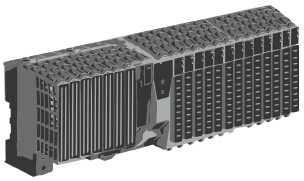
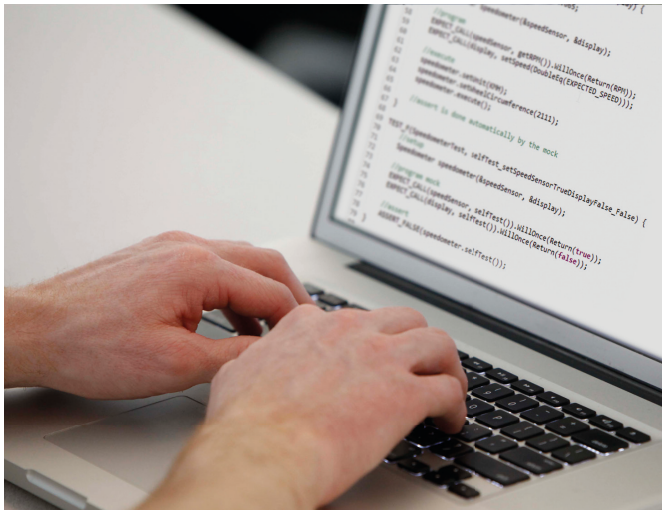
software quality lab
Innovation Meets Quality



UNIT TESTING WITH AUTOMATION STUDIO

In control programming it is customary, at present, to test the software on the machine only. This leads to a number of serious problems: there are many mistakes that cannot be discovered that way. If they are nevertheless discovered, it takes a long time until the reason for the malfunction is discovered. The long period between development and error report also increases the costs. This is where unit testing comes into play. Developers carry out tests of the code during development. Thus good quality as well as a maintainable code are produced.

In this training you will work on practical concepts and best practices of unit testing in control programming on the basis of Bernecker & Rainer controls. The theory is supplemented by many practical exercises that are converted into the programming languages C and C++ in the Automation Studio.



Goal

As a control developer you are able to write readable and reliable unit tests. You are also able to develop control software that can be tested, maintained and understood.

Contents

- Basis of unit testing
- Writing good unit tests
- Organization of the unit tests
- Test development process for efficient test cases
- Developing a code that can be tested
- Test driven software design
- Improving the design of the existing code

Duration: 2 days
Interactivity: training with practical exercises
Level: basic
Preconditions: programming skills in C or C++, IEC 61131-3 as well as B&R Automation Studio
Target group: software developers, testers, test managers