

1. Record Nr.	UNINA9910144682803321
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Titolo	Risk analysis : assessing uncertainties beyond expected values and probabilities // Terje Aven
Pubbl/distr/stampa	Chichester, England ; ; Hoboken, NJ, : Wiley, c2008
ISBN	1-282-34856-6 9786612348563 0-470-69443-2 0-470-69442-4
Edizione	[1st ed.]
Descrizione fisica	1 online resource (206 p.)
Disciplina	338.5
Soggetti	Risk assessment - Mathematical models Risk - Mathematical models Uncertainty - Mathematical models
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. [187]-191) and index.
Nota di contenuto	Risk Analysis; Contents; Preface; Part I Theory and methods; 1 What is a risk analysis?; 1.1 Why risk analysis?; 1.2 Risk management; 1.2.1 Decision-making under uncertainty; 1.3 Examples: decision situations; 1.3.1 Risk analysis for a tunnel; 1.3.2 Risk analysis for an offshore installation; 1.3.3 Risk analysis related to a cash depot; 2 What is risk?; 2.1 Vulnerability; 2.2 How to describe risk quantitatively; 2.2.1 Description of risk in a financial context; 2.2.2 Description of risk in a safety context; 3 The risk analysis process: planning; 3.1 Problem definition 3.2 Selection of analysis method 3.2.1 Checklist-based approach; 3.2.2 Risk-based approach; 4 The risk analysis process: risk assessment; 4.1 Identification of initiating events; 4.2 Cause analysis; 4.3 Consequence analysis; 4.4 Probabilities and uncertainties; 4.5 Risk picture: Risk presentation; 4.5.1 Sensitivity and robustness analyses; 4.5.2 Risk evaluation; 5 The risk analysis process: risk treatment; 5.1 Comparisons of alternatives; 5.1.1 How to assess measures?; 5.2 Management review and judgement; 6 Risk analysis methods; 6.1 Coarse risk analysis; 6.2 Job safety analysis

6.3 Failure modes and effects analysis 6.3.1 Strengths and weaknesses of an FMEA; 6.4 Hazard and operability studies; 6.5 SWIFT; 6.6 Fault tree analysis; 6.6.1 Qualitative analysis; 6.6.2 Quantitative analysis; 6.7 Event tree analysis; 6.7.1 Barrier block diagrams; 6.8 Bayesian networks; 6.9 Monte Carlo simulation; Part II Examples of applications; 7 Safety measures for a road tunnel; 7.1 Planning; 7.1.1 Problem definition; 7.1.2 Selection of analysis method; 7.2 Risk assessment; 7.2.1 Identification of initiating events; 7.2.2 Cause analysis; 7.2.3 Consequence analysis; 7.2.4 Risk picture  
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11.2 Risk assessment

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## Sommario/riassunto

Everyday we face decisions that carry an element of risk and uncertainty. The ability to analyze, predict, and prepare for the level of risk entailed by these decisions is, therefore, one of the most constant and vital skills needed for analysts, scientists and managers. Risk analysis can be defined as a systematic use of information to identify hazards, threats and opportunities, as well as their causes and consequences, and then express risk. In order to successfully develop such a systematic use of information, those analyzing the risk need to understand the fundamental concepts of risk

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