

## Functional Safety in Machine and System Manufacturing (ST-FASAFN)

### Lyhyt kuvaus

The safety of machines is not only a question of human obligation but also makes economic sense. With this course, we will inform you about the legal situation, the application of relevant EU directives as well as the requirements for placing products on the market within the European Union.

### Tavoitteet

You will gain extensive knowledge of risk assessment, about the creation of safety concepts. An outlook on the CE marking rounds off the course.

Furthermore, you will receive comprehensive knowledge of the documentation of safe control according to Machinery Directive 2006/42/EC as well as about the machine validation.

### Kohderyhmä

- Decision-makers
- Sales personnel
- Planners
- Programming persons
- Commissioning engineers
- Project designers
- Design engineers (in the field of mechanics, electrical, hydraulics, pneumatics)

### Sisältö

- Legal Situation
  - Overview of the European directives
  - Contents and areas of application of the Machinery Directive 2006/42/EC
  - Relevance of the harmonized European standards for the machine and system manufacturer
- Risk assessment
  - Carry out a risk assessment according to EN ISO 12100 on the basis of a sample machine
  - Conformity assessment/ declaration of conformity according to MRL 2006/42/EC for placing machines on the market (\*)
  - Meaning of the CE marking
- Risk reduction
  - Risk reduction by means of the 3-step method; Implementation of the safety concept
  - Design of the architecture of the safety functions
- Applying the standards of the functional safety
  - Overview of EN ISO 13849-1
  - Overview of EN 62061
  - Practical application and independent calculation of the Performance Level (PL) as well as the Safety Integrity Level (SIL)
- Verification and Validation
  - Validation of the functional safety in the manufacturing industry according to EN ISO 13849-2 and EN 62061
  - Practical exercises demonstrate the individual steps of validation

Included in the course price: Free access to the digital learning platform [SITRAIN access](#) – starting one week before the start of the course until two weeks after the end of the course. Here you will find web-based trainings on [TIA Safety - Basics](#), and many more. With the Learning Membership, you can deepen or repeat the content of this Learning Event as well as continue your education on other interesting topics.

### Muistiinpano

The Learning Membership starts 7 days before the start of the course and ends 14 days after the end of the course. During this period, you have access to all of the more than 480 web-based trainings available.

### Tyyppi

Kasvokkain tapahtuva koulutus

### Kesto

3 Päivää

### Kieli

en