



ICAO GLOBAL AVIATION TRAINING

TRAINAIR PLUS™

HLSC 2015

New ICAO Approach to Safety Management Training

*Elizabeth Gnehm
ICAO Technical Coordinator
Safety Management*





Background

- ❑ 23 Nov. 2006 – Initial SARPs on safety management systems (SMS)
- ❑ 2009 – Introduction of State Safety Programme (SSP) training courses
- ❑ More than 200 Safety Management training courses delivered by ICAO between 2006 and 2013





Background

- Feedback from courses and workshops supported the development of new Annex 19 and SMM (third edition)





Safety Management Training Programme

- ❑ Consistent and cost-effective methodology is necessary
- ❑ ICAO started the development of a new approach to teaching safety management
 - ➔ Updated with the latest Standards
 - ➔ Use of tools and exercises relevant to real-life scenarios and best practices





Course Structure

- A Standardized Training Package with blended learning approach: Online + Classroom
- Online – enables participants to receive homogeneous instruction on safety management
- Classroom activity – safety management concepts applied through a case study similar to the one they will face in the workplace





Course Objectives

This course will provide :

- ❑ personnel involved in SSP/SMS implementation with the knowledge, skills and attitudes to advocate SMS requirements and guidance material, as well as the acceptance/oversight of service providers' SMS.
- ❑ service providers' staff with the basic knowledge, skills and attitudes to implement, administer or participate in SMS operations.



Expected benefits

- ❑ SSP/SMS implementation plans based on the ICAO frameworks
- ❑ Resolution of safety-related issues by applying the required skills and knowledge associated with the key SSP/SMS processes, such as:
 - ➔ hazard identification and risk mitigation (HIRM)
 - ➔ safety data collection and processing systems
 - ➔ safety performance indicator development, measurement and monitoring



Expected benefits

- ❑ Improve the level of compliance with SM SARP's
- ❑ Facilitate the development of safety management training programmes by and for regulatory and service provider personnel
- ❑ Enable States and operators to interact effectively in the resolution of safety-related issues



Course Demo

Module 1 : Safety Management Fundamentals

Module 2 : ICAO Safety Management Provisions

Module 3A/B : State Safety Programme
Safety Management Systems



Course Demo



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Menu Notes Glossary Resources

- ▼ SMS Fundamentals
 - Welcome
 - Audio Component
 - Navigation
 - Programme Paths
 - General Goal and Module Objective
 - Section Overview
 - ▶ Section 1: Why Safety Management?
 - ▶ Section 2: What is different with Safety Management?
 - ▶ Section 3: How to Transition to Safety Management
 - ▶ Section 4: End of Module Exam

Search...

Safety Management Fundamentals

Welcome



Navigation controls: Speaker, Play, Progress bar, Refresh, Previous, Next



Course Demo

The screenshot shows the ICAO TRAINING & LEARNING interface for the course 'Safety Management Fundamentals'. On the left is a navigation menu with a search bar at the bottom. The main content area is titled 'Safety Management Fundamentals' and 'Navigation - Menu Bar'. A 'Menu Bar' contains four items: 'Notes', 'Menu', 'Glossary', and 'Resources', each highlighted with a red box. Four callout boxes provide descriptions for these items: 'NOTES' (Written text read by the narrator), 'MENU' (Allows jumping between slides at your convenience), 'Glossary' (Definitions and acronyms), and 'Resources' (Additional information related to the content). A 'BACK' button is located in the bottom right corner of the main content area. At the bottom of the interface is a control bar with a search bar, a speaker icon, a play button, a progress bar, a refresh icon, and 'PREV' and 'NEXT' buttons.

ICAO TRAINING & LEARNING

Menu Notes Glossary Resources

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Safety Management Fundamentals

Navigation - Menu Bar

NOTES
Written text read by the narrator.

MENU
Allows jumping between slides at your convenience. You can click the section arrows to access individual slides within a section.

Glossary
Definitions and acronyms

Resources
Additional information related to the content.

Notes Menu Glossary Resources

- Welcome
- Audio Component
- Navigation
- Secretary General Announcement
- Programme Paths
- Section Overview

BACK

Search...

Speaker icon | Play button | Progress bar | Refresh icon | < PREV | NEXT >



Course Demo



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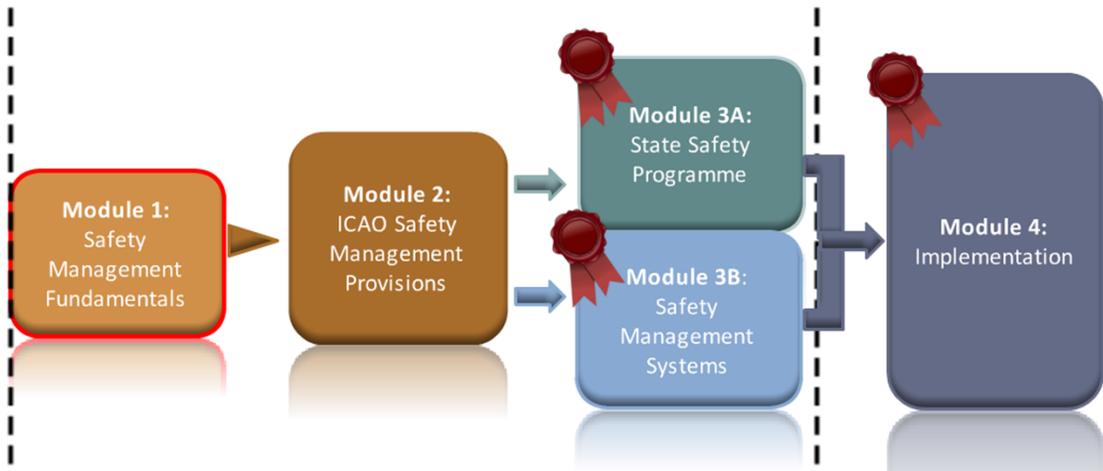
Menu Notes Glossary Resources

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Search...

Safety Management Fundamentals

Programme Paths



```
graph LR; M1[Module 1: Safety Management Fundamentals] --> M2[Module 2: ICAO Safety Management Provisions]; M2 --> M3A[Module 3A: State Safety Programme]; M2 --> M3B[Module 3B: Safety Management Systems]; M3A --> M4[Module 4: Implementation]; M3B --> M4;
```

On-line Course | **Classroom**

Speaker icon | Play/Pause | Progress bar | Refresh | < PREV | NEXT >



Course Demo

ICAO TRAINING & LEARNING

Menu Notes Glossary Resources

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 - ▶ Section 3: How to Transition to Safety Management
 - ▶ Section 4: End of Module Exam

Safety Management Fundamentals
Course Navigation

Click on a highlighted button to navigate to the section

Section 1: Why safety management?

Section 2: What is different with safety management?

Section 3: How can you transition to safety management?

Section 4: End of Module Exam

Search...

Speaker icon, Play button, Progress bar, Refresh icon, < PREV



Course Demo



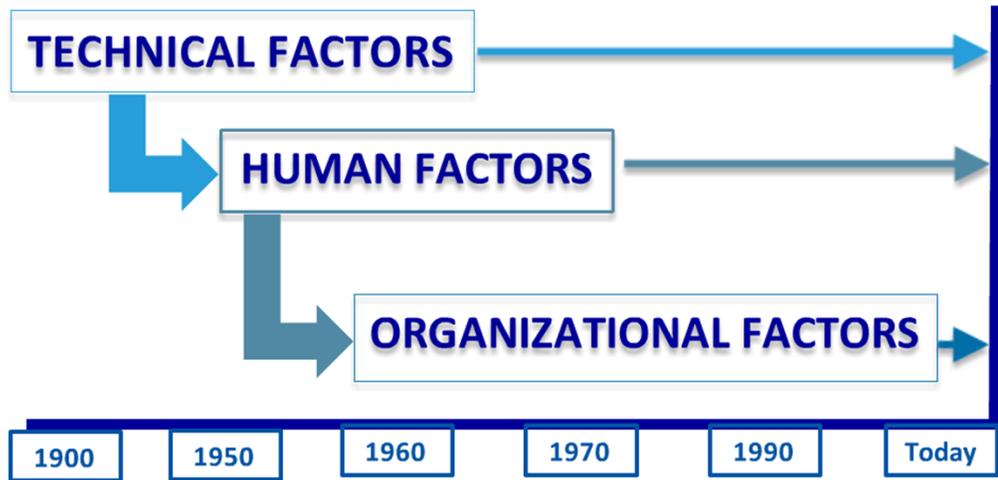
Menu Notes Glossary Resources

- SMS Fundamentals
 - Welcome
 - Audio Component
 - Navigation
 - Programme Paths
 - General Goal and Module Objective
 - Section Overview
 - Section 1: Why Safety Management?
 - The Evolution of Safety Thinking**
 - Incident Scenario
 - Knowledge Check 1
 - Practical Drift & Accident Causation
 - Congratulations
 - Section 2: What is different with Safety Management?
 - Section 2: How to Transition to...

Search...

Safety Management Fundamentals

The Evolution of Safety Thinking



1900 1950 1960 1970 1990 Today

Move your mouse over the eras to learn more

Speaker icon | Play/Pause | Progress bar | Refresh | < PREV | NEXT >

Course Demo

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Menu Notes Glossary Resources

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 - Practical Drift & Accident Causation
 - Congratulations
 - ▶ Section 2: What is different with Safety Management?

Search...

Safety Management Fundamentals

The Evolution of Safety Thinking

Accident Prevention Strategies
"Removing Links in the Accident Chain"

ACCIDENT PREVENTION STRATEGIES BY GROUP
ALL DATA ACCIDENTS

GROUP	ACCIDENT PREVENTION STRATEGIES	CODE	PERCENTAGE OF ACCIDENTS
1	Human factors (pilot error)	1	~45%
2	Weather related	2	~15%
3	Clear air turbulence	3	~10%
4	Controlled flight into terrain	4	~10%
5	Controlled flight into water	5	~10%
6	Loss of control	6	~5%
7	Other	7	~5%

Each bar represents the percentage of ALL DATA accidents which contained at least one instance of the listed Preventive Strategy.

ORGANIZATIONAL FACTORS

During the 1990s, safety began to be viewed from a systemic perspective, which was to encompass organizational factors in addition to human and technical factors. As a result, the notion of the “organizational accident” was introduced, considering the impact of organizational culture and policies on the effectiveness of safety risk controls.

Search...

◀ PREV

NEXT ▶



Course Demo

The screenshot displays the ICAO TRAINAIR PLUS interface. On the left is a navigation menu with the following items: Menu, Notes, Glossary, Resources, SMS Fundamentals (expanded), Welcome, Audio Component, Navigation, Programme Paths, General Goal and Module Objective, Section Overview, Section 1: Why Safety Management? (expanded), The Evolution of Safety Thinking, Incident Scenario (highlighted), Knowledge Check 1, Practical Drift & Accident Causation, Congratulations, Section 2: What is different with Safety Management? (expanded), and Section 3: How to... (partially visible). A search bar is located at the bottom of the menu.

The main content area is titled "Safety Management Fundamentals" and "Incident Scenario". It features an aerial map of an airport with several key elements:

- Legend:** A yellow arrow represents the "Vehicle path" and a blue arrow represents the "Flight path".
- Map Labels:** Terminal 1, Control Tower, Runway 24R, H16, DV, and Displaced Threshold.
- Numbered Markers:** Six red circles with white numbers (1-6) are placed on the map. Markers 1, 2, and 3 are on the flight path near H16 and DV. Markers 4 and 5 are near the Control Tower. Marker 6 is near the Displaced Threshold.
- Scale:** A scale bar at the bottom left indicates 0 feet, 825 feet, and 1650 feet.
- Instructions:** A red-bordered box at the bottom right contains the text "Hover your mouse over the numbered bullets".

At the bottom of the interface, there is a search bar, a volume icon, a play button, a progress bar, a refresh icon, and navigation buttons for "PREV" and "NEXT".

Course Demo

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Menu **Notes** Glossary Resources

Practical Drift & Accident Causation

The theory of practical drift is used as the basis to understand how, in aviation, the baseline performance of any system “drifts away” from its original design and when the organization's processes and procedures are unable to anticipate or cope with the resultant unsafe situations that may arise in daily operations.

The challenge for an SMS' proactive and predictive monitoring processes is to capture and analyse information pertaining to a system's practical drift in order to control and mitigate such safety risks as soon as possible.

Safety Management Fundamentals

Hover over the blue buttons in sequence

System design

Operational deployment

Baseline performance

Operational performance

Practical drift

Technology

Resilience

Early detection by SMS-SSP
Proactive / Predictive
Monitoring processes
(i.e. FDAP, etc.)

On other hand, the unchecked proliferation of local adaptations and personal strategies may lead the practical drift to deviate too far from the expected baseline performance, to the extent that an incident or an accident becomes more likely.

Navigation controls: speaker, play, progress bar, refresh, < PREVIOUS, NEXT >



Course Demo

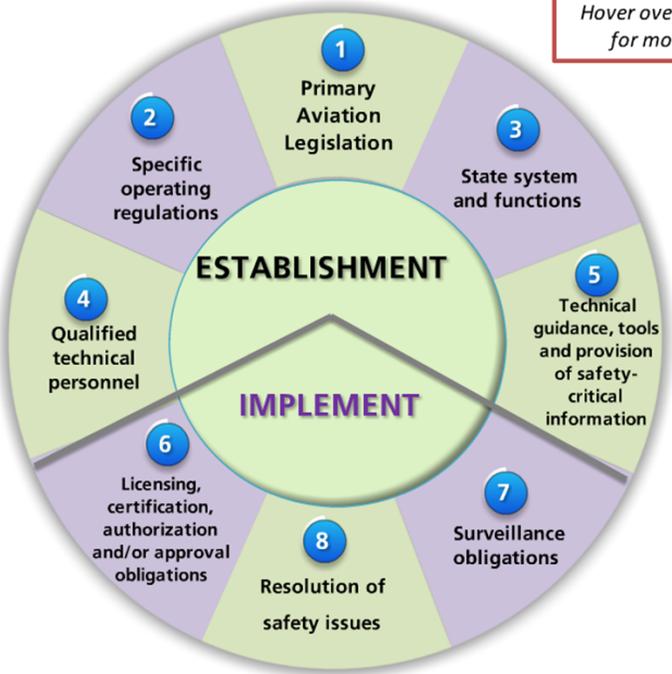


Safety Management Provisions Module 2 DEMO

Safety Management Provisions

State Safety Oversight System

Hover over the blue buttons for more information



Note

Menu Notes Glossary Resources

- Safety Management Provisions Module 2
 - Welcome
 - General Goal and Module Objective
 - Sections Overview
 - Section 2: State Safety Management Responsibilities
 - State Safety Oversight System**
 - Requirements To Implement SMS
 - Section 3: Plan for the Implementation of State Safety Programmes
 - Section 4: Safety Management Systems and the SMS Framework
 - Section 5: Safety Data Collection, Analysis, Protection and Exchange
 - Section 6: Legal Guidance for Safety Information Protection
 - Section 7: End of Module Exam

Search...

Speaker icon, Play button, Progress bar, Refresh icon, < PREV, NEXT >



Course Demo

Safety Management Systems Module 3B demo

Safety Management Systems
Certificate of Completion



ICAO TRAINING & LEARNING

Menu Glossary Notes Resources

- 1.3. Navigation
- 1.4. Target Audience
- 1.5. Section 1: Framework Introduction
 - 1.5.1. Some SMS Basics
 - 1.5.2. SMS Framework Components and Elements
 - 1.5.3. 1. Safety Policy and Objectives
 - 1.5.4. Management Commitment and Responsibility
 - 1.5.5. Safety Accountabilities
 - 1.5.6. 2. Safety Risk Management**
 - 1.5.7. Hazard Identification
 - 1.5.8. Safety Risk Assessment and Mitigation
 - 1.5.9. Section 1 Completed
 - 1.5.10. Certificate of Completion

Search...

Speaker icon | Play/Pause | Progress bar | Refresh | < PREV | NEXT >



Course Fee

- 900USD including the 4 CBT modules
- Same fee for all individuals (CAA inspectors, aviation industry personnel and private individuals)
- Cost for classroom activity yet to be decided



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North Atlantic
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(MID) Office
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(APAC) Office
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THANK YOU