CEFS – Certified Expert in Functional Safety

Expert

Course Accreditations

- TÜV NORD Certified
- Equivalent to 14.5 hours of CPD

The CPD Standards Office
CPD PROVIDER: 21955
2025-2027
www.cpdstandards.com

In partnership with:

Objective

Functional safety is the part of the overall safety of a system or piece of equipment that depends on automatic protection operating in a predictable manner in response to inputs or failure (fail-safe). The automatic protection system should be designed to properly handle likely human errors, systematic errors, hardware failures and operational/environmental stress.

Certified by TÜV NORD, the internationally recognised CEFS – Certified Expert in Functional Safety training course explores the standard and technical requirements to design, verify and implement a functional safety system. The training provides a thorough understanding of the applicable standards and a practical approach to designing complex safety systems. Participants are guided through the process, from the fundamental understanding of the standards required, through to safety requirements specifications and on to the design of a safety control system and validation.

The qualification offers you comprehensive expertise on the corresponding standards as well as practical consideration of the creation of complex safety systems. After passing the test, you are issued an independent certificate from TÜV NORD. The certificate is recognised worldwide and entitles you to use the designation “CEFS – Certified Expert in Functional Safety”.



Contents

- Basics of safety control systems
- Safety requirements specification
- Design of a safety system
- Workshop to define the maximum achievable performance level
- Validation
- Software tools
- Special cases
- Exercises
- Management of functional safety

Target groups

CEFS is aimed at machine manufacturers, design engineers and integrators with special responsibility with regard to safe control systems. Furthermore, CEFS is specially intended for people who are responsible for machinery safety of new and existing machines in day-to-day operations, such as:

- Design engineers (electrical systems and fluid technology)
- Technical engineering managers
- Safety engineers
- Programmers of safe control systems
- Project engineers
- System integrators
- Test engineers who are responsible for the validation of machinery

Prerequisites

To be able to successfully participate in the two-day expert training, you must verify that you have sufficient knowledge in the field of functional safety. This includes the following:

- Prior knowledge on the topic of functional safety **or**
- Participation in a one-day Pilz training or in a different suitable training course on the topic of functional safety, e.g. “Design of Safety Control Systems according to ISO 13849 and IEC 62061” **or**
- You already have the qualification CMSE – Certified Machinery Safety Expert.

Are you unsure about whether your current qualification corresponds to the required level? Feel free to get in touch with us.

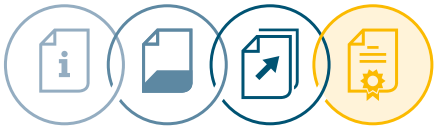
Note

A laptop is required for participation in the training. CEFS includes an online exam which takes place on a fixed day after the end of the training. If the test is passed, you receive the globally recognised TÜV NORD certificate of “CEFS – Certified Expert in Functional Safety”. The certificate is valid for four years and then can be extended for another four years by taking part in a recertification.

Benefits to you

- Design and manage functional safety systems that are in accordance with ISO 13849-1 and IEC 62061
- Learn how to successfully validate systems for functional safety in compliance with current standards
- Understand the details about the effects of engineering decisions on the reliability and availability of the control system
- Learn how to select the most effective and cost-efficient control system that is ideally suited to your requirements
- A virtual machine model is used during the training as part of the workshop. This guarantees practical learning

Your optimum qualification path:



Introduction: Introduction to Machinery Safety
Fundamental: Fundamentals of Machinery Safety
Advanced: City & Guilds Assured 4-Day Machinery Safety
Expert: CEFS – Certified Expert in Functional Safety

Note: *Most Pilz UK courses, including this one, can be hosted at external locations. Travel expenses for the trainer would be included in the cost.*

Course Details:

Duration:	**2 days** + 40 minute exam on the 3rd day 9:00 – 17:00
Fee:	**£1,400 +VAT per person**[1)] (Plus travel expenses, if course is run off-site.)
Number of participants:	Up to 10

Test required

[1)] Includes the TÜV examination fee and the issuing of the certificate