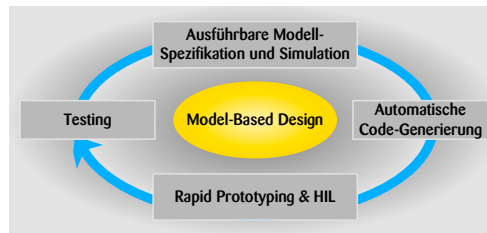


An early understanding of the system in question is fundamental when optimising control systems. Zühlke specialists achieve such an understanding by making efficient use of modern simulation and analysis tools.



Consulting Development Integration

# Model Based Design

## Testing and Implementation

For the purpose of testing, the engineers automatically generate the C-Code for the respective hardware platform (DSP or  $\mu$ C) from the model. This allows them to quickly and iteratively test the firmware and embedded software at an early stage. If the specific hardware is not yet available, this can also be simulated and tested in real-time conditions – a process referred to as hardware-in-the-loop.

## Our Experience

Zühlke has been developing complex control systems for high-quality products using model based design for many years. You can benefit from our long-standing experience with the simulation and analysis tools required for such an approach.

## Challenge

Ever shorter development times necessitate the development and use of efficient systems for handling increasingly complex products. In order to bring about an optimised overall system with predictable performance, developers must understand the complete system concept at an early stage – before any hardware is in place.

## Modelling and Simulation

Using the model based design approach, the Zühlke specialists iteratively recreate the behaviour of the system and the hardware in a model. This gives them an overview of the complete system at an early stage of the development process, thus allowing optimised algorithms to be programmed. This simulation allows the performance of the model to be optimised until the defined system specification has been achieved.

## Benefits

- Optimal hardware design as a result of understanding the system at an early stage.
- Realisation of cost savings due to more efficient development of the software using early iterative tests.
- Development risks are reduced by utilising experienced specialists.

Describe your project or your ideas and we will explain how the quality can be improved and the development time shortened.



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