

## FS 111 | Basic knowledge in Functional Safety

### Course Content

#### Introduction/Basics

- Presentation of relevant standards
- Identification of potential consequences
- Risk definition and risk management  
Manage safety properly

#### Analysis

- Identify and classify hazards
- By using examples as HAZOP, risk matrix and risk graph the procedures will be demonstrated

#### Realisation

- Why everything begins with a good specification
- Define hardware requirements and select components
- What needs to be taken care of when generating software. How software development is improved. What is important for operations
- Definition of the essential elements of a FAT
- How to proceed during commissioning
- Why checklists are an universal aid: Examples for specific usage
- Validation

#### Operation

- Safety must be ensured during plant operation
- Proper (important) recording of faults
- Fault analysis
- Proof tests



### Introduction to Functional Safety in process industry according DIN EN IEC 61511

Practical based instruction for end users and system integrators. The one-day workshop demonstrates the implementation according the standards of functional safety. Participants learn to understand, communicate and apply Functional Safety Management and lifecycle principles. Use hazard and risk analysis, design safety-instrumented systems (SIS), calculate failure rates, select adequate equipment and understand the certificates and the relevant safety manuals.

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## Dates in 2017

Date	Location	Country	Language
20.02.2017	Brühl*	Germany	German
11.04.2017	Brühl*	Germany	German
26.06.2017	Brühl*	Germany	German
28.08.2017	Brühl*	Germany	German
05.10.2017	Brühl*	Germany	German
11.12.2017	Brühl*	Germany	German
Upon request	Brühl*	Germany	English

\* 68782 Brühl near Mannheim

## Participant profile

- Engineers (electrical, mechanical, chemical, maintenance, production, process controls and instruments, safety, quality)
- Managers (operations, R&D, process controls, projects, health and safety, technical)

## Tailored training

- Courses are also possible on-site if appropriate premises and technical equipment are available (price upon request)
- Course focus can be tailored to individual groups (content, duration)

## Further courses on this subject

- Training program TÜV Rheinland Functional Safety Engineer (FS 132)
- Functional Safety for maintenance and operations (FS 101)

## Duration

- 1 day,  
from 8:30 am to 4:30 pm

## Number of participants

- Min. number of participants: 4
- Max. number of participants: 8

## Prices 2017

- 570,- € per person

## Services

- Paper copies of training documentation
- Refreshments and lunch

## Registration and contact

General terms and conditions as well as registration at

[www.hima.com/Lifecycle\\_Services](http://www.hima.com/Lifecycle_Services)

or using our registration form.

For any other questions please contact

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