

# Phase 4: Realization

## Parameterization and programming of safety functions according to the technical specifications



### AUTOMATION

#### Product information

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The proportion of dangerous systematic errors relating to safety functions is well above 60% of all possible errors.

The implementation of safety functions is defined in the technical specifications for hardware and software and is binding. This specification for parameterization and programming determines the safe states, the required startup inhibits, diagnostic measures, and additional safety-related parameters.

Deviations from the specification and/or the programming guidelines are systematic errors and can lead to hazards for man, machine, and/or environment.

This is important if you are responsible either for the functional safety of machines or the documentation, or if you are a project manager, planner, designer or tester of safety functions.

#### User benefits

There's no need to undergo parameterization and programming training. Our certified safety experts will take care of your requirements.

This means:

- A shorter implementation phase
- The avoidance of dangerous systematic errors
- Conformance with standards
- Time savings
- Fewer resources used

#### Requirement

The individual safety functions are described in full and unambiguously in the software technical specification in accordance with the software architecture model of DIN EN ISO 13849-1 for the creation of the source code. All safety-related parameters are defined in the hardware technical specification.

The relevant technical specifications and programming guidelines approved by you form the legally binding basis for implementation by PHOENIX CONTACT.

#### Description of performance

Depending on your requirements, we can provide support during the parameterization and programming of your safety functions.

We offer competent and comprehensive advice, enabling you to implement the safety functions in the form of a safe software program in accordance with the software technical specification and the programming guidelines stipulated in the relevant standards. To ensure that you meet the requirements of the standards relating to the functional safety of machines, we will show you what to look out for when creating your safety programs. You will also receive general information on the handling of safety-related device parameters.

We will be happy to program the safety functions on your behalf and configure the safety-related parameters in the parameterization tool. We will carry out the programming in full and in a structured and documented manner, ensuring that the software is in a verifiable state.

You can then perform the necessary verification of the software, or we can do it for you.

**Duration**

The duration of our services depends on your requirements. We discuss your machine experts' previous experiences to agree on the time required for your individual case. This may be a general consultation lasting half a day or may involve intensive consultation or process support over a number of days.

For large-scale projects we are also happy to provide support for a longer period.

**Costs**

We will be happy to prepare a non-binding quote for you.

To request this, speak to your personal sales partner directly or contact our headquarters in Blomberg.

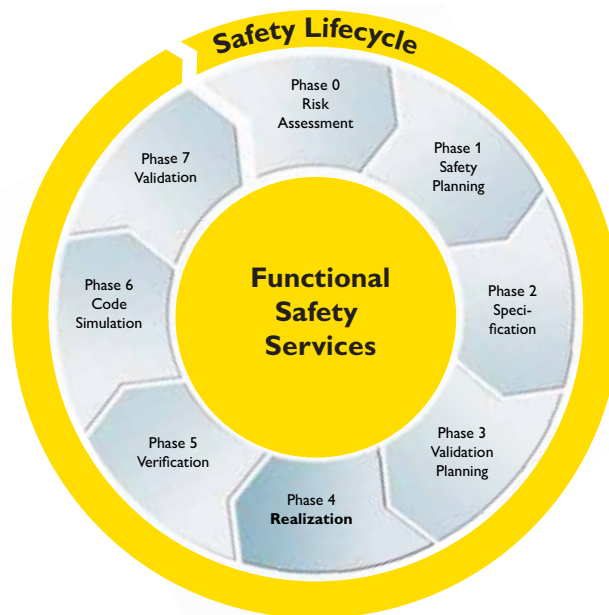
**Do you want to expand your in-house expertise?**

The following training will help you with implementation:

Safety Lifecycle P2-P4	Order No. 2700792
INTERBUS Safety System Course	Order No. 2884651
PROFIsafe System Course	Order No. 2692335

By offering you custom-made training tailored precisely to your needs, we can impart the specific knowledge you need for your safety environment.

The following may also be of interest to you when it comes to the safety lifecycle of your application:



Do you want to find out quickly whether you are on the right track to achieving functional safety? Then simply use our functional safety app check! By using a checklist, you can find out interactively whether you meet the essential requirements of the Machinery Directive. Simply search for the term *Safety* in the App Store.