

# Safety Technology & Risk Management: Mastering Hazard Control





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Ref: 321449\_140096 Date: 25 - 29 Aug 2025 Location: Munich (Germany) Fees: 4400

**Euro** 

### **Course Description**

This comprehensive 5-day course equips professionals with advanced knowledge and skills in safety technology and risk management. Participants will learn to identify hazards, assess risks, and implement effective control measures in complex industrial environments. The course covers cuttingedge safety technologies, risk assessment techniques, and strategies for creating a robust safety culture.

### **Learning Objectives**

- Apply principles of hazard identification and risk assessment to processes and machinery
- Understand reliability concepts and utilize failure tracing methods
- Demonstrate practical understanding of quantitative risk assessment techniques
- Develop and implement effective control methods based on risk evaluation
- Identify requirements for safe work systems and relevant international standards
- Promote a proactive approach to hazard analysis and safety management

#### **Course Modules**

#### **Day 1: Fundamentals of Safety Technology**

- Introduction to safety engineering and major industrial disasters
- The safety system process and hazard identification techniques
- Criteria for risk tolerability and hazard control strategies
- Safety standards, codes, and regulations national and international

#### **Day 2: Advanced Risk Assessment Techniques**

- Safety management systems and lifecycle approach
- Process, workplace, and equipment risk assessment methodologies
- Task-based risk assessment and human factors analysis
- Introduction to HAZOP Hazard and Operability Study

### **Day 3: Machinery and Work Equipment Safety**

- Machinery hazard identification and accident prevention methods
- Failure modes, effects analysis FMEA, and software safety
- Human factors in safety analysis and performance optimization
- Case studies and practical HAZOP examples

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#### **Day 4: Reliability Technology and Protective Systems**

- Types and causes of failures in industrial systems
- Maintenance strategies and inspection regimes
- Design and reliability of control and protective systems
- High Integrity Protective Systems HIPS and Safety Integrity Levels SIL

#### **Day 5: Consequence Analysis and Emergency Planning**

- Mechanics of fire, explosion, and toxic releases
- Dispersion modeling and quantitative risk assessment
- Event Tree Analysis ETA and emergency response planning
- Integration of safety technologies in risk management strategies

### **Practical Wins for Participants**

- Develop a comprehensive hazard identification and risk assessment plan for a specific industrial process
- Create a customized safety management system framework aligned with international standards
- Design a reliability-centered maintenance program for critical equipment
- Formulate an emergency response plan integrating advanced safety technologies



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