

Project Note

Test system for production

In this project, Zühlke created a LabVIEW framework for the production of electric motors. The modular design of the test system reduced the cost of setting up new test bays while increasing the flexibility of production.

Task

The project involved Maxon Motor AG, a developer and manufacturer of high quality drive components and systems. A modular test system with a standard set up was to be developed to test these products during production. Zühlke was to concentrate in particular on complying with the high standards for medical equipment applications. In this joint project with the customer, a LabVIEW framework was to be designed and subsequently validated. The customer wanted to be able to program, change or expand the test sequences by itself later on.

Implementation

Zühlke developed a software design for the test system and used it as a basis for modelling a prototype with a graphical user interface. Together with the customer, the project team defined the display elements and controls, the precise functions and the various interfaces in iterative steps. It then integrated these features in the prototypes and continually improved them. Dynamic plug-ins automatically opened the appropriate program for the given test sequence, depicted testing progress graphically on the user interface and saved the results in a database.

In addition, the new framework now allowed future test sequences for a new product to be defined and tested while that product was being developed. These sequences were easy to incorporate in production later on. Thanks to this flexible software design, the customer was now also able to test custom-built products and small series. Expertise was transferred efficiently and comprehensively owing to the regular and close contact between Zühlke and the customer's development team throughout the project.



maxon motor
driven by precision



Tool
LabVIEW®

Customer benefits

- Zühlke designed a single modular platform for use at the various test bays. That meant less maintenance and training for the customer and greater flexibility in production.
- Drawing on their years of experience with LabVIEW, Zühlke's experts ideally adapted the complex software architecture to meet the system's requirements.
- The customer's team benefited from a comprehensive and efficient transfer of expertise in this close collaboration with Zühlke's interdisciplinary team.

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