

TEST AUTOMATION

REPRODUCIBLE SOFTWARE QUALITY

THE CHALLENGE IN MECHANICAL ENGINEERING

Reliably working software is the desire of every project manager. However, this goal will only be achieved if you set the right course in terms of quality assurance and automation in development projects right from the start.

Early testing saves time and money

The steadily increasing complexity and variability of modern systems and development processes often lead to increased and mostly manual expenditure for quality assurance. In modern, agile development processes, intensive testing in the different development phases is essential.

In practice, unsystematic or incomplete testing often leads to errors being found only on the real machine. This costs a lot of time and money. In mechanical engineering, the close link between software and hardware is an additional challenge.

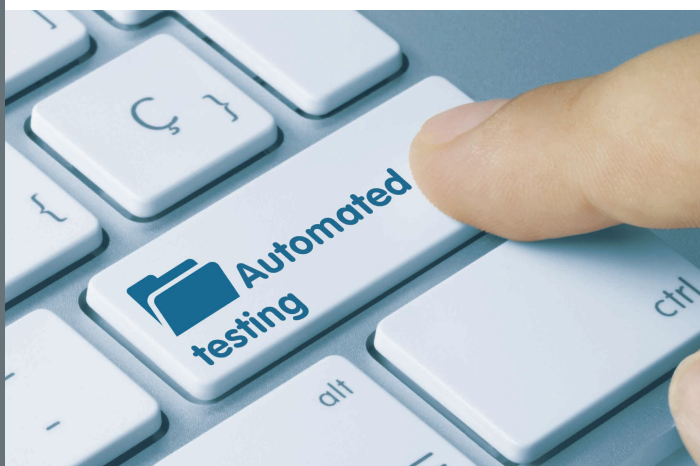
For this reason, only the protection of individual software components of the machine via unit tests has been established. Structured, extensive, and (partially) automated tests at integration and system level, however, are very rarely found.



With end-to-end tests to success

In practice, a structured test methodology that is adapted to the development process has the best cost-benefit factor. For this, customized tools, processes, simulations, and test setups are needed.

That way, comprehensive quality assurance from individual software modules to (virtual) commissioning can be guaranteed. The automation of the test execution via Continuous Integration and Continuous Deployment (CI/CD) as well as systematic reporting accelerate the agile development process with consistent and verified product quality.



APPROACH

Improve quality step by step

- Analysis of existing test activities
- User stories and acceptance criteria for coverage of the required functionality
- Definition of test environments and tools
- Classification of test cases in different test levels and systems
- Demand-oriented structure of test systems and simulations
- Agile development of unit, integration and system/acceptance tests
- Gradual expansion of test automation
- Connection of the CI/CD systems



"The automation of repetitive test tasks is a central element of agile procedures. The supreme discipline is certainly the automation of a system and end-to-end tests."

Tobias Herkert
Senior Consultant
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BENEFITS

We help you increase product quality!

- Transparent status of software quality
- Ensuring a consistently high software quality
- Reduction of test time on the machine
- Systematic structuring/documentation of test cases
- Effortless execution of all function tests after bug fixes and further developments
- Automatic tests independent of working hours and quick feedback
- Testing hardware and software without complex mechanical construction
- Safeguarding of software optimization and reengineering

SERVICES

We support you in all phases and at all levels!

- Collection and structuring of test cases
- Creation of test plans & test specifications
- Selection of a suitable toolchain
- Development of testable software architectures with suitable interfaces
- Selection of suitable hardware and software components
- Mechanical/electrical structure of test systems
- Implementation
 - of test cases
 - of test sequence control
 - of necessary simulations (mechanical components, controlled systems)
 - of the interface to test management systems
- Automation of test procedures and reporting the results