



# OUTLINE SMS WORKSHOPS FOR BUSINESS AVIATION

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**Outline**  
**SMS Workshops for Business Aviation**

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# 1. About the SMS Workshops

## 1.1 Overview

The SMS workshops for business aviation are two individual workshops that normally will be held in three consecutive days. The first is the **Introduction to SMS Workshop**. It is a two day classroom event that covers the basics of aviation safety and safety management systems. It includes presentations, discussions and group exercises. This workshop will be of interest to business aviation management personnel in operations, maintenance and other branches who have accountabilities within a safety management system (SMS), and safety officers who wish to develop an understanding of safety management systems.

The second is the **SMS Toolkit Workshop**. It addresses the SMS development and implementation process. It will be of interest to business aviation management personnel and safety officers who will be involved in using the *IBAC SMS Toolkit* to develop and implement an SMS.

Participants are expected to bring their own copy of the *SMS Toolkit*. It is part of the *IS-BAO – an International Standard for Business Aircraft Operations*, and it may also be purchased from national and regional business aviation associations as an individual product.

## 1.2 Workshop Objectives

### 1.2.1 Introduction to SMS Workshop

The objective of the **Introduction to SMS Workshop** is to provide business aviation operator personnel with an understanding of the basic principles of safety management and safety management systems.

### 1.2.2 SMS Toolkit Workshop

The objective of the **SMS Toolkit Workshop** is to provide business aviation operator personnel with a working knowledge of the use of the tools and related material contained in the *IBAC SMS Toolkit* for developing and implementing a safety management system.

## 1.3 Specific Learning Objectives

### 1.3.1 Introduction to SMS Workshop

The learning objectives of the **Introduction to SMS Workshop** are to:

1. Acquaint participants with the basic concepts of SMS;
2. Acquaint the participants with ICAO requirements and national/regional civil aviation SMS regulations as they relate to air operators;
3. Acquaint participants with safety management concepts and the evolution from traditional flight safety programs to safety management systems;
4. Acquaint participants with the cost and benefits of developing and implementing an effective SMS;
5. Provide participants with knowledge of tools to identify and analyze hazards and risks, and to develop mitigation to eliminate hazards or reduce risks to an acceptable level;
6. Provide participants with the knowledge and tools to develop and implement safety assurance processes to track and analyze and evaluate safety management activities to ensure that they are appropriate and effective and to identify new and emerging hazards;
7. Acquaint participants with the concepts of safety culture and the cultural elements that are necessary for an SMS to be effective;
8. Provide participants with knowledge and tools to assess their current management and safety programs and to identify elements that require modification or development, in order to meet the requirements of an SMS; and

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9. Provide participants with knowledge of tools to evaluate the soundness, appropriateness and effectiveness of a company's safety performance.

### 1.3.2 SMS Toolkit Workshop

The learning objectives of the **SMS Toolkit Workshop** are to acquaint participants with the 12 steps to develop and implement an SMS as described in the SMS Toolkit and to acquaint them with the following tools and their use in the SMS development and implementation process:

1. Gap Analysis Tool,
2. Risk Assessment Guidelines,
3. Hazard Identification Tools,
4. Generic Hazard Lists,
5. Safety Risk Profile,
6. Safety Policy Examples,
7. Organizing SMS Accountabilities,
8. Cultural Assessment Tools,
9. Hazard Identification and Tracking Tools,
10. Risk Analysis and Awareness Tools,
11. Flight Data Analysis Programs,
12. Emergency Response Plans,
13. Staff SMS Training Programs,
14. SMS Implementation Management Tools
15. Compliance Monitoring Tool, and
16. SMS Evaluation Tools.

## 1.4 Workshop Prerequisites

### 1.4.1 Introduction to SMS Workshop

There are no prerequisites for the **Introduction to SMS Workshop**.

### 1.4.2 SMS Toolkit Workshop

Participant in the **SMS Toolkit Workshop** must have an understanding of the basic principles of safety management and safety management systems. This should have been attained by attending the **Introduction to SMS Workshop** or other formal SMS training.

## 2. Workshop Syllabus

### 2.1 Introduction to SMS Workshop

The syllabus for the **Introduction to SMS Workshop** is as follows:

#### Topic 1: Workshop Introduction

#### Topic 2: Introduction to SMS

Topic objective – To introduce the SMS concept

- 2.1 Definition of Safety
- 2.2 IS-BAO and ICAO Definitions of SMS
- 2.3 Functional Definition of SMS
- 2.4 SMS Framework
- 2.5 ICAO SMS Elements and Components

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- 2.6 National/Regional SMS requirements
- 2.7 Potential Results of an SMS

### **Topic 3: Making the Case for SMS**

Topic objective – To acquaint participants with the evolution of safety management and make the case for SMS

- 3.1 Basic Concepts of Safety
- 3.2 Acceptable Level of Safety
- 3.3 Evolving Approach to Safety
- 3.4 Professor James Reason's Accident Causation Model
- 3.5 Twin Factors That Cause Accidents - "Latent Conditions" and "Active Failures"
- 3.6 Accident Causation
- 3.7 Why SMS
- 3.8 The Operational Case
- 3.9 The Business Case
- 3.10 The Regulatory Case

### **Topic 4: Introduction to Safety-Risk Management**

Topic objective – To acquaint participants with the fundamentals of risk management

- 4.1 Definition of "Hazard", "Risk", "Mitigation" and "System Safety Deficiency"
- 4.2 Classification of Risks
- 4.3 Identifying Hazards and Risks
- 4.4 Managing Risks
- 4.5 Definition and Explanation of ALARP
- 4.6 Risk Management in SMS

### **Topic 5: Hazard Analysis**

Topic objective – To acquaint participants with the hazard analysis process

- 5.1 Overview of the Hazard Analysis Process
- 5.2 The Steps in the Hazard Analysis Process
- 5.3 Templates and Checklists for the Process
- 5.4 The SHEL Model
  - a. Human Factors in Accidents
  - b. Using the SHEL Model in Hazard Analysis
- 5.5 Developing Mitigation
- 5.6 Assessing Mitigation
- 5.7 Refining Mitigation
- 5.8 Documenting the Analysis
- 5.9 Safety Risk Profile

### **Topic 6: SMS Management Framework**

Topic objective – To acquaint participants with the SMS management framework

- 6.1 Safety Policy
- 6.2 SMS Goals and Goal Setting
- 6.3 The Safety Management Process and Role in Solving the Management Dilemma
- 6.4 Management Role in SMS
- 6.5 Roles, Responsibilities & Accountabilities
- 6.6 Management Role in Safety Culture

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- a. How Culture and Safety are Related
- b. Nature of Culture
- c. Corporate Safety Culture

### Topic 7: Safety Assurance & Ongoing Safety Management

Topic objective – To acquaint participants with safety assurance and ongoing safety management activities

- 7.1 Safety Performance Monitoring and Measurement
- 7.2 Ongoing Hazard Identification and Tracking
- 7.3 Other Data Sources
- 7.4 Ongoing Data Collection – Flight Data Analysis
- 7.5 Making Risk Assessment a Way of Life
- 7.6 The Management of Change
- 7.7 Accident and Incident Investigation
- 7.8 Emergency Response Planning
- 7.9 Designing the SMS
  - a. SMS Gap Analysis
  - b. Safety Risk Profile
  - c. Safety Management Strategy
- 7.10 SMS Education and Communication
- 7.11 SMS Implementation
- 7.12 Managing SMS Performance and Improvement

### Topic 8: Hazard Analysis Exercise

Topic objective - A group exercise to provide participants with practical experience in conducting a hazard analysis including:

- 8.1 Identifying Hazard,
- 8.2 Analyzing Associated Risks,
- 8.3 Developing Mitigation,
- 8.4 Assessing and Refining Mitigation
- 8.5 Concluding by summarizing how this hazard analysis would be integrated into the SMS of an organization.

## 2.2 SMS Toolkit Workshop

The syllabus for the **SMS Toolkit Workshop** is as follows:

- 2.2.1. Workshop Introduction
- 2.2.2. ICAO SMS 4 Components and 12 Elements
- 2.2.3. Twelve Steps to SMS Implementation
  1. Study the SMS concept
    - a. SMS Explanatory Material in the Toolkit
  2. Obtain senior management commitment
  3. Establish SMS team
  4. Determine what you already have and what you need
    - a. Gap Analysis Tool,
  5. Conduct initial hazard identification and risk assessment, and develop safety risk profile
    - a. Risk Assessment Guidelines,
    - b. Hazard Identification Tools,
    - c. Safety Risk Profile,

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- d. Generic Hazard Lists and BowTie XP Examples
6. Develop your safety management strategy & safety assurance processes
  - a. Safety Management Strategy Example
  - b. Safety assurance guidance
7. Identify safety accountabilities
  - a. Organizing SMS Accountabilities,
  - b. Safety Culture and Cultural Assessment Tool,
8. Develop ongoing hazard identification and tracking system and risk assessment procedures
  - a. Hazard Identification and Tracking Tools,
  - b. Risk Analysis and Awareness Tools,
  - c. Flight Data Monitoring Programs,
9. Develop emergency preparedness plan
  - a. Emergency Response Plans,
10. Amend programs, procedures and documents as required
11. Conduct staff training and education
12. Track and evaluate safety management activities
  - a. SMS Evaluation Tools,
  - b. Evaluation Tracking Forms,
- 2.2.4. SMS Development and Implementation Management
- 2.2.5. Change Management
- 2.2.6. Management Review

## 3. Reference Material

The primary reference for the Introduction to SMS Workshop is the *IBAC SMS Guidance Manual* on the *SMS Toolkit CD*. It is supplemented by the other reference material on the CD. The first six topics of this Workshop follow the flow of the SMS Guidance Manual. Topic 8 will use a scenario that is relevant to the Workshop participants.

The primary reference for the SMS Toolkit Workshop is the *SMS Tools for Business Aviation Operators* booklet and the related tools on the SMS Toolkit CD.

## 4. Typical Agenda

The following is a typical agenda for the Workshops. It should be adjusted as appropriate to fit the needs of the participants.

### 4.1 Introduction to SMS Workshop

#### Day 1

- 0900 Registration and Administration
- 0915 Topic 1 - Introductions and Overview of the Workshop and Materials
- 0930 Topic 2 - Introduction to SMS
- 1030 Break
- 1100 Topic 3 Making the Case for SMS
- 1215 Lunch

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1300 Topic 4 - Introduction to Safety-Risk Management Concepts  
1415 Break  
1430 Topic 5 - Hazard Analysis  
1630 Summary and Discussion  
1700 End of Day 1

### **Day 2**

0900 Review of Day 1  
0915 Topic 6 - SMS Management Framework  
1015 Break  
1030 Topic 6 continued  
1100 Topic 7 – Safety Assurance and Ongoing Safety Management Activities  
1215 Lunch  
1300 Topic 7 continued  
1415 Summary and Discussion  
1430 Hazard Analysis Exercise  
1600 Exercise Review  
1630 Workshop Feedback  
1700 End of Workshop

### **4.2 SMS Toolkit Workshop**

0900 Introductions and Workshop Overview  
0915 SMS Toolkit Session 1

- ICAO SMS 4 Components and 12 Elements
- Twelve Steps to SMS Implementation
- Step 1 Study the Concept
- Step 2 Obtain Senior Management Commitment
- Step 3 Establish SMS Team
- Step 4 Determine What You Have and What You Need

1013 Break  
1030

- Step 5 Conduct Initial Hazard Identification and Risk Assessment and Develop Safety Risk Profile
- Step 6 Develop Safety Management Strategy and Safety Assurance Processes

1215 Lunch  
1300 SMS Toolkit Session 2

- Step 7 Identify SMS Accountabilities
- Step 8 Develop Ongoing Hazard Identification and Tracking System and Risk Assessment Procedures
- Step 9 Develop Emergency Preparedness Plan

1400 Break

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1415

- Step 10 Amend Programs, Procedures and Documents, as Required
- Step 11 Conduct Staff Training and Education
- Step 12 Track and Evaluate Safety Management Activities
- SMS Development and Implementation Management

1515 Break

1530

- SMS Development and Implementation Management - continued
- Change Management
- Management Review

1630 Summary and Discussion

1700 End of Workshop