Press Release

IA14009C

For Immediate Use

Bosch Rexroth Introduces Open Core Engineering

Bosch Rexroth is introducing an innovative approach to connect PLC and IT automation that it calls Open Core Engineering, the platform gives developers a greater degree of freedom in software engineering. OEMs can flexibly access the control core of the system solutions IndraMotion MLC and IndraLogic XLC from applications based on high-level languages. This allows them to realize customized solutions independently and more easily, and at a lower cost than before.

Open Core Engineering brings the requirements from previously separated engineering worlds together in one integrated solution. At its center are software tools and function toolkits that build entirely on open standards and technologies. The new Open Core Interface enhances the software engineering – which until now has been focused on PLC automation – enabling it to work with applications based on high-level languages. With numerous function libraries which are adapted to different development environments it is now possible to have functions directly access the control core. This allows OEMs to realize customized software functions in-house and to integrate IT technologies based on high-level languages into their automation solutions. Specific examples are the integration of simulation tools or the use of smart devices with native apps. Moreover, the Open Core Interface makes it possible to integrate production machine functions and data out of IT-based applications such as management execution systems.

Access all the way to the core with various devices and programming languages

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With the Open Core Interface, OEMs are free to choose their platform – PC, controller or smart device – and the required programming language: From C/C++, C# (.NET), Visual Basic, VBA (Office), LabView G, Objective-C and Java to all programming applications that support the integration of Microsoft COM libraries. They can even realize customized control functions for real-time applications independently of the control program. This means that the engineers can use high-level languages to write their own software functions which then run as low-level real-time application directly on the control, or in non-real-time on external devices such as PCs or smart devices. Now machinery manufacturers can realize innovative functions themselves - even those that require enhanced core access. This will also allow them to protect their know-how.

Smart devices and native apps as application examples

The Open Core Interface supports Apple iOS and Google Android, which are the two major operating systems for smartphones and tablets at this point. The high market penetration of smart devices combined with their innovative and comfortable operating concepts is generating a lot of interest with machinery manufacturers and operators. They are realizing that the future will bring new ways of making communication between humans and machines more user-friendly, flexible and intuitive. With the Open Core Interface, OEMs can develop application programs with Java as native apps, integrate smartphones seamlessly into the automation process, and support machine operators with new diagnostic and operating concepts. The native applications run entirely on the smartphone or tablet, so that the machine program remains untouched.

More efficient through integrated know-how

Open Core Engineering combines these new degrees of freedom in software engineering with engineering efficiency from project planning to ongoing operations, which is what the market had been demanding. The IndraWorks software integrates all tools as well as Rexroth's industry and technology-specific know-how in the form of function toolkits in an integrated engineering framework. The GAT (Generic Application Template) software toolkit, for instance, automatically generates the executable machine program based on the developer's instructions, thereby laying the foundation for the development of modular machine software. Another example is the FlexProfile software toolkit. It simplifies the execution of complex machine functions by automatically adjusting all drive movements to changed parameters in the production process.

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A variety of industry and technology-specific software toolkits speed up the engineering as OEMs receive already pre-made basic functions. Based on open standards such as Sercos, OPC-UA or PLCopen, Open Core Engineering also provides certainty for the future and protects the investments of machinery manufacturers and operators.

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About Bosch Rexroth:

As one of the world's leading suppliers of drive and control technologies, Bosch Rexroth ensures efficient, powerful and safe movement in machines and systems of any size. The company bundles global application experience in the market segments of Mobile Applications, Machinery Applications and Engineering, and Factory Automation. With its intelligent components, customized system solutions and services, Bosch Rexroth is creating the necessary environment for fully connected applications. Bosch Rexroth offers its customers hydraulics, electric drive and control technology, gear technology and linear motion and assembly technology, including software and interfaces to the Internet of Things. With locations in over 80 countries, more than 32,300 associates generated sales revenue of roughly 6.2 billion euros ($7.3 billion) in 2018.

To learn more, please visit www.boschrexroth-us.com.

About Bosch:

The Bosch Group is a leading global supplier of technology and services. It employs roughly 410,000 associates worldwide (as of December 31, 2018). According to preliminary figures, the company generated sales from operations of 77.9 billion euros ($92 billion) in 2018. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT company, Bosch offers innovative solutions for smart homes, smart cities, connected mobility, and connected manufacturing. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group's strategic objective is to deliver innovations for a connected life. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is "Invented for life." The Bosch Group comprises Robert Bosch GmbH and its roughly 440 subsidiary and regional companies in 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. The basis for the company's future growth is its innovative strength. At 125 locations across the globe, Bosch employs some 69,500 associates in research and development.

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Additional information is available online at www.bosch.com, www.iot.bosch.com, www.bosch-press.com, www.twitter.com/BoschPresse.

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