Advanced Aviation Safety Management Systems (SMS) Training Course



19 - 23 Oct 2026

Cairo

3700 € (Per Person)

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Course Introduction / Overview:

This comprehensive training course provides an in-depth exploration of advanced principles and practical implementation strategies for Aviation Safety Management Systems (SMS). In an industry where safety is paramount, a robust SMS is not just a regulatory requirement but a fundamental component of a resilient and successful aviation organization. This program moves beyond basic compliance, delving into the proactive and predictive safety management techniques that define industry leaders. Drawing on the foundational work of experts like Dr. James Reason, particularly his concepts in "Managing the Risks of Organizational Accidents", participants will learn to analyze and manage organizational factors that contribute to safety. The curriculum is meticulously designed to align with the ICAO SMS framework, as well as FAA and EASA regulations, ensuring global relevance. At BIG BEN Training Center, we are committed to empowering aviation professionals with the skills to build and sustain a positive safety culture, effectively manage risks, and ensure continuous improvement in safety performance across all operational domains. This course is the definitive guide for mastering the complexities of modern aviation safety management from A to Z.

Target Audience / This training course is suitable for:

- Accountable Managers and Executives.
- Aviation Safety Managers and Officers.
- Operations Directors and Post Holders.
- Quality and Compliance Managers.
- Pilots and Flight Operations Personnel.
- Air Traffic Controllers and ANSP Staff.
- Aircraft Maintenance Engineers and Technicians.
- Airport Operations and Ground Handling Managers.
- Civil Aviation Authority Inspectors and Regulators.
- Corporate Safety and Risk Management Professionals.

Target Sectors and Industries:

- Commercial Airlines and Cargo Operators.
- Business and General Aviation Operators.
- Airport Authorities and Operators.
- Aircraft Maintenance, Repair, and Overhaul (MRO) Organizations.
- Air Navigation Service Providers (ANSPs).
- Aviation Training Organizations (ATOs).
- Aircraft and Component Manufacturers.
- Government agencies, including Civil Aviation Authorities and Military Aviation.
- Ground Handling and Fuelling Service Providers.
- Unmanned Aerial System (UAS) Operators.

Target Organizations Departments:

- Safety and Security Department.
- Flight Operations Department.
- Maintenance and Engineering Department.
- Quality Assurance and Compliance Department.
- Ground Operations Department.
- Air Traffic Services Department.
- Corporate Risk Management Department.
- Human Resources and Training Department.
- Emergency Response and Planning Department.
- Executive Management and Leadership Teams.

Course Offerings:

By the end of this course, the participants will have able to:

- Develop and implement a comprehensive Safety Policy and clear safety objectives.
- Master the principles of Safety Risk Management (SRM), including hazard identification and risk analysis.
- Apply advanced risk mitigation and control strategies effectively.
- Establish and manage a robust Safety Assurance (SA) program with relevant Safety Performance Indicators (SPIs).
- Conduct effective SMS audits and inspections to ensure continuous improvement.
- Champion and foster a positive Just Culture within their organization.
- Analyze the role of human factors in aviation incidents and accidents.
- Integrate SMS with other management systems like Quality Management Systems (QMS).
- Lead the management of change process to ensure safety is never compromised.
- Develop and refine an effective Emergency Response Plan (ERP).

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, engaging, and practical, ensuring that participants can immediately apply their learning in a real-world aviation environment. We move beyond traditional lectures to create a dynamic learning atmosphere. The course heavily utilizes case studies of major aviation incidents, allowing for in-depth analysis of systemic failures and successful safety interventions. Participants will engage in collaborative group exercises, such as conducting a full safety risk assessment on a realistic operational scenario and developing Safety Performance Indicators (SPIs). Interactive workshops and facilitated discussions encourage the sharing of experiences and best practices among professionals from diverse aviation backgrounds. Our expert instructors provide continuous feedback and guide participants through complex concepts using practical examples and simulations. This hands-on approach ensures a deep understanding of not just the "what" but the "how" of implementing and sustaining an advanced and effective Safety Management System, transforming theoretical knowledge into tangible, operational capability.

Course Agenda (Course Units):

Unit One: Foundations of Advanced Safety Management Systems

- The Evolution of Aviation Safety Thinking.
- ICAO Annex 19 and the Global SMS Framework.
- Deep Dive into the Four Components of SMS: Policy, SRM, SA, and Promotion.
- Comparing FAA, EASA, and other National SMS Regulations.
- The Role and Responsibilities of the Accountable Manager.
- Developing a Robust Safety Policy and Clear Objectives.
- Establishing the Organizational Structure for Safety.

Unit Two: Mastering Safety Risk Management (SRM)

- Advanced Hazard Identification Techniques and Systems.
- Systematic Risk Assessment and Analysis Methodologies.
- Practical Application of the Risk Matrix.
- Developing and Implementing Effective Risk Mitigation Strategies.
- The Concept of As Low As Reasonably Practicable (ALARP).
- Introduction to Proactive and Predictive Risk Management Tools.
- Workshop: Conducting a Complete SRM Exercise on a Case Study.

Unit Three: Implementing Effective Safety Assurance (SA)

- Principles of Safety Performance Monitoring and Measurement.
- Developing Meaningful Safety Performance Indicators (SPIs) and Targets (SPTs).
- Techniques for Internal and External SMS Auditing.
- The Management of Change (MoC) Process within SMS.
- Continuous Improvement: The Role of Feedback and Corrective Actions.
- Data Collection, Analysis, and Protection (ICAO Annex 19).
- Leveraging Technology for Safety Data Management.

Unit Four: Human Factors and Building a Positive Safety Culture

- Understanding Human Error Models (e.g., James Reason's Swiss Cheese Model).
- The Principles and Implementation of a Just Culture.
- Investigating Human Factors in Incidents and Accidents.
- Fatigue Risk Management Systems (FRMS) Integration.
- Safety Promotion, Training, and Communication Strategies.
- Methods for Assessing and Measuring Safety Culture.
- Leadership's Role in Shaping Organizational Safety Culture.

Unit Five: Advanced SMS Implementation and Integration

- Developing a Phased SMS Implementation Plan.
- Integrating SMS with Quality Management Systems (QMS) and Security (SeMS).
- Advanced Emergency Response Planning (ERP) and Drills.
- Managing Contractor and Supplier Safety within your SMS.
- The Future of SMS: Predictive Analytics and Big Data.
- Addressing Challenges in SMS Implementation and Sustainability.
- Final Project: Developing an SMS Improvement Plan for a Model Organization.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

How can an organization effectively measure and improve its safety culture beyond simple compliance metrics and incident rates?

What unique qualities does this course offer compared to other courses?

This training course distinguishes itself by moving beyond theoretical frameworks to focus intensely on the practical, real-world application of advanced SMS principles. While many courses cover the four components of SMS, our program dedicates significant time to the nuanced and often challenging areas of human factors and the establishment of a genuine Just Culture, which are critical for a truly effective safety system. We utilize a case-study-based methodology, dissecting real aviation incidents to understand root causes and systemic failures, a method that provides far deeper learning than textbook examples. The curriculum is uniquely structured to bridge the gap between regulatory compliance and operational excellence, emphasizing proactive and predictive safety strategies rather than merely reactive measures. Participants will not just learn about risk matrices; they will build them. They will not just hear about safety culture; they will learn proven techniques to assess and cultivate it. The course provides a holistic view, integrating SMS with other management systems like QMS and FRMS, ensuring that safety becomes an integral part of the entire organizational fabric, not a siloed function.