

SGS-TÜV Saar – Certified Functional Safety Application Expert (CFSAE)



TUV - FUNCTIONAL SAFETY OF MACHINERY SEMINAR

In conjunction with SGS-TÜV Saar, SICK is now offering training toward the qualification of Certified Functional Safety Application Expert in the topic of functional safety of machinery. Those who complete the training should not only satisfy legal requirements relating to functional safety, they will also have the skills to perform substantiated evaluations of machine safety and be familiar with all the steps involved in the process. The training is aimed at engineers, electricians, system integrators and developers, as well as safety officers and those responsible for machinery safety.

Course Information

The standards regarding Functional Safety as well as the European Machinery Directive and Australian and New Zealand OH&S law, demand that persons and organisations performing responsible (accountable) tasks during the life cycle phase of a machine have to acquire and be able to prove their competency in machinery safety. Within this training, the requirements for the design as well as the proof of functional safety for machinery applications are described and discussed in detail based on the relevant current standards.

The procedure for the selection of protective devices for machinery in order to achieve the required risk reduction is shown. Examples of safety functions are explained. The main requirements of ISO 13849 and IEC 62061 for the design of safety related parts of machine control systems are presented and application examples illustrating the quantitative assessment of safety functions are discussed.

General information

During the Functional Safety programme you will learn the general principles of risk assessment and risk reduction as well as the selection of protective devices in order to achieve the required risk reduction. The requirements for the design of control systems, including verification and validation principles, are shown based on the international standards ISO 12100, ISO 13849, IEC 62061 and IEC 61508. Upon completion of the program and passing the exam, you will be qualified to correctly implement the standards in machine safety applications, in your industrial environment.

Target Group

Those who will benefit from this certification include application engineers & project engineers, electricians and system integrators with significant experience in Functional Safety; also designers and safety specialists working in machinery applications. Ensure that you are very familiar with the standards noted above as well as having a good overview understanding of the European Machinery Directive (Directive 2006/42/EC) and the Work Equipment Directive (Directive 2009/104/EC) prior to attending the training and that you comfortably meet the prerequisite criteria. This training and certification formalises and certifies your existing knowledge of Functional Safety of machinery.

Learning Objective

With this programme you have the chance to consolidate your attained knowledge. Depending on your present experiences, you refresh your knowledge of the requirements of the standards on functional safety and fulfil the stipulated criteria. You learn how to assess and knowledgeably select the machine safety options in line with standards. In addition, you understand what is required with regard to documentation and quality assurance. Upon completion of the programme you will have confidence with the international standards and content covered in the course.

Agenda

Day 1

- European legislation: What is an EU Directive?
- Benefits of technical standards and standardisation
- Strategy for risk assessment and risk reduction (ISO 12100)
- Safeguarding and complementary protective measures

Day 2

- Requirements for the design of fixed and movable guards
- Application of protective devices
- Determining minimum distances of safeguards
- Miscellaneous protective measures

Day 3

- Integrating protective devices into control systems
- Technical and organisational measures for safety-related systems
- Principles for the design of safety-related parts of the control system (SRP/CS) acc. to ISO 13849-1
- Principles for the design of safety-related electrical control systems (SRECS) acc. to IEC 62061

Day 4

- Requirements for safety-related application software
- Principles for verification and validation (ISO 13849-2)
- Quantification of SRP/CS acc. to ISO 13849-1
- Quantification of SRECS acc. to IEC 62061

Day 5 - Optional exam (4 hours)



Eligibility Requirements

In order to participate in the program, we suggest applicants should have a minimum of three year's experience in the field of functional safety of machinery and be knowledgeable on the international standards as mentioned above. When you register your interest to participate, a registration and eligibility form will be provided for you to complete. Your eligibility will be assessed and if necessary, discussed with you.

Duration: Seminar only: 4 days, With exam: 5 days

When & Where: 25th May to 29th May 2020
444 Wilson Street, Albury NSW

RSVP: ccarty@remtron.com.au , call 03 9587 1233 or **REGISTER HERE** (*registration closed 9th March, 2020*)

Cost: \$3900.00 plus GST for the 5 days, seminar and exam inclusive (includes - lunch)

What to bring to the course: The standards ISO 13849 part 1 and 2 and IEC 62061 are essential working material for the exam. Hard copies of these should be brought along by participants. Copies of these can be sourced at <https://infostore.saiglobal.com/en-au/> unless you already have hard copies of these to bring to the course.

On successfully passing the exam you will receive a SGS-TÜV Saar issued certificate applicable to Functional Safety of Machinery, which is acknowledged worldwide. The exam consists of 70 multiple choice questions and 10 open questions. The standards ISO 13849 part 1 and 2 and IEC 62061 are essential working material for the exam. Hard copies of these should be brought along by participants. Soft copies of any reference material and computers/tablets/phones etc. are not allowed in the exam. It is suggested that participants are familiar with the European Machinery Directive which is available for [download](#) from the European Union Law [website](#). Additionally a calculator should be brought along for some calculations. Other standards you should have a good working knowledge of and should have available for reference are ISO 12100, ISO 13854, ISO 13855 & ISO 13857 or their relevant AS or AS/NZS equivalents. SICK's very valuable 'Guide for Safe Machinery' will be provided as part of the preparation material.