



Open Core Engineering gives LabVIEW access to machine control

## Programming machine movement without a single line of PLC code

More and more users are choosing automated test processes. They conduct regular life-cycle tests as well as fatigue tests and material tests. Machine manufacturers must customize their testing and measuring machines to meet individual customer needs – a task for which the industry often uses the software solution LabVIEW from National Instruments.

### Twice as much work with combined PLC and LabVIEW programming

Until today, the use of this program has meant twice as much work for machinery manufacturers. First, they must create a specific PLC program for the proper machine sequence, in addition to the control of the necessary inputs and outputs. Then, they also need to develop a LabVIEW program for the collection and processing of technical measurement data, as well as the connection of measuring sensors for test processes.

Additionally, to interconnect measurement and motion, the machine manufacturer must program a handshake or synchronization between LabVIEW and the PLC. This requires additional effort, especially because the interfaces available today exist

only in rudimentary form. The result: for commissioning, the machinery manufacturer needs to program in both systems, be familiar with the PLC and LabVIEW, and use two completely different interfaces.

### Motion sequences directly from LabVIEW

Open Core Engineering from Rexroth eliminates this extra work with the new Open Core Interface technology. It allows for the programming of a machine's motion sequences through the graphical LabVIEW interface exclusively – without writing a single line of PLC code. Expanded core access from LabVIEW directly to the control unit make this possible. Thereby simplifying and accelerating the commissioning of customer-specific test and measurement machines.



## Highlights

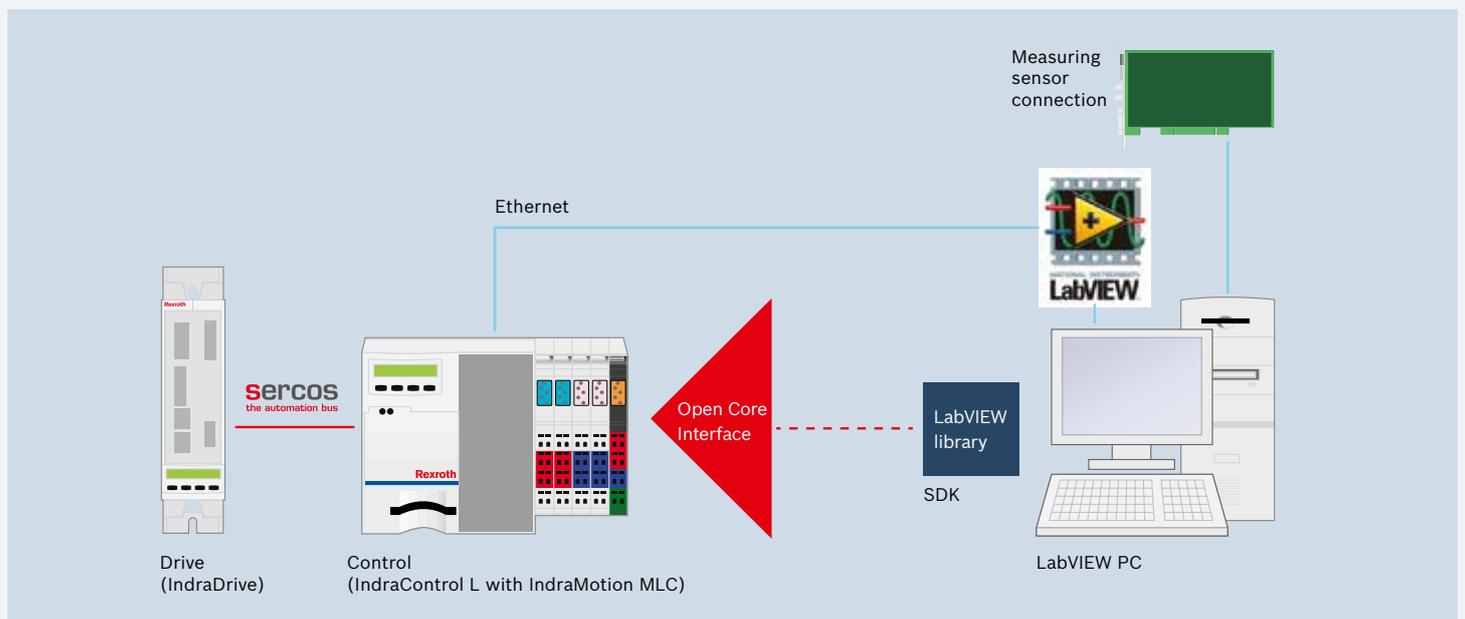
- ▶ Direct usage of control core functionality within LabVIEW
- ▶ Completely independent engineering of PLC programs
- ▶ Easy access of controls and drives using VIs
- ▶ Extensive libraries with more than 550 VI



The Open Core Interface from Rexroth is currently the only interface offering direct access to all control functionalities without redirection through the PLC program. To move an axis directly via LabVIEW, the user simply activates the corresponding VI (virtual instruments) without having to create a PLC command.

The result is that machinery manufacturers can use LabVIEW to program all of the necessary machine sequences. For most such applications, the PLC is often limited to individual testing stages only; deterministic sequences are mostly not relevant. With the control systems IndraMotion MLC and IndraLogic XLC, it is even possible to create the complete machine application

solely in the LabVIEW application with the help of the Open Core Interface. The control hardware with its firmware makes the necessary functionality available to the LabVIEW application through the Open Core Interface.



Open Core Engineering eliminates the need to create a PLC program in addition to the LabVIEW application. Due to expanded core access, it is now possible to use control functionality without any redirection and as a result, to move axes directly from LabVIEW – without a single line of PLC code.

## Engineering Network – the community of Open Core Engineering for developers

Open Core Engineering and the Open Core Interface technology provide the basis for a variety of new solutions and innovations. To implement fast product ideas, specific questions of programming must be resolved quickly. To do this, the Engineering Network of Rexroth offers users a modern information portal “from developer to developer”. In a discussion forum, you will find answers to general or application-specific topics related to tools, functions and interfaces. Practice-oriented example programs and online documentation to Open Core Interface

simplify the entry and provide valuable clues in the different high-level language programming. Open Core Engineering and the Engineering Network allow for efficient engineering and the rapid implementation of innovative products.

[www.boschrexroth.com/network](http://www.boschrexroth.com/network)



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