Bosch Rexroth sees a trend in automation: Freedom and openness for everyone
Industrial automation will evolve further in 2022

▶ Ecosystems bundle together the know-how of everyone involved
▶ Low code/no code: Time to market up to five times shorter
▶ Independence from global supply chains
▶ Long-term availability

"The paradigm shift in industrial automation – moving away from rigid, proprietary systems towards open, flexible solutions – has already begun. However, many changes will not be evident or noticeable until this year," explained Steffen Winkler, Vice President Sales, Business Unit Automation & Electrification Solutions at Bosch Rexroth. (Image source: Bosch Rexroth AG)

The transformation in industrial automation is well under way and will take a big step forward in 2022. Calls for simplicity and flexibility on the technological side as well as independence from global supply chains are increasing significantly. Automation will therefore become even more open and collaboration between all market players will play an increasingly important role. Mechanical and plant engineers benefit from much simpler engineering, reduced lock-in and, above all, from optimized solutions which help to ensure their own competitiveness.

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A fully open automation toolkit whose scope for solutions is expanded by the biggest third-party provider ecosystem possible is therefore needed. The knowledge of specialist companies will then come together, resulting in innovations in the area of hardware and software. Users can not only put together their automation solution as required – they can also develop their own software and thus help to shape the new world.

"One thing in particular is important when it comes to software development: All popular programming languages and tools must be possible and nothing should depend on proprietary systems from individual providers. This is the only way to win over the next generation of developers for the industry and to reduce the dependency on individual automation providers, especially when it comes to software," explains Steffen Winkler.

Low code/no code: Development up to five times quicker

Industrial automation solutions are increasingly being shaped by software development. It must be possible to come up with solutions even more quickly and easily. The trend is thus moving towards low code/no code platforms. Thanks to such platforms, people with little or no programming knowledge can easily generate software. The low code approach signals a paradigm shift in industrial automation: Simple applications can be developed up to five times faster and error-free code is obtained.

Engineering too is undergoing a revolution. After all, engineering tasks are increasingly being carried out in a web-based manner. Installing a wide range of provider-specific software solutions and maintaining them is virtually

unaffordable nowadays. In light of this fact, approx. 70 percent of all engineering work for automation systems such as ctrlX AUTOMATION is web-based – the target is 100 percent.

Independence from global supply chains thanks to openness

In addition to increasing calls for simplicity and new degrees of freedom on the technological side, more and more people are calling for independence from providers on a global level. "The Corona pandemic and the difficult procurement situation have clearly revealed the weaknesses associated with globalization. As a result, moving away from individual suppliers will be an even bigger trend in 2022. More re-shoring projects will be carried out while multi-sourcing strategies will be implemented once again. In many cases, providers will be forced to adopt these changes. After all, some of them are now unable to supply the necessary goods. It is now clear how important an open automation system is, one which allows third-party providers on all levels and thus opens up urgently needed alternatives even at short notice," explained Steffen Winkler.

Sustainability and long-term availability

Sustainability will be another major trend. This applies to solutions in the automation sector too. Machines and individual components must be available in the long term and must be easily expandable.

Sustainable production takes into account factors such as zero emissions and resource efficiency, and at the same time must be economical. Sustainability can be improved with the help of modern automation technology, for example through intelligent energy supply and distribution, greater system efficiency and secure access to relevant data which in turn allows the use of data analytics.

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