

T145

IEC 61511 Functional Safety Appreciation and Awareness

Course goal

The goal of this course is to provide an End User/EPC perspective of the key management, design and operational requirements of Functional Safety according to IEC 61508 / IEC 61511. This includes key steps to compliance in the context of Safety Instrumented Systems (SIS) projects.

Course attendance is open to all interested parties.

Learning objectives

Upon completion of this course, the participants will be able to:

- Describe the principles of Functional Safety and key features of IEC 61508 / IEC 61511
- Describe the requirements of the Safety Lifecycle
- Appreciate the methods available to determine Safety Integrity Levels (SIL)
- Appreciate the need for Safety Lifecycle processes, procedures, methods and techniques
- Understand the key factors used in the SIS engineering and design such as Random Hardware Failure, Architectural Constraints and Systematic Capability
- Requirements for operations, maintenance & modification

Participant profile

This training is targeted to Asset Owner/End User and Engineering Contractors/EPC stakeholder managers, project engineers, process engineers, safety engineers, operations managers, electrical, control, instrumentation, maintenance and application engineers who require a general introduction and awareness to the functional safety standards and the key requirements for compliance.

The course is particularly useful for those managers and engineers who may be directly or indirectly; involved in executing safety instrumented system projects covering any phase of the safety lifecycle from hazard and risk assessment, through engineering and design to operations and maintenance.



Topics

- Background to the Standards
- Key Concepts and Safety Lifecycle
- Hazard & Risk Assessment & SIL Determination Methods
- SIS Design and Development
- Overview on the selection of components, subsystems
- Operations, maintenance and modifications
- Continuous review and improvement

Course type and methods

This is an instructor led course with classroom discussions regarding the implementation of IEC 61511 and the relationship to safety instrumented systems (SIS).

Course duration

The duration is 1 day. The course is available to be delivered in English, German, Chinese and Spanish languages. Please see the current 'Open' course schedule.

The course content can also be delivered on-site to meet any specific Client requirements.

Course description

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Course outline

Day 1

- Introduction and background to IEC 61508 / IEC 61511
- Key Concepts for compliance to the standards
- Safety Lifecycle Management
- Overview of Hazard & Risk Assessment & SIL Determination Methods
- Safety Instrumented System Design and Development
- Overview on the selection of components and subsystems
- Operations, maintenance and modification of SIS
- Management requirements for continuous review and improvement of SIS

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