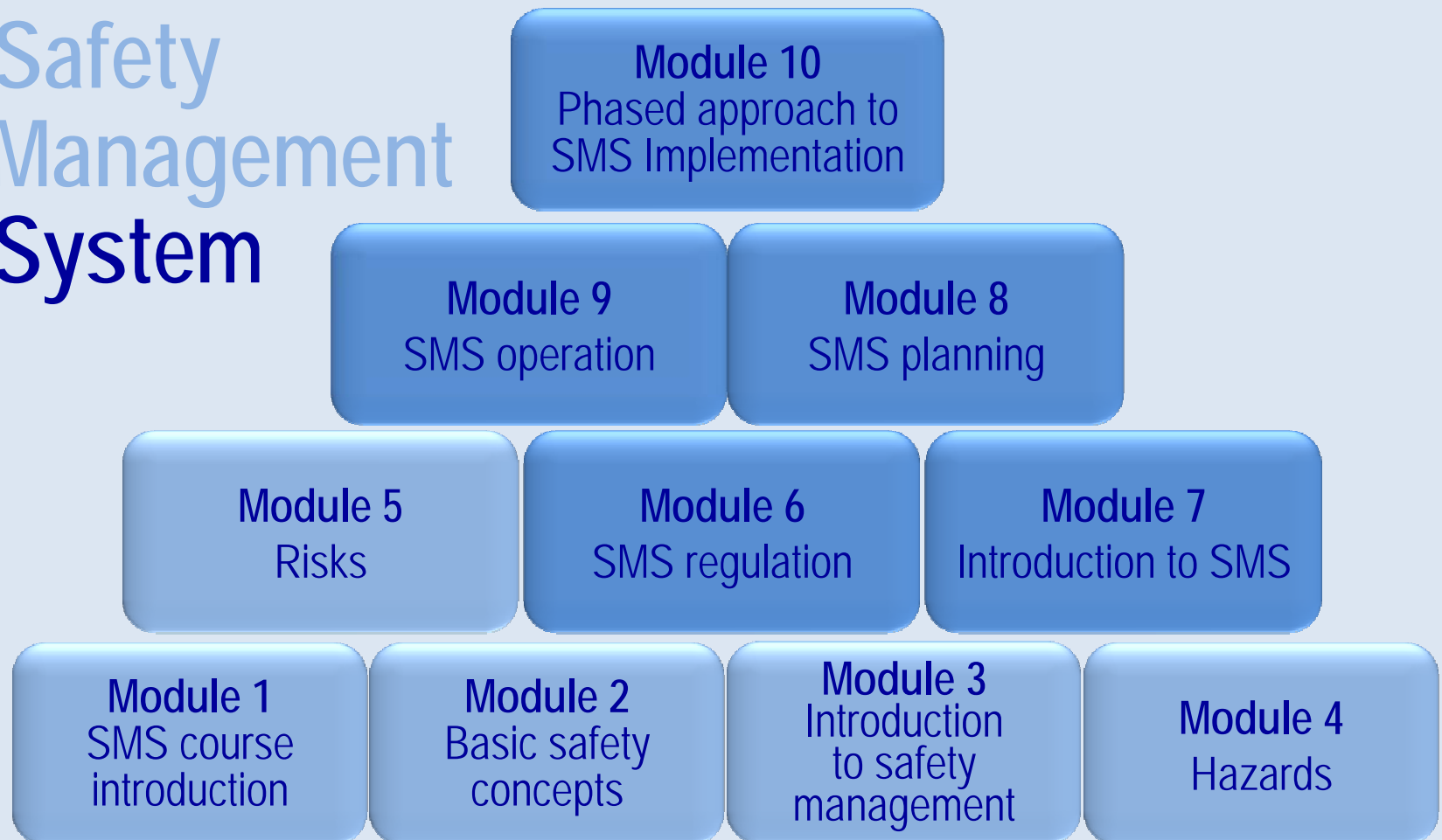


Safety Management Systems (SMS) Course

Module N° 9 – SMS operation

Building an SMS

Safety Management System



Objective

- ❖ *When completing the module the participants will be able to describe the requirements associated to the operation of an SMS.*

Outline

- ❖ Safety risk management
- ❖ Safety assurance
- ❖ Safety promotion
- ❖ Questions and answers
- ❖ Points to remember

ICAO SMS framework

- ① **Safety policy and objectives**
 - 1.1 – Management commitment and responsibility
 - 1.2 – Safety accountabilities of managers
 - 1.3 – Appointment of key safety personnel
 - 1.4 – SMS implementation plan
 - 1.5 – Coordination of emergency response planning
 - 1.6 – Documentation
- ② **Safety risk management**
 - 2.1 – Hazard identification processes**
 - 2.2 – Risk assessment and mitigation processes
- ③ **Safety assurance**
 - 3.1 – Safety performance monitoring and measurement
 - 3.2 – The management of change
 - 3.3 – Continuous improvement of the SMS
- ④ **Safety promotion**
 - 4.1 – Training and education
 - 4.2 – Safety communication

② Safety risk management

2.1 – Hazard identification processes *(Module 4)*

- ❖ A formal means of collecting, recording, acting on and generating feedback about hazards and risks in operations.
- ❖ Three methods:
 - Reactive
 - Proactive
 - Predictive

② Safety risk management

2.1 – Hazard identification processes

❖ Reporting systems – *A special mention*

- Nobody knows better **actual** system performance than operational personnel.
 - Mandatory reporting system.
 - Voluntary reporting systems.
 - Confidential reporting systems.
- The reporting requirements may vary among States.

2 Safety risk management

2.1 – Hazard identification processes

❖ Reporting systems

➤ People are reluctant to report.

➤ Why?

- Retaliation.
- Self-incrimination.
- Embarrassment.

② Safety risk management

2.1 – Hazard identification processes

❖ Typical qualities of successful confidential reporting systems:

- Reports easy to make.
- No disciplinary actions as result of reports.
- Reports are confidential.
- Feedback is rapid, accessible and informative.

② Safety risk management

2.1 – Hazard identification processes

❖ Four steps for action:

1. Reporting hazards, events or safety concerns.
2. Collecting and storing the data.
3. Analyzing reports.
4. Distributing the information distilled from the analysis.

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② Safety risk management

2.2 – Risk assessment and mitigation processes *(Module 5)*

- The analysis and elimination, and/or mitigation to an acceptable level of risks that threaten the capabilities of an organization.
- To remember – The risk tolerability matrix

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③ Safety assurance

3.1 – Safety performance monitoring and measurement

❖ The process by which the safety performance of the organization is verified in comparison to the approved safety policies and objectives.

- Safety reporting
- Safety studies
- Safety reviews
- Audits
- Surveys
- Internal safety investigations
- ...

③ Safety assurance

3.1 – Safety performance monitoring and measurement

❖ **Safety audits** are used to ensure that the structure of the SMS is sound in terms of:

- Levels of staff;
- Compliance with approved procedures and instructions;
- Level of competency and training to:
 - Operate equipment and facilities; and
 - Maintain their levels of performance.

③ Safety assurance

3.1 – Safety performance monitoring and measurement

❖ **Safety surveys** examine particular elements or processes of a specific operation.

- Problem areas or bottlenecks in daily operations.
- Perceptions and opinions of operational personnel.
- Areas of dissent or confusion.

③ Safety assurance

3.1 – Safety performance monitoring and measurement

❖ **Safety surveys** may involve the use of:

- Checklists

- Questionnaires.

- Informal confidential interviews.

❖ Since surveys information is subjective, verification may be needed before corrective action.

❖ Surveys may provide an inexpensive source of significant safety information.

③ Safety assurance

3.1 – Safety performance monitoring and measurement

- ❖ **Internal safety investigations** include occurrences or events that are not required to be investigated or reported to State.
 - In-flight turbulence (flight operations)
 - Frequency congestion (ATC)
 - Material failure (maintenance)
 - Ramp vehicle operations (aerodrome)

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③ Safety assurance

3.2 – The management of change

- ❖ Aviation organizations experience permanent change due to expansion, introduction of new equipment or procedures.
- ❖ Changes can:
 - Introduce new hazards.
 - Impact the appropriateness of risk mitigation.
 - Impact the effectiveness of risk mitigation.

③ Safety assurance

3.2 – The management of change

❖ External changes

- Change of regulatory requirements.
- Security.
- Reorganization of air traffic control.
- ...

❖ Internal changes

- Management changes
- New equipment.
- New procedures.
- ...

③ Safety assurance

3.2 – The management of change

- ❖ A formal management of change process should:
 - identify changes within the organization which may affect established processes and services.
 - prior to implementing changes describe the arrangements to ensure safety performance.

ICAO SMS framework

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③ Safety assurance

3.3 – Continuous improvement of the SMS

❖ Continuing improvement aims at:

- Determining the immediate causes of below standard performance and their implications in the operation of the SMS.
- Rectifying situations involving below standard performance identified through safety assurance activities.

③ Safety assurance

3.3 – Continuous improvement of the SMS

❖ Continuing improvement is achieved through:

➤ **Proactive** evaluation of facilities, equipment, documentation and procedures through audits and surveys.

➤ **Proactive** evaluation of the individuals' performance, to verify the fulfilment of their safety responsibilities.

③ Safety assurance

3.3 – Continuous improvement of the SMS

❖ Continuing improvement is achieved through:

➤ **Reactive** evaluations in order to verify the effectiveness of the system for control and mitigation of risks, for example: accidents, incidents and major events investigations.

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4 Safety promotion

4.1 – Training and education

- ❖ The safety manager should, in conjunction with the personnel department, review the job descriptions of all staff, and identify those positions that have safety responsibilities.

4 Safety promotion

4.1 – Training and education

❖ Who?

- Operational personnel
- Managers and supervisors
- Senior managers
- Accountable executive

❖ Why?

- To ensure that personnel are trained and competent to perform the SMS duties.

❖ How much?

- Appropriate to the individual's involvement in the SMS.

4 Safety promotion

4.1 – Training and education

- ❖ A building block approach
 - Operational personnel
 - Organization safety policy
 - SMS fundamentals and overview
 - Managers and supervisors
 - The safety process
 - Hazard identification and risk management
 - The management of change
 - Senior managers
 - Organizational safety standards and national regulations
 - Safety assurance

4 Safety promotion

4.1 – Training and education

❖ Accountable executive – *A special mention*

➤ Awareness of:

- SMS roles and responsibilities
- Safety policy
- SMS Standards
- Safety assurance

ICAO SMS framework

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4 Safety promotion

4.2 – Safety communication

❖ Safety communication aims to:

- Ensure that all staff are fully aware of the SMS.
- Convey safety critical information.
- Explain why particular actions are taken.
- Explain why safety procedures are introduced or changed.
- Convey “nice-to-know” information.

4 Safety promotion

4.2 – Safety communication

- ❖ The means to communicate may include:
 - Safety policies and procedures
 - News letters.
 - Bulletins.
 - Website.
- ❖ Safety communication is an essential foundation for the development and maintenance of a positive culture.

SMS at a glance





SMS operation

Questions and answers

Questions and answers

❖ **Q:** Name four qualities of successful confidential reporting systems.

❖ **A:**

- Reports easy to make.
- No disciplinary actions as result of reports.
- Reports are confidential.
- Feedback is rapid, accessible and informative

Slide number: 9

Questions and answers

❖ Q: What is safety performance monitoring and measurement?

❖ A:

- The process by which the safety performance of the organization is verified in comparison to the approved safety policies and objectives.

Slide number: 14

Questions and answers

❖ **Q:** What is the objective of a formal management of change process?

❖ **A:**

➤ A formal management of change process should:

- identify changes within the organization which may affect established processes and services.
- describe the arrangements to ensure safety performance prior to implementing changes.

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Points to remember

1. *Key ingredients for successful reporting*
2. *The importance of a formal management of change*
3. *Safety training – Who, why and how much*

Safety Management Systems (SMS) Course

Module N° 9 – SMS operation