowledge of market developments for both niche and global markets. With our joint know-how, we will focus even more clearly on factory automation. In short: We want to be THE automation engineers for the factory of the future!

This is what we mean by the ‘factory of the future’

Four walls, a roof and the factory floor – there will not be

many more fixed components than that in the [factory of the future](#). Machines and systems communicate to a large extent wirelessly, the production equipment prepares itself independently and flexibly for new orders thanks to the variable layout. Greatly reduced set-up times allow for greater variety, in extreme cases even down to lot size of one. A typical example of the new mobility that is necessary are autonomous transport systems which move around the factory, driven by cabinet-free drive technology, performing work on the product during transport, thus adding value.



Automation is becoming decentralized and highly connected

As a logical consequence of the changing factory layouts, we will see more decentralized automation designs that defies the hierarchy of the classical automation pyramid using distributed intelligence and interoperability. Why is this necessary? Because users need maximum flexibility when it comes to (re)configuring their equipment in order to set up and remove functionalities as required according to the principle of plug&work. With the increased connectivity requirements for the components, electrification and

hybridization are seeing a significant increase in their roles. In the factory of the future it will no longer suffice to automate classical hydraulics, pneumatics and manual mechanics. Rather, they are experiencing a revaluation by expanding their range of functions with the ability to communicate via the “digital bus”.

How Bosch Rexroth is contributing to the factory of the future

With the expertise in networked automation that Bosch Rexroth has amassed in many of its [own factories](#), we have an ideal starting point for holistic concepts and individual solutions. Our distributed drive and control intelligence gives manufacturers the power to automate and to electrify functional assemblies individually. Our connectivity modules enable end users to let their equipment communicate not only with supervisory systems but also with each other. As pillars of the connected automation portfolio and distributed intelligence we use an architecture based on open standards and which, thanks to [Open Core Engineering](#), is building the crucial bridge to the world of IT. In conjunction with our [control hardware](#), machine builders will ultimately be able to implement their own proprietary technology solutions using all the common programming languages and to present optimum, customized products to their end customers and system operators.



Our environment dictates the standard for agility

Of course, we also have to do our homework. In view of the rapid market developments, we need to become more market-oriented, more agile and more effective. The first step has already been taken with the establishment of the new business unit Automation and Electrification. Like the other newly-created divisions at Bosch Rexroth, we can fully concentrate on our core business and not only gain speed, but be even closer to our customers. With the division into business units, we thus encourage “mid-sized company” thinking and acting. We can therefore implement cross-technology projects more efficiently and uniformly – no matter whether we are dealing with a simple, low frequency converter for the laminating line of beverage labels or intelligent energy management and integrated security for electric drives for construction machinery. Regardless if it is a linear motor drive system in CNC controlled [machine tools](#) for smartphone

production or electrified and variable speed servo-hydraulic pumps for injection molding machines.

What we're planning to do next

Our next big thing in the many decade-long chain of innovation at Bosch Rexroth is to connect fixed and mobile applications for sensor systems in the cloud. To do this, we will combine our proven connectivity solutions for electronics, hydraulics and mechanics with analysis and evaluation tools for monitoring and optimization. The great advantage of these solutions is that they blend perfectly into the software and IT services offered by the Bosch Group. An exciting example from our current development is a kind of electronic nameplate with which users can gradually connect their existing production to the factory of the future. Self-sufficient when it comes to power and only about as big as a 2-euro coin, it continuously measures different physical factors and transmits them wirelessly via Bluetooth. The data can be read out on an app or the Web and evaluated using a cloud-based software solution. This tool will already be available at the Hanover Trade Fair 2018.

Classic service is evolving

Bosch Rexroth already offers a variety of complementary services that go far beyond the basic services, such as global accessibility 24/7, the rapid availability of spare parts and repair services. In the context of our "360° Consulting", our specialists handle, for example, the simulation of production changes requested by the customer, providing application support from the engineering phase, all the way to commissioning new machines or economically [retrofitting](#) older machines to make them state of the art. In addition, we offer services to accompany the complete life cycle of our products.

With our Data Analytics Services we also help our customers to create effective condition monitoring, thereby enabling predictive maintenance, with which they can make accurate [maintenance predictions](#) based on the machine's condition.

Our driving force: Creating movement

The new business unit Automation & Electrification creates movement – physically and figuratively. Movement that guarantees progress and growth. Not just for us but also for our partners. Our customers and users benefit from pioneering automation solutions that strongly help them to employ their manufacturing equipment effectively, safely, efficiently, intelligently and with full power. Under the premise of minimum time-to-market, with our system solutions we create an essential prerequisite for the factory of the future, which is soon to become reality.