



*Conference:
Safety Technology & Risk Management*

*21 - 25 September 2026
Madrid (Spain)*

Conference: Safety Technology & Risk Management

Conference code: CO8177 From: 21 - 25 September 2026 Venue: Madrid (Spain) - Conference Fees: 6300 € Euro

Introduction

This conference focuses on safety engineering and risk assessment in complex technological systems, emphasizing the importance of managing safety hazards in plant operations. Participants will learn methods for eliminating, mitigating, and controlling major hazards, following internationally recognized principles from bodies like IChemE. The seminar will cover proactive and reactive processes for assessing and controlling risks, helping organizations comply with evolving environmental and economic standards. The goal is to reduce accidents, production disruptions, and legal liabilities while protecting company assets and the environment.

Objectives

- Apply the principles of hazard identification and assessment of risk to processes and machinery
- Understand reliability concept and use of failure tracing methods
- Demonstrate a practical understanding of a quantitative risk assessment technique and the data required for records
- Advise management on the most effective control methods based on the evaluation of risk
- Identify the general requirement for the development of a safe system of work
- Recognize relevant International Standards for Reliability and Machinery Safety

Methodology

The course shall be presented by a combination of interactive lectures, videos, and knowledge and understanding further established by way of a number of syndicate group exercises.

Organizational Impact

- Professional development of staff; the organization should be able to prevent accidents and minimize losses through improved reliability and safety.
- Awareness of tried and tested International practical principles to make quantifiable decisions to assist in evaluating risks from engineering options.
- Enable the delegate to apply the principles of safety engineering and risk assessment back at his or her workplace by putting into practice the practical knowledge gained from the course
- Help promote the importance of ongoing monitoring and reviewing of safety systems

Personal Impact

- Promotes a proactive attitude within the individual to hazard analysis
- Introduce the proactive concept and benefits of safety engineering and hazard/risk assessment analysis
- Help to recognize the range of the key factors to be considered in the process of hazard and risk assessment analysis
- Introduce the delegate to the methods and techniques for evaluation hazards across a variety of industry sectors
- Enlighten the delegate to the importance of continued learning from accidents and incidents

Outlines

Day 1: Hazard Identification

- Introduction and course overview
- Why do we need safety engineering
- Examples of major disasters
- The safety system process
- Hazard identification
- Hazard control
- Criteria for risk tolerability
- Hazard Identification Techniques
- Design out hazards
- Safety standards codes, national and international
- Safety analysis in engineering
- Safety analysis in Chemical process
- Safety analysis in manufacturing

Day 2: Risk Assessment Techniques

- Safety Management
- Safety in the system life cycle

- Hazard identification check-list
- Process, workplace, work equipment risk assessment
- Task-based risk assessment
- Introduction to HAZOP

Day 3: Machinery and Work Equipment Safety

- Machinery hazard identification
- Causes and methods for machinery accident prevention
- HAZOP examples
- Failure modes, human factors, and software safety
- Conducting a failure mode and effects analysis
- Human factors safety analysis
- Performance and human error
- Human factors and safety analysis

Day 4: Reliability Technology

- Types and causes of failures
- Methods of preventing failure
- Types of maintenance and inspection regimes
- Reliability of components and systems
- Design and reliability of control systems
- Design and reliability of protective systems
- The concept of "HIPS"
- Safety Integrity Levels "SIL" selection

Day 5: Consequences Analysis

- Mechanics of fire, explosion, and toxic releases
- Dispersion modeling software

- Types of fire: flash, jet, cascading fires and BLEVE
- Types of explosion
- Quantification of risk
- Event Tree Analysis [ETA]
- ConferenceSummary
- Conference Review

Registration form on the Conference: Safety Technology & Risk Management

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Complete & Mail or fax to Global Horizon Training Center (GHTC) at the address given below

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