

BSB + Partner, Consulting Engineers

Introducing Risk Assessment to Enforce Business Intelligence (BI)

Introduction

Risk management is a pro-active approach for identifying, assessing, reducing, monitoring, communicating and accepting risks. Risks are potential obstacles or challenges which influence the successful achievement of goals. Thus, Risk management is the systematic and iterative optimisation of the project resources, taking the company's strategy and state policy into account. Business intelligence is an analytical process which uses information technologies to transform data from multiple sources into knowledge that intends to support managers (private and public) to achieve in time the correct decisions.

Application

Emergency preparedness and response

- Design of emergency response institutions and procedures
- Development and reviews of emergency response plans and emergency planning requirements
- Nuclear facility probabilistic safety assessments (PSA)

Quantitative risk assessment

- Probabilistic reliability assessment analyses (PRA) for nuclear and chemical plants

Industrial risk management

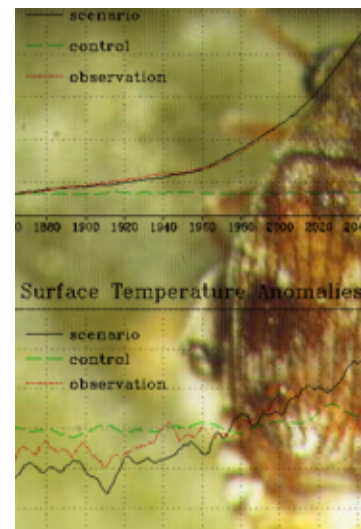
- Services include qualitative and quantitative risk assessment analysis, and emergency management planning

Hazard assessment and safety analysis

- Consequence-analysis for facilities and processes that use potentially hazardous materials
- Health risk assessment and safety system analysis; risk communication procedures

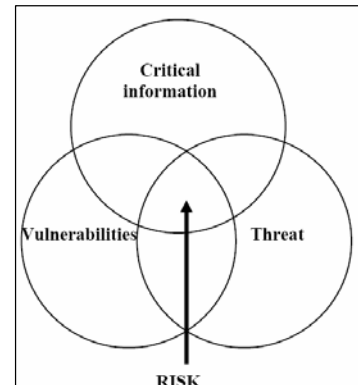
Regulatory and licensing support

- Process safety audits and environmental monitoring
- Process safety management compliance surveys and baseline assessments



Concept

Risks can be analyzed for hazardous industrial facilities (e.g. nuclear power plant), projects, natural disasters etc. The concept of risk management includes prevention, handling and after action of threats. Management information systems are necessary to monitor threats and vulnerabilities and to constantly gain information. Risk analysis always includes cost-benefit considerations to optimize the decisions and action taken. Vulnerability of infrastructure, human beings and environment has to be quantified and the intensity and frequency of threats have to be evaluated. Only a precise comparison of vulnerability, threat, cost-benefit ratio and possible action plans allow managers to make the correct decisions.



Benefits

- Improved quality of information
- Improved internal information dissemination
- Increased awareness level
- Improved vulnerability, threat and opportunity identification
- Quantifiable facts and figures of vulnerability and risk are known, which support the decision making process
- Political and private decision makers can adjust their strategy and action plans dependent on the continuous changing situation of threats and vulnerabilities
- Risk management is fully integrated in the Business Intelligence (BI) system and takes economic and legal aspects into account
- The threats are known and can be reduced with specific measures and precise arrangements



References:

Switzerland

PSA KKM Mühleberg, KKB Beznau
PSA-Level 1 and Level 2 review of Swiss nuclear power plant

Dr. Kahlert et al. 2002/3

Netherland

Probabilistic safety assessments of Glove Box for European Space Agency

Dr. Kahlert et al. 2003

Belgium

Source Term Assessment by Belief Network (SABINE)
Risk Analysis of Westinghouse-Type PWA reactor
EU-Commission 5th Framework Program

Dr. Kahlert et al. 2004

