

ISO 13849 standard for safety of machinery

Duration 2 days

Teaching methods

Presentations with illustrated practical case
Lunch meeting with the speaker

Prerequisites

Equivalent profile as engineer, in technical or in scientific education

For who

Project Managers, Design Offices, Methods, R & D, Quality

Lecturer/Trainer

Expert and / or specialist

Assessment methods

Assessment sheet and self-assessment given at the end of training

Sites

PARIS / LYON /
MONTREAL

Intra-company sessions on request

Contact us

For more information
Phone : 438-558-1395
formation@sector-group.net

Objectives

- Specifying and developing the required performances of the safety functions
- Quantitative assessment of the performance Level (PL) reached by a safety function
- Performing a complete qualitative and quantitative analysis of a safety function on a Safety Programmable Logic Solver.

Program

For the safety of machinery, ISO 13849 standard provides safety requirements and advices on the design and integration of Safety Control System Parts (SRP/CS) including software design.

Introduction to RAMS engineering

- Why do we need a RAMS analysis ?
- Concepts and definitions

Introduction of ISO 13849 standard

- Development of ISO 13849 standard
- Safety objectives – Required Performance Level
- Identification and quantification of safety levels
- Characteristics of safety functions
- Validation process

Deliverables of the standard and their order in the process

- External functional analysis
- Preliminary Hazard Analysis
- Determination of the required Performance Level of a safety function
- Functional architecture of Safety Function
- Assessment of the Performance Level reached
- Connections between SIL levels : FMECA, Tree Fault Analysis, common cause failure factor, critical code reading (LCC) (software part)...

RAMS tools

- Preliminary Hazard Analysis
- FMECA
- Tree fault analysis
- Feedback analysis
- Reading critical code (Software)
- Tests and Validation process