

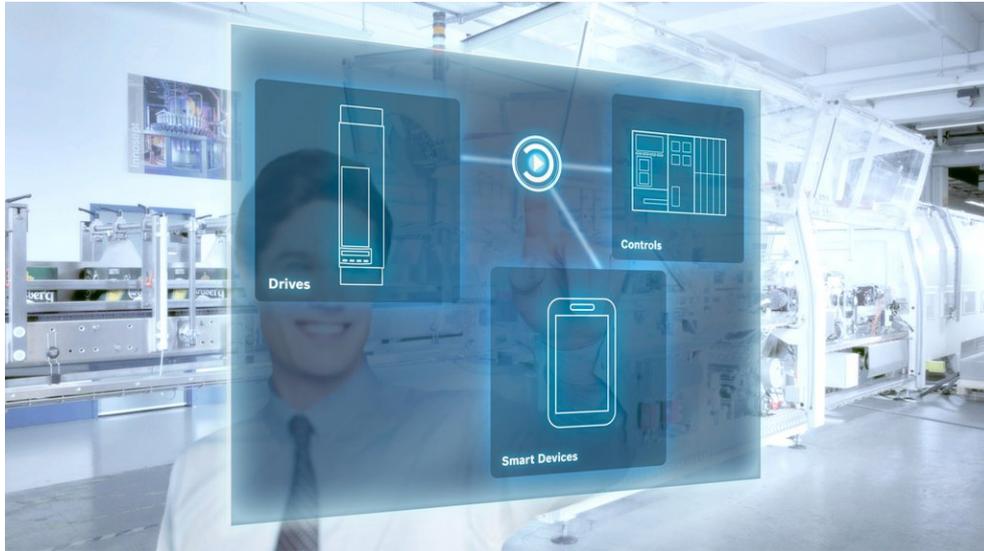
Press Release

Rexroth controls and drives now open for IT and Internet programming languages

The next phase in the evolution of Open Core Engineering has additional communication and programming possibilities

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Open Core Engineering grants machine manufacturers and end users maximum freedom for the horizontal and vertical networking of automation components.

Bosch Rexroth is advancing the evolution of controls and drives to the standard of Connected Industry with additional communication protocols and programming languages. This openness in the controls and drives lays the foundation for horizontal and vertical networking. In addition to the already supported programming languages for PLC and IT automation, support will now be offered for the languages HTML5 and Java, which are used in the area of web-based applications. At the SPS IPC Drives trade fair the company will be presenting the next phase in the evolution of the bridge between PLC-based automation and the IT world.

Capture and evaluate all the energy flows of a production system incorporating machines from different manufacturers with a single mouse click, or call up the operating conditions for condition monitoring. By providing controls and drives with new communication possibilities, Bosch Rexroth is ensuring that the wishes of many end users can become a reality. Moreover, with Open Core Engineering, Bosch Rexroth is supporting a uniquely broad range of protocols and programming languages. This provides machine manufacturers and end users with maximum freedom for the realization of future-proof production automation.

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Universal translator for high-level languages

Bosch Rexroth has developed the WebConnector as a "universal translator" between high-level languages and Internet dialects on the one hand, and PLC-based machine control on the other. This communication platform transfers, for example, technologies recognized by smart devices, including WebSocket, Java Virtual Machine and the new HTML5 standard, to motion logic systems. As a result, controls and drives can directly access web applications and exchange information with them. The WebConnector thereby creates new possibilities for the direct programming of the control system using efficient high-level languages.

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Over and above programming in the standard PLC languages of the IEC 61131-3 standard and the popular high-level languages of the IT world, with the IndraMotion MLC control system, Open Core Engineering now also supports the script language Lua. Thanks to its simple syntax, this platform-independent language, which is widely used in the world of computer games, reduces the time and effort involved in programming. Lua will be demonstrated at SPS IPC Drives using the sequential programming of the functional toolkit "Robot Control" as an example.

Extended OPC-UA delivers important data automatically

Bosch Rexroth has now significantly expanded the OPC-UA information model for IndraMotion MLC. The integrated OPC-UA server makes all the information of the control system available to applications. This information is object-oriented and semantically connected in the motion logic and robotic systems and can be read and written in the integrated OPC-UA address space.

Open Core Interface also for drives

With the interface technology Open Core Interface for Drives, Bosch Rexroth is now also making the new functions and communication possibilities available for the drive family IndraDrive. With this applications programmed in high-level languages for the Windows operating system have access to all parameters and functions.

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Model-based engineering with short development times

An ever increasing number of machine manufacturers are using model-based engineering or Rapid Control Prototyping to reduce the time and expense involved in mechanical engineering. Along with the development platforms previously supported by Open Core Engineering, specifically MATLAB from MathWorks and LabVIEW from National Instruments, developers can now also use MathWorks Simulink and environments based on the open source modelling language Modelica. This gives developers direct access to the core functions of the controls via the Open Core Interface for Controls.

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World-wide exchange in the engineering network

The high degree of interest in high-level languages and web-based applications with Open Core Engineering is evident, among other things, on the online platform "Engineering Network". Developers from around the world are discussing the implementation of special functions at www.boschrexroth.com/network, where they can also find extensive information about and support for automation using controls and drives from Bosch Rexroth.

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Open Core Engineering – outstanding technology builds bridges between automation and the IT world

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As the first pure software solution, Open Core Engineering from Bosch Rexroth was awarded the prestigious HERMES AWARD technology prize in 2013. It opens machine builders and machine users the door to Connected Industry. Open Core Engineering combines the previously separate worlds of PLC and IT with a comprehensive range of solutions comprising of open standards, software tools, function toolkits and the Open Core Interface. Bosch Rexroth has opened the control core to enhanced access. Machine manufacturers can now create their own individual functions in a variety of high-level languages and operating systems that run parallel to the firmware directly on the control or on external devices. This enables the machine manufacturer to, for example, fully integrate smart devices into the automation system and use their operating functions.

To learn more, please visit www.boschrexroth.com/OCE

Engineering Network – the Open Core Engineering Community for Software Developers

Open Core Engineering and the interface technology Open Core Interface provide the basis for a range of new software solutions and innovations. In order to put product ideas into practice quickly, specific programming issues also need to be solved quickly. In this respect, the Rexroth Engineering Network offers users a modern information portal "from developer to developer". There is a discussion forum where answers to general or application-specific issues can be found regarding tools, functions and interfaces. Practical example programs and online documentations on Open Core Interface make it easier to get started and provide valuable tips on programming with different high-level languages. Open Core Engineering and the Engineering Network therefore enable efficient engineering and quick implementation of innovative products.

To learn more, please visit www.boschrexroth.com/network

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Economical, precise, safe, and energy efficient: drive and control technology from Bosch Rexroth moves machines and systems of any size. The company bundles global application experience in the market segments of Mobile Applications, Machinery Applications and Engineering, Factory Automation, and Renewable Energies to develop innovative components as well as tailored system solutions and services. Bosch Rexroth offers its customers hydraulics, electric drives and controls, gear technology, and linear motion and assembly technology all from one source. With locations in over 80 countries, roughly 36,700 associates generated sales revenue of approximately 5.7 billion euros in 2013.

To learn more, please visit www.boschrexroth.com

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The Bosch Group is a leading global supplier of technology and services. In 2013, its roughly 281,000 associates generated sales of 46.1 billion euros. (NB: Due to a change in accounting policies, the 2013 figures can only be compared to a limited extent with the 2012 figures). Its operations are divided into four business sectors: Automotive Technology, Industrial Technology, Consumer Goods, and Energy and Building Technology. The Bosch Group comprises Robert Bosch GmbH and its roughly 360 subsidiaries and regional companies in some 50 countries. If its sales and service partners are included, then Bosch is represented in roughly 150 countries. This worldwide development, manufacturing, and sales network is the foundation for further growth. In 2013, the Bosch Group invested some 4.5 billion euros in research and development and applied for some 5,000 patents. This is an average of 20 patents per day. The Bosch Group's products and services are designed to fascinate, and to improve the quality of life by providing solutions which are both innovative and beneficial. In this way, the company offers technology worldwide that is "Invented for life."

Additional information is available online at www.bosch.com, www.bosch-press.com and <http://twitter.com/BoschPresse>

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