



Risk-Based Operational Decision-Making

13 - 17 Jul 2026
Vienna (Austria)



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Ref.: 16114_1006841 **Date:** 13 - 17 Jul 2026 **Location:** Vienna (Austria) **Fees:** 5900 Euro

Introduction:

Effective decision-making under uncertainty is essential in today's complex industrial and organizational environments. The Risk-Based Operational Decision-Making course offers a structured approach to making informed decisions by integrating risk assessment principles into operational practices.

This Risk-Based Operational Decision-Making training course empowers professionals to evaluate risks, prioritize actions, and implement mitigation strategies within high-stakes settings. It emphasizes real-time decision-making, resource optimization, and system reliability.

Participants will explore key frameworks for quantifying operational risks and aligning decisions with organizational objectives. The Risk-Based Operational Decision-Making program balances theoretical foundations with hands-on applications using real-world scenarios. Ultimately, it equips professionals to enhance safety, efficiency, and resilience in dynamic operational contexts.

Targeted Groups:

This Risk-Based Operational Decision-Making training course targets professionals seeking specialized knowledge and skills:

- Risk managers aim to improve strategic decision-making.
- Operational leaders are involved in process safety and reliability.
- Engineers working in high-risk or critical infrastructure sectors.
- Safety officers and HSE professionals manage operational hazards.
- Project managers oversee risk-sensitive environments.
- Decision analysts look to integrate risk modeling in operations.
- Policy makers in the public and industrial sectors.
- Maintenance managers handle complex systems and processes.
- Emergency planning and response professionals.
- Consultants supporting enterprise risk and operations.

Targeted Competencies:

Participants will gain the following competencies during the Risk-Based Operational Decision-Making program:

- Risk identification and classification in operational settings.
- Quantitative and qualitative risk analysis techniques.
- Scenario planning and probabilistic forecasting.
- Decision modeling and critical thinking.
- Real-time risk-informed response strategies.
- Prioritization and resource allocation based on risk level.
- Cross-functional collaboration and systems thinking.
- Communicating decisions under uncertainty.
- Application of operational frameworks to mitigate risks.

Course Objectives

Participants will achieve the following objectives by completing the Risk-Based Operational Decision-Making course:

- Define the core principles of risk-based decision-making.
- Identify key types of operational and strategic risks.
- Evaluate and prioritize operational decisions using structured frameworks.
- Analyze the impact of uncertainty on critical decisions.
- Interpret data using qualitative and quantitative risk models.
- Apply scenario-based thinking to predict operational outcomes.
- Construct decision matrices that integrate risk tolerance levels.
- Select optimal solutions through cost-benefit and risk analysis.
- Develop plans to mitigate high-priority operational threats.
- Formulate adaptive decision-making strategies in uncertain environments.
- Integrate cross-functional collaboration in the decision process.
- Demonstrate practical decision-making in simulated operational settings.
- Enhance organizational resilience through informed decision-making.
- Document and communicate decisions transparently and effectively.
- Reflect on ethical considerations in high-risk operational choices.

Course Content:

Unit 1: Foundations of Risk-Based Decision-Making in Operations:

- Understand the definition and scope of risk-based operational decisions.
- Explore the evolution of decision-making models in risk-intensive industries.
- Examine types of operational risks: strategic, financial, safety, and compliance.
- Identify the role of data, uncertainty, and variability in decisions.
- Review regulatory and industry standards influencing operational risks.
- Study the relationship between organizational goals and risk posture.
- Discuss the psychology of risk perception and human error.
- Compare deterministic vs. probabilistic decision-making.
- Establish foundational terminology and decision criteria.

Unit 2: Risk Identification and Assessment Frameworks:

- Implement risk identification tools such as HAZOP and FMEA.
- Conduct qualitative and semi-quantitative risk evaluations.
- Apply likelihood-consequence matrices in operations.
- Utilize decision trees and influence diagrams for scenario evaluation.
- Develop and interpret risk registers for operational use.
- Conduct root cause analysis to trace potential hazards.
- Assess cascading and systemic risks in interconnected operations.
- Apply vulnerability and exposure analysis across workflows.
- Establish risk thresholds and decision criteria aligned with objectives.

Unit 3: Decision Analysis Techniques and Tools:

- Use decision-making tools like Monte Carlo simulations and fault tree analysis.
- Integrate risk scoring systems into operational workflows.
- Apply cost-benefit and risk trade-off analysis methods.
- Use sensitivity analysis to measure decision robustness.
- Evaluate alternatives using multi-criteria decision-making frameworks.
- Model operational processes under uncertainty with Bayesian networks.
- Explore the role of AI and data analytics in predictive decision support.
- Understand risk tolerance and risk appetite in operations.
- Design decision support systems tailored to organizational contexts.

Unit 4: Practical Applications in Risk-Informed Operations:

- Review oil & gas, manufacturing, healthcare, and energy case studies.
- Conduct structured decision-making exercises using real scenarios.
- Practice simulation-based decisions with risk-based outcome analysis.
- Align risk-based decision-making with business continuity plans.
- Develop mitigation and response plans for high-risk decisions.
- Integrate operational risk management ORM into daily procedures.
- Apply lessons learned from failure analyses and near-misses.
- Collaborate in team-based decision simulations.
- Evaluate effectiveness through feedback and performance audits.

Unit 5: Governance, Communication, and Continuous Improvement:

- Establish governance models for operational decision accountability.
- Implement transparent communication strategies under risk scenarios.
- Foster a risk-aware culture within operational teams.
- Document decision-making processes for compliance and traceability.
- Integrate feedback mechanisms for continuous improvement.
- Train teams in decision rehearsal and scenario-based planning.
- Monitor decision outcomes with risk indicators and KPIs.
- Embed risk management into strategic planning processes.
- Align decision-making frameworks with enterprise risk governance.

Final Insights & Key Takeaways:

Risk-based decision-making enhances operational reliability, safety, and performance. Professionals can make informed, timely, and effective decisions by applying structured frameworks and scenario analysis. The Risk-Based Operational Decision-Making course bridges theory and practice, empowering participants to act confidently in complex environments. A consistent, data-driven approach ensures alignment between operational execution and strategic risk management.



**Registration form on the :
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