



Sicherheit and Umwelt Services

Optimal Solution for Safety and Environment



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Safety and Environment has gained a lot of industrial, business and public awareness in the recent times. This is a direct result of its importance in the industrial operations, business survival, and in general, improving the quality of life.

Sicherheit and Umwelt Services is a team of motivated consultants driven by the expertise and urge to provide optimal solutions to your safety and environmental needs - thus placing you in a comfortable position when it comes to making decisions on such critical issues.

Our specialized consulting services encompass myriad industries, locations, tools and techniques. From Plant and Process Safety to Environmental Impact studies; from Desktop Design Reviews to Workshop Sessions on Preliminary Hazard Analyses; from Oil & Gas to Construction Industries; our services adhere to International Standards and Practices.

We provide services to help you in rationalizing your decision-making process in the field of safety and environment.

Our core strengths include:

- ✓ Risk and Safety studies to help in the management of Risks
- ✓ Reliability and Availability studies to improve your system efficiency and plant productivity
- ✓ Environmental studies for your organization to adhere to Local and International Standards and Regulations
- ✓ Design Reviews to boost your confidence
- ✓ Our Consultants have extensive experience in projects worldwide
- ✓ Cost-Effective services

Our Services

HAZARD AND CONSEQUENCE ANALYSIS

- **HEMP, Hazard/Risk Register**
- **Facilitation for HAZID, HAZOP, What-If Analysis**
- **Gas Dispersion Analysis**
- **Fire, Explosion & Toxic Dispersion Analysis (FET)**
- **Fire & Smoke Dispersion Analysis**
- **Flare Radiation Analysis**
- **Emergency Systems Survivability Analysis (ESSA)**
- **Bow-Tie Analysis, Safety Critical Elements (SCE) Identification**
- **Escape, Evacuation & Rescue Analysis (EER)**
- **Temporary Refuge (TR) Impairment Studies**

RISK ASSESSMENT AND RISK MANAGEMENT

- **Qualitative/Quantitative Risk Analysis & Assessment (QRA)**
- **Non-process Risk Analysis (Helicopter crash, Ship collision, Dropped object)**
- **Plant Building Risk Analysis according to API 752 and OSHA**
- **As Low As Reasonably Practicable (ALARP) Demonstration**
- **Safety Case according to COMAH Regulations 1999/SEVESO II**



SIL ASSESSMENT

- **Safety Integrity Level (SIL) Assessment according to IEC 61508 & IEC 61511**

RELIABILITY AND AVAILABILITY

- **Failure Mode Effect Analysis (FMEA)**
- **Failure Mode Effect & Criticality Analysis (FMECA)**
- **Reliability, Availability & Maintainability (RAM) Studies**

ENVIRONMENTAL IMPACT STUDIES

- **Environmental Impact Assessment (EIA)**
- **Environmental Risk Assessment (ERA)**
- **Environmental Management Plan (EMP)**

EMERGENCY PLAN

- **Emergency & Contingency Management (Preparedness & Action) Plan**

MISCELLANEOUS

- **Sizing Calculations for Safety Valves, Pressure Relief Valves etc**
- **Location of Fire and Gas Detectors, Sprinklers etc**
- **Hazardous Area Classification**

TRAINING COURSES

➤ **Process Hazard Analysis Techniques**

Key Topics: HAZID, HAZOP, What-If Analysis, Checklists, Fault Tree Analysis, Event Tree Analysis, Failure Mode Effect Analysis

➤ **Quantitative Risk Analysis & Assessment**

Key Topics: Preliminary Hazard Analysis, Likelihood Estimation Methods, Consequence Modelling and Analysis, Fire-Explosion & Toxic Effects, Risk Analysis, Non-process Risk Analysis (Helicopter crash, Ship collision, Dropped object), Risk Criteria, ALARP Principle and Demonstration

➤ **Advanced Risk Assessment**

Key Topics: Managing Risk in context of COMAH Regulations 1999 / Seveso II 1996

➤ **Safety Integrity Level (SIL) Assessment**

Key Topics: Safety Instrumented Function, Safety Instrumented System, Layer of Protection Analysis (LOPA), Risk Graph, IEC 61508, IEC 61511

Course details and schedule available on:

<http://www.sicherheit-umwelt.com/services/training/>



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For more information

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