

CONTROL TECHNOLOGY

AUTOMATED ENGINEERING

SAVE THE LEAD WITH AUTOMATION

Software-based automation is at the forefront of the fourth industrial revolution, the digitization of production. The goal: to be more efficient, to increase productivity and speed, and to ensure quality, while at the same time reducing engineering costs and time to market.

Complex controls required

The control software is becoming increasingly complex within machines. Today software is an essential core component of every machine or system. It is no longer just sensors that are read and actuators controlled. Due to these constantly increasing requirements and the ever shorter innovation cycles, a level of complexity is now often achieved that every high-level language application can keep up with.

Therefore, the implementation approach that can handle this complexity must be chosen. It is essential to live a process that takes into account the entire life cycle of the software. Here, for example, the agile development methods already established in high-level language development are suitable.

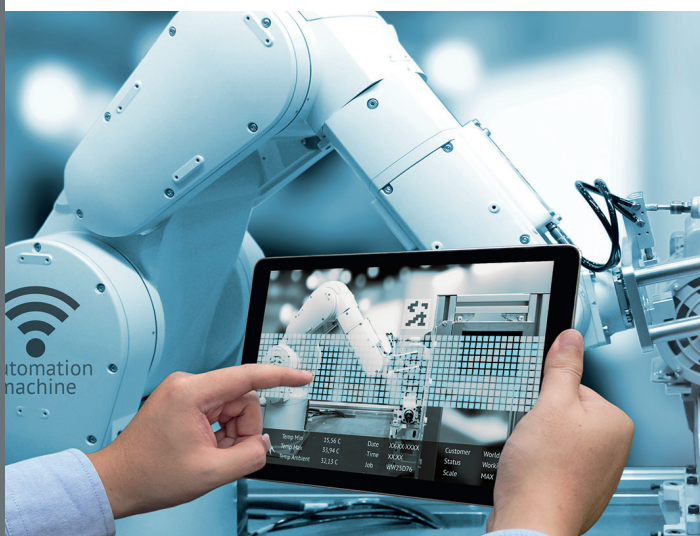


Automated solutions with suitable technology

Every automation solution consists of control and software components that are optimized for the respective application.

This includes the decision as to which hardware is used, as well as the selection of software libraries, a suitable tool landscape, as well as the implementation and creation of a suitable test environment.

To ensure the longevity of the automation solution, it must be designed for expandability, testability, and maintainability right from the start. Good software quality can only be achieved with an architecture that is designed to meet these criteria.



APPROACH

The basis for successful control

First of all, the decision for a control manufacturer must be made. This can also be influenced by the decision for hardware components such as sensors, actuators, and communication channels, and technologies. Furthermore, it must be decided how the controller communicates with external systems and thus the communication technology for this application must be selected. An example of external systems are a HMI, an MES system,

or other controls. Once the interfaces have been clarified, the machine itself can be modularized. Suitable software architecture can now be designed for this modularly structured machine that fits the respective application. Patterns from the high-level language are used here to illustrate the high level of complexity and to ensure testability. The control software is continuously tested while it is being implemented.



"The complexity of control software can keep up with any high-level language application today, and so it should be developed and tested."

Jörn Linke
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BENEFITS

Control technologies help you to

- Reduces development costs
- Function check with simulation and unit tests
- Shorten development times
- Earlier error detection
- Faster time to market
- Maintainability
- Flexibility

SERVICES

We offer you!

- Analysis of existing software
- Development of new systems
- Broad know-how
 - Siemens
 - B&R
 - Beckhoff
 - Rockwell
 - Codesys based systems
 - IEC 61131-3
- C/C++
- Embedded real-time systems
- Selection of suitable communication technologies
 - OPC Classic
 - OPC UA
 - Customer-specific communication protocols
- IOT Connection
- Safety