Syllabus - Risk Assessment Training (RAT)
Syllabus

SMS – Risk Assessment Training (3 days)

Appreciate your risks.

Course Plan

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Objectives

Objective 1: Understand the context and drivers of a Safety Management System

Objective 2: Differentiate existing safety management organisation and new elements of an SMS

Objective 3: Learn how to integrate a SMS in the organisation

Objective 4: Understand the structure of the Safety Review Board

Objective 5: Get to know the roles and responsibilities

Objective 6: Understand the meaning of the safety policy

Objective 7: Distinguish between different risk assessment tools

Objective 8: Distinguish between Threat, Hazard and Consequence

Objective 9: Show methods and tools for Hazard Identification

Objective 10: Develop a Bow Tie Model in the group

Objective 11: Get practical experience with the Bow Tie Model

Objective 12: Show methods and tools for Safety Risk Assessment

Objective 13: Learn how to make a systematic Extended Event Risk Classification (EERC)

Objective 14: Understand the concept of a Safety Risk Evaluation (SRE)

Objective 15: Ability to use the Safety Risk Evaluation Document

Objective 16: Perform a Safety Risk Evaluation and get practical experience

Objective 17: Get to know a ready to use and practical risk assessment tool

Objective 18: Get to know the concept of a Safety Review

Objective 19: Check you knowledge through an open book test
# Day 1

## 1.1 Module RAT01: Make Safety a System

*Note: Presentation of generic SMS risk management process and safety culture definition, may be adapted to customer specific process and definition on request*

<table>
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<tr>
<th>Objectives</th>
<th>Contents of Module</th>
<th>Practical Training/Discussion</th>
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</table>
| Objective 1: Understand the context and drivers of a Safety Management System | **Framework:**  
- Definition of Safety, Risk and Risk Assessment  
- Concept of a Safety Management System  
- SMS Risk Management Process | Group discussion on “what is safety, risk and risk assessment?” |
| Objective 2: Differentiate existing safety management organisation and new elements of an SMS | **Requirements:**  
- ICAO Standards and Reference Documents  
- SMS Definition | | |
| | **Orientation & SafetyCulture:**  
- Reactive, proactive and predictive Safety Measures  
- Safety Culture Definition | Group discussion on “meaning of safety culture?” |
## 1.2 Module RAT02: SMS Integration

*Note: Presentation of a generic SMS implementation and risk assessment tools (safety risk evaluation, safety review, event risk classification), may be adapted to customer specific implementation and tools on request*

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| Objective 3: Learn how to integrate a SMS in the organisation | **Integration of a SMS:**  
  • Integration according to SMS definition |  
| Objective 4: Understand the structure of the Safety Review Board | **Organizational Structures:**  
  • Structure of Safety Review Board  
  • Functions of each element | Discussion on “Organisational impact of SMS implementation” |
| Objective 5: Get to know the roles and responsibilities | **Accountabilities:**  
  • Roles and responsibilities in an SMS |  
| Objective 6: Understand the meaning of the safety policy | **Policies:**  
  • Safety Policy requirements  
  • No blame policy  
  • Integration of existing policies |  
| Objective 7: Distinguish between different risk assessment tools | **Procedures:**  
  • Overview and triggers of risk assessment tools  
  • The management of change |  

## 1.3 Module RAT03: Modelling Risk

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| Objective 8: Distinguish between Threat, Hazard and Consequence | **Hazard Identification:**  
  Definition of Threats, Hazards and Consequences  
  Documentation of Hazards | Group Activity “what is a threat, hazard, consequence?” (Flipchart) |
| Objective 9: Show methods and tools for Hazard Identification | **Bow Tie Model:**  
  Development of Bow Tie Model | Group Activity “develop bow tie model for specific risk” |
| Objective 10: Develop a Bow Tie Model in the group | **Bow Tie Case Studies:**  
  Practical example | The group develops bow tie model on flip chart |
### 1.4 Module RAT04: Bow Tie Case Study

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<th>Objectives</th>
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<tbody>
<tr>
<td>Objective 11: Get practical experience with the Bow Tie Model</td>
<td><strong>Hazard Identification:</strong> Select the correct hazard</td>
<td>Small groups develop bow tie model on flip chart</td>
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<td><strong>Threats and Consequences:</strong> Determine threats and consequences for the hazard</td>
<td>Work with flipchart in small groups</td>
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<td><strong>Defences and Barriers:</strong> Find defences and barriers to mitigate the risk effectively</td>
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<td><strong>Result of Group Work:</strong> Groups present result of their work to other groups</td>
<td>Presentation of results</td>
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# Day 2

## Module RAT05: Safety Risk Management

*Note: Presentation of a generic risk matrix, probability and severity table, may be adapted to customer specific matrix and tables on request*

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</table>
| Objective 12: Show methods and tools for Safety Risk Assessment | **Risk Assessment:**  
  • Definition of Risk Severity and Risk Probability  
  • Handling of Risk Severity and Risk Probability tables  
  • Introduction of Risk Index and Risk Matrix | Group discussion on severity and probability |
| | **Safety Risk Mitigation:**  
  • Four Strategies for Risk Mitigations | Practical examples for risk mitigation strategies |
| | **Risk Management Process:**  
  • Schemata of Risk Management Process | |

## Module RAT06: Extended Event Risk Classification (EERC) for Safety Reports

*Notes: Based on “Event Risk Classification” provided by EASA ARMS working group may be adapted to customer specific reporting risk assessment procedure on request. Use of generic examples, may be adapted to customer specific examples on request*

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| Objective 13: Learn how to make a systematic Extended Event Risk Classification (EERC) | **Extended Event Risk Classification theory:**  
  • EERC process  
  • EERC usage | Group discussion on “time needed/available for report risk assessment?” |
| | **Extended Event Risk Classification practice**  
  • Use of matrix  
  • Use of results | Group assesses different example reports |
2.3 Module RAT07: Safety Risk Evaluation (SRE)

Notes: Based on “Safety Issue Risk Assessment” provided by EASA ARMS working group, may be adapted to customer specific implementation on request. Use of generic risk evaluation document template and example, may be adapted to customer specific template and example on request.

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<tr>
<td>Objective 14: Understand the concept of a Safety Risk Evaluation (SRE)</td>
<td><strong>Motivation for safety risk evaluation</strong>&lt;br&gt;• Risk assessment example case study</td>
<td>Group discussion about the pitfalls of the performed risk assessment</td>
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<td>Objective 15: Ability to use the Safety Risk Evaluation Document</td>
<td><strong>Safety Risk Evaluation (SRE):</strong>&lt;br&gt;• When to perform a safety risk evaluation&lt;br&gt;• Usage of results</td>
<td>Group discussion of triggers of safety risk evaluation by means of example</td>
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<td><strong>Safety Risk Evaluation Document:</strong>&lt;br&gt;• Introduction how to handle the safety risk assessment document&lt;br&gt;• Example for specific already filled out safety risk evaluation document</td>
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2.4 Module RAT08: SRE Case Study

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<tbody>
<tr>
<td>Objective 16: Perform a Safety Risk Evaluation and get practical experience</td>
<td><strong>Use the SRE Template:</strong>&lt;br&gt;Fill out the SRE document</td>
<td>Small groups develop SRE using the laptop</td>
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<td>Objective 17: Get to know a ready to use and practical risk assessment tool</td>
<td><strong>Develop Bow Tie Model for SRE:</strong>&lt;br&gt;Determine hazard, threats and consequences for the hazard</td>
<td>Work with laptop in small groups</td>
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<td><strong>Assess the Risk:</strong>&lt;br&gt;Make risk assessment using your new skills</td>
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<td><strong>Defences and Barriers:</strong>&lt;br&gt;Find defences and barriers to mitigate the risk effectively</td>
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<tr>
<td></td>
<td><strong>Result of Group Work:</strong>&lt;br&gt;Groups present result of their work to other groups</td>
<td>Presentation of results using the document on the laptop</td>
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### 3.1 Module RAT09: Safety Review

*Note: Based on “Safety Review” provided by ICAO SMM Doc. 9859. May be adapted to customer specific reporting risk assessment procedure on request. Use of practical case study. May be adapted to customer specific case on request.*

<table>
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<tbody>
<tr>
<td>Objective 18: Get to know the concept of a Safety Review</td>
<td><strong>Background</strong>&lt;br&gt;• Presentation of case study</td>
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<tr>
<td>Objective 19: Learn how to make a systematic Safety Review</td>
<td><strong>Safety review practice</strong>&lt;br&gt;• Case study&lt;br&gt;• Application of SMS techniques&lt;br&gt;• Use of results</td>
<td>Small groups perform a safety review on specific SMS related subjects using an accident case study</td>
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<tr>
<td>Objective 20: Get the big picture of a SMS</td>
<td><strong>Safety review</strong>&lt;br&gt;• Presentation of results</td>
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### 3.2 Module RAT10: Course Summary and Test

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<tr>
<th>Objectives</th>
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</thead>
<tbody>
<tr>
<td>Objective 21: Get an overview about lessons learned</td>
<td><strong>Summary of course</strong></td>
<td>Discussion of open questions regarding the course contents</td>
</tr>
<tr>
<td>Objective 22: Check you knowledge through an open book test</td>
<td><strong>Open book test</strong>&lt;br&gt;1:30 hours test with 25 questions</td>
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