exida

Functional Safety, Security, & Reliability
www.exida.com

TRAINING

exida Can Show you the Way

Training Course: Safety System Design Verification

This course covers safety system design verification concepts including failure rates, failure modes, and fault tolerant design techniques. The safety system design process requires that each safety instrumented function (SIF) be analyzed to insure that the entire loop meets the design target. Several fault tolerant design examples are used to demonstrate practical verification analysis techniques. Spreadsheet solutions to fault trees and Markov models will be presented.

Skills You Will Learn:

- How to review a safety system design
- How to analyze a system for multiple failure modes
- How to do SIL verification calculations
- When to use fault tolerant equipment
- How to economically justify a SIS

Course Topics:

- Safety Instrumented Systems Example, Example 2, Exercise
- Failure Modes,
- Safe versus Dangerous Exercise,
- The Safety Life Cycle,
- Safety Engineering Terms,
- Field Instruments
- SIL Verification Example 3, Exercise, Economic Justification
- Example 4, Exercise
- Architectures – 1oo1, 1oo2, 2oo2, 2oo3
- System Analysis Techniques,
- Common Cause,
- Diagnostics,
- SIS Example, Exercise

Who Should Attend:

- Control Engineers
- Safety Engineers
- Engineering Management

Length: 2 Days **Cost:** TBD

COURSE MATERIALS PROVIDED

Learning from the Experts

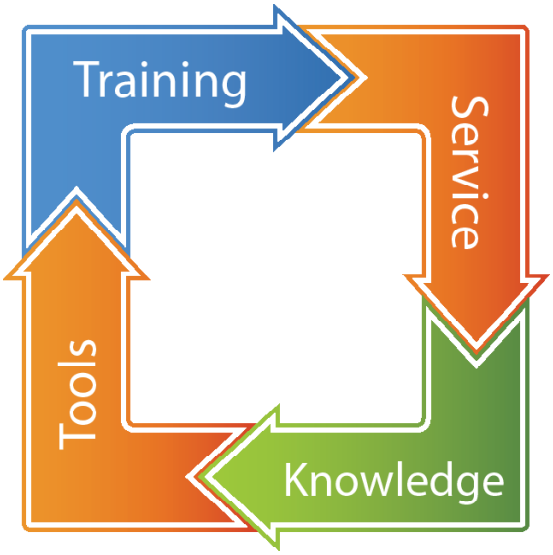
Experience has shown that most companies benefit from training as the first step in implementing a safety program. Having a solid up-front understanding of the Safety Life Cycle, the related standards and requirements for compliance, and the equipment selection and certification options ensures a focused and cost-effective safety initiative. And when you rely on exida for this knowledge, you gain access to some of the world's top experts in functional safety.

exida employees have written the books used for evaluating automation safety and reliability, they helped write the standards used for designing safe and secure systems, and they wrote many of the procedures used to certify the effectiveness of system hardware. They give the lectures and symposia that train industry's top professionals and present the latest developments. And since exida instructors are active safety professionals who participate in standards committees and provide professional safety services, the training reflects the most current and pressing issues.

exida delivers your training flexibly to accommodate your time and budget. Options include training courses delivered at your location, at an exida office, and through computer-based training modules. Example course topics include:

- The IEC 61508 and IEC 61511 Standards
- Hazard and Risk Analysis
- Safety Integrity Level (SIL) Selection
- Functional Safety Life Cycle Management
- CSFE (Certified Functional Safety Expert) preparation

exida also regularly publishes white papers and text books to facilitate learning on key topics, such as the best-selling book Safety Instrumented System Verification and the recently published book Final Elements and the IEC 61508 and 61511 Standards.



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