

International Civil Aviation Organization



ICAO Regional Workshop on Safety
Management Systems (SMS) and State Safety
Programme (SSP) Implementation

Bangkok, 29 - 31 October 2008

Objective

- ❖ To identify potential obstacles on the implementation of Safety Management Systems (SMS) and the State's Safety Programme (SSP).
- ❖ To discuss possible alternatives to overcome these obstacles.
- ❖ To propose courses of action to ICAO.

Time table

Time	Date	Date	Date
08:30 – 09:00	Registration/Opening	-----	-----
09:00 – 10:30	Plenary session	Group session (SMS)	Group session (SSP)
10:30 – 11:00	Coffee/tea break	Coffee/tea break	Coffee/tea break
11:00 – 12:30	Plenary session	SMS report preparation	SSP report preparation
12:30 – 13:30	Lunch	Lunch	Lunch
13:30 – 15:00	Group session (SMS)	SMS report presentation	SSP report presentation
15:00 – 15:30	Coffee/tea break	Coffee/tea break	Coffee/tea break
15:30 – 16:30	Group session (SMS)	SMS conclusions	Wrap-up and recommendations

Contents of the plenary session

- ❖ ICAO safety management standards
- ❖ ICAO SMS framework
- ❖ ICAO SSP framework
- ❖ Working group activities



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ICAO safety management standards

The big picture

❖ Service providers

- Aircraft operators
- Air traffic services
- Approved maintenance organizations
- Approved training organizations
- Certified aerodromes
- Organizations responsible for the type design or manufacture of aircraft

❖ Two audience groups

- States
- Service providers

❖ Three distinct requirements

- State safety programme (SSP)
- Safety management System (SMS)
- Management accountability

State's safety programme

❖ Definition

- *An integrated set of regulations and activities aimed at improving safety.*

❖ Requirements

- *States shall establish a State safety programme (SSP), in order to achieve an acceptable level of safety in civil aviation.*
- *The acceptable level of safety to be achieved shall be established by the State.*

State's safety programme

- ❖ States are responsible for establishing an SSP, encompassing the following responsibilities:
 - Safety regulation
 - Accident/incident investigation
 - Mandatory/voluntary reporting systems
 - Safety data analysis and exchange
 - Safety assurance
 - Safety promotion



Acceptable level of safety (ALoS)

❖ State acceptable level of safety – A concept

- High level safety management goals of an SSP
 - safety measurement
- Minimum safety performance the State should achieve through the implementation of its SSP
 - safety performance measurement
- An indirect reference against of the measure safety performance of the service providers.

ALoS – A fundamental differentiation

❖ Safety measurement

- Quantification of high-level outcomes or high-consequence events
 - accident rates
 - serious incident rates
- Quantification of high-level State functions
 - development/absence of primary aviation legislation
 - development/absence of operating regulations
 - level of regulatory compliance

ALoS – A fundamental differentiation

- ❖ Safety performance measurement
 - Quantification of low-level process
 - provide a measure of the actual performance of an individual SSP or SMS
 - beyond accident rates and regulatory compliance
 - Continuous monitoring and measurement of selected activities by an organization during provision of services
 - To achieve measurement, it encompasses quantifiable
 - short-term objectives (safety performance indicators),
 - mid- and long-term objectives (safety performance targets).

ALoS of an SSP

- ❖ Expresses the **safety goals** (or expectations) of a State.
- ❖ It is the **reference**
 - for safety measurement by the State
 - for safety performance measurement of the SSP
- ❖ It is an indirect **reference** against which the State can weigh the safety performance of service providers' SMS.
- ❖ When establishing ALoS, consideration must be given to
 - the **level of safety risk** that applies,
 - the **cost/benefits** of improvements to the system
 - the **public expectations** in civil aviation system.

ALoS of an SSP

- ❖ The ALoS of an SSP shall be established by the State and it is expressed in practical terms by two measures or metrics:
 - *Safety performance indicators*
 - *Safety performance targets*
- ❖ It is delivered through various tools and means:
 - *Safety requirements.*

ALoS of an SSP

❖ Safety performance indicators

- Short-term, tactical measurable safety performance outcomes of the safety performance of an organization
- Expressed in numerical terms.

❖ Safety performance targets

- Long-term, strategic measurable safety performance outcomes of the safety performance of an organization or a sector of the industry
- Expressed in numerical terms.

ALoS of an SSP

❖ Safety requirements

- Safety requirements are the tools and means to achieve the safety performance indicators and targets of an SSP. They include operational procedures, technology, systems and programmes.
- Measures of reliability, availability and/or accuracy may be added.

Acceptable level of safety of an SSP

Safety requirements

1. Airspace management – Constant Descend Arrivals (CDA) procedures implemented – Arrival procedure charts designed for stabilized approaches.
2. Installation of ASDE/X in 5 international [State] airports.

Safety performance targets

1. By 2010, reduce Controlled Flight into Terrain (CFIT) events to 0.04 per 100,000 operations on all large public transport aircraft in [State] airspace.
2. By 2011, reduce runway incursions to 0.6 per 10,000 operations in 5 international [State] airports.

Safety performance indicators

1. 0.08 Controlled Flight into Terrain (CFIT) events per 100,000 operations on all large public transport aircraft in [State] airspace.
2. 1.2 runway incursions per 10,000 operations in 5 international [State] airports areas – large passenger aircraft, large freighter aircraft, small public transport aircraft, large public transport helicopters and general aviation.

State SSP

Will comply all applicable international standards.

Legal considerations

❖ States

- Establishing acceptable level of safety for their SSP does not replace legal, regulatory, or other already established requirements, but it must support compliance with them.
- Establishing acceptable level of safety for their SSP leaves unaffected the obligations of States, and does not relieve States from compliance with SARPs.



SMS requirements

- ❖ *States shall require, as part of their State safety programme (SSP), that a **service provider** implements a safety management system (SMS) acceptable to the State that, as a minimum:*
 - a) identifies safety hazards;*
 - b) ensures that remedial action necessary to maintain safety performance is implemented;*
 - c) provides for continuous monitoring and regular assessment of the safety performance; and*
 - d) aims at a continuous improvement of the overall performance of the safety management system.*

What is an SMS?

- ❖ A *systematic approach* to managing safety, including the necessary organizational structures, accountabilities, policies and procedures.
- ❖ Service providers are responsible for **establishing an SMS**.
- ❖ States are responsible, under the SSP, for the **acceptance and oversight of service providers' SMS**.



SMS requirements

- ❖ *A safety management system shall clearly define lines of safety accountability throughout a service provider organization, including a **direct accountability for safety on the part of senior management.***

(Accountability – Obligation or willingness to account for one's actions)

Safety performance of services provider's SMS

- ❖ Within each State, **the safety performance of the SMS will be agreed** between the State oversight authority and individual aviation organizations.
- ❖ Each agreed safety performance should be commensurate to the:
 - **complexity** of individual aviation organization specific operational context; and
 - **availability** of aviation organization **resources** to address them.

Safety performance of services provider's SMS

- ❖ The safety performance of service providers shall be expressed in practical terms by two measures or metrics:
 - *Safety performance indicators*
 - *Safety performance targets*
- ❖ It is delivered through various tools and means:
 - *Safety requirements.*

Safety performance of services provider's SMS

❖ Implementation

- The **safety performance** of service providers will always be expressed by a number of safety performance indicators and safety performance targets, never by a single one.

Safety performance of services provider's SMS

Safety requirements	<ol style="list-style-type: none">1. Training course for drivers / installation of specific signage2. Thrice-daily walk-in ramp inspection programme3. ...
Safety performance targets	<ol style="list-style-type: none">1. <u>Maintain no more than 20</u> events of unauthorized vehicles on the taxiways per 10.000 operations2. By January 2009 reduce to 8 FOD events on the apron per 10.000 operations3. ...
Safety performance indicators	<ol style="list-style-type: none">1. 20 events of unauthorized vehicles on the taxiways per 10.000 operations2. 15 FOD events on the apron per 10.000 operations3. ...
Service provider SMS	Will comply all applicable national and international standards

Legal considerations

❖ Service providers

- ❖ Establishing safety performance for the SMS leaves unaffected the obligations of services providers and other related parties, and it does not relieve the services providers and other related parties from compliance with SARPs and/or national regulations, as applicable.

Prescriptive *versus* performance-based

Prescriptive

Regulations as administrative controls

- ❖ Regulatory framework
- Inspections
- Audits

✓ *Regulatory compliance*

Performance-based

Regulations as risk controls

- ❖ Regulatory framework, but:
 - Data based identification and prioritization of safety risks
 - ❖ Develop regulations to control safety risks
- ✓ *Effective safety performance*

Performance-based regulatory environment

- ❖ The notion of safety performance is an **essential ingredient** of the effective operation of an SMS.
- ❖ It serves for developing a **performance-based regulatory environment**, in order to monitor the actual performance of an SMS.
- ❖ At the same time, it is also important to remember the **management axiom** that *“one cannot manage what one cannot measure”*.

Safety performance of the SMS





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ICAO SMS Framework

SMS features

- ❖ **Systematic** – Safety management activities are in accordance with a pre-determined plan, and applied in a consistent manner throughout the organization.
- ❖ **Proactive** – An approach that emphasizes hazard identification and risk control and mitigation, before events that affect safety occur.
- ❖ **Explicit** – All safety management activities are documented and visible.

ICAO SMS framework

1 Safety policy and objectives

- 1.1 – Management commitment and responsibility
- 1.2 – Safety accountabilities
- 1.3 – Appointment of key safety personnel
- 1.4 – Coordination of emergency response planning
- 1.5 – SMS documentation

2 Safety risk management

- 2.1 – Hazard identification
- 2.2 – Risk assessment and mitigation

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

1 Safety policy and objectives

1.1 – Management commitment and responsibility

- ❖ The service provider shall define the **safety policy** of the organization which shall:
 - 1) Be in accordance with **international and national requirements**;
 - 2) Be **signed** by the **Accountable executive** of the organization;
 - 3) Reflect organizational **commitments** regarding safety;
 - 4) Include a clear statement about the provision of the **necessary resources** for the implementation of the safety policy; ...

1 Safety policy and objectives

❖ Cont.

5) Include the **safety reporting procedures**

6) Clearly indicate which types of **operational behaviours** are **unacceptable**

7) Include the conditions under which **exemption** from **disciplinary action** would be applicable

1 Safety policy and objectives

1.2 – Safety accountabilities

❖ The organization shall identify:

- The **Accountable executive** who, irrespective of other functions, shall have **ultimate responsibility and accountability**, on behalf of the organization, for the **implementation and maintenance of the SMS**; and
- The organization shall also **identify the accountabilities of all members of management**, irrespective of other functions, as well as of employees, with respect to the safety performance of the SMS.

1 Safety policy and objectives

1.2 – Safety accountabilities

❖ The **Accountable executive** must have:

- Full authority for **human resources** issues.
- Authority for major **financial** issues.
- Direct **responsibility** for the conduct of the organization's affairs.
- Final authority over **operations under certificate**.
- Final responsibility for all **safety** issues.

1 Safety policy and objectives

1.2 – Safety accountabilities

❖ Safety responsibilities, accountabilities and authorities shall:

- Be **documented**;
- Be **communicated** throughout the organization; and
- Include a definition of the levels of management with **authority to make decisions** regarding safety risks tolerability.

1 Safety policy and objectives

1.3 – Appointment of key safety personnel

❖ The safety office – *Corporate functions*

- Advising senior management on safety matters.
- Assisting line managers.
- Overseeing hazard identification systems.

1 Safety policy and objectives

1.3 – Appointment of key safety personnel

❖ The safety manager – *Functions*

- Manages the SMS implementation plan on behalf of the accountable executive.
- Facilitates hazard identification and risk analysis and management.
- Monitors corrective actions to ensure their accomplishment.
- Provides periodic reports on safety performance.
- Maintains safety documentation.
- Plans and organizes staff safety training.
- Provides independent advice on safety matters.

1 Safety policy and objectives

1.4 – Coordination of emergency response planning

- ❖ The organization shall ensure that an emergency response plan that **provides for the orderly and efficient transition from normal to emergency operations,** and the return to normal operations is properly coordinated with the emergency response plans of those organizations it must **interface** with during the provision of its services



1 Safety policy and objectives

1.5 – SMS documentation

- ❖ The organization shall develop and maintain SMS documentation to describe:
 - The safety policy and objectives;
 - The SMS requirements;
 - The SMS processes and procedures;
 - The accountabilities, responsibilities and authorities for processes and procedures; and
 - The SMS outputs.

1 Safety policy and objectives

1.5 – SMS documentation

❖ As part of the SMS documentation, the organization shall:

- 1) Develop an **SMS implementation plan**, endorsed by senior management of the organization that defines the organization's approach to the management of safety in a manner that meets the organization's safety objectives; and
- 2) Develop and maintain a **safety management systems manual (SMSM)**, to communicate its approach to the management of safety throughout the organization.

1 Safety policy and objectives

1.5.2 – SMSM contents

1. Scope of the safety management system.
2. The safety policy and objectives.
3. Safety accountabilities.
4. Key safety personnel.
5. Documentation control procedures.
6. Hazard identification and risk management schemes.
7. Safety performance monitoring.
8. Coordination of the emergency response planning.
9. Management of change.
10. Safety auditing.
11. Safety assurance.
12. Safety promotion.
13. Contracted activities.

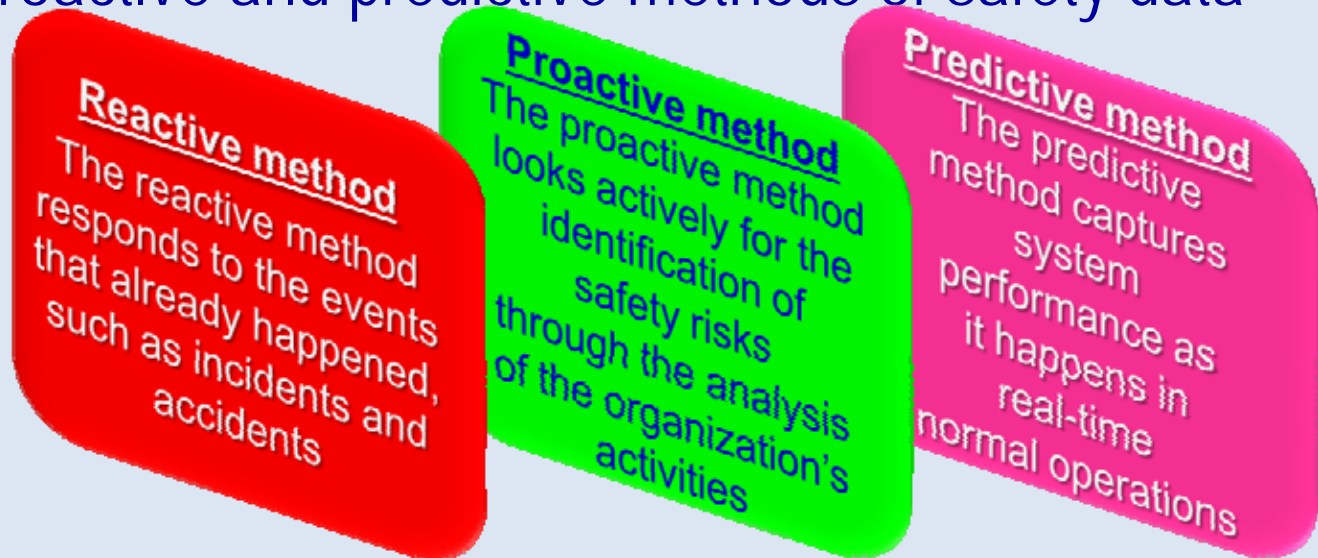
ICAO SMS framework

- ① **Safety policy and objectives**
 - 1.1 – Management commitment and responsibility
 - 1.2 – Safety accountabilities
 - 1.3 – Appointment of key safety personnel
 - 1.4 – Coordination of emergency response planning
 - 1.5 – SMS documentation
- ② **Safety risk management**
 - 2.1 – Hazard identification
 - 2.2 – Risk assessment and mitigation
- 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

- ❖ The organization shall develop and maintain a formal process that ensures that hazards in operations are identified.
- ❖ Hazard identification shall be based on a combination of reactive, proactive and predictive methods of safety data collection.



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

❖ 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.

② Safety risk management




2.2 – Risk assessment and mitigation

- ❖ The organization shall develop and maintain a formal process that ensures:
 - **Analysis** (in terms of probability and severity of occurrence);
 - **Assessment** (in terms of tolerability); and
 - **Control** (in terms of mitigation) of the safety risks assessed to the consequences of hazards in operations to a level as low as reasonably practicable (ALARP).

Risk assessment

Risk probability	Risk severity				
	Catastrophic A	Hazardous B	Major C	Minor D	Negligible E
Frequent 5	5A	5B	5C	5D	5E
Occasional 4	4A	4B	4C	4D	4E
Remote 3	3A	3B	3C	3D	3E
Improbable 2	2A	2B	2C	2D	2E
Extremely improbable 1	1A	1B	1C	1D	2E

Risk tolerability

Risk management	Assessment risk index	Suggested criteria
 <p>Intolerable region</p>	<p>5A, 5B, 5C, 4A, 4B, 3A</p>	<p>Unacceptable under the existing circumstances</p>
 <p>Tolerable region</p>	<p>5D, 5E, 4C, 4D, 4E, 3B, 3C, 3D, 2A, 2B, 2C</p>	<p>Acceptable based on risk mitigation. It might require management decision</p>
 <p>Acceptable region</p>	<p>3E, 2D, 2E, 1A, 1B, 1C, 1D, 1E</p>	<p>Acceptable</p>

ICAO SMS framework

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 - 1.1 – Management commitment and responsibility
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 - 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

③ Safety assurance

3.1 – Safety performance monitoring and measurement

- ❖ The organization shall develop and maintain the **means to verify the safety performance** of the organization, and to validate the effectiveness of safety risks controls.
- ❖ The safety performance of the organization shall be verified in reference to:
 - **Safety performance indicators; and**
 - **Safety performance targets.**
- ❖ Associated with the service provider's SMS and the SSP of the State.

③ Safety assurance

3.1 – Safety performance monitoring and measurement

❖ Is the internal process by which the **safety performance** of the organization is verified in comparison to the approved safety policies and objectives and the **State acceptable level of safety**, throughout the following tools:

- Safety reporting systems
- Safety studies
- Safety reviews
- Safety audits
- Safety surveys
- Internal safety investigations
- ...

③ Safety assurance

3.2 – The management of change

- ❖ The organization shall develop and maintain a formal process to identify changes within the organization which may affect established processes and services, in order to:
 - Describe the arrangements to ensure safety performance before implementing changes; and
 - To eliminate or modify safety risk controls that are no longer needed or effective due to changes in the operational environment.

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

3.3 – Continuous improvement of the SMS

❖ The organization shall:

- Develop and maintain a formal process to identify the causes of sub-standard performance of the SMS;
- Determine the implications of sub-standard performance of the SMS in operations; and
- Eliminate or mitigate such causes.

ICAO SMS framework

- 1 Safety policy and objectives**
 - 1.1 – Management commitment and responsibility
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 - 1.5 – SMS documentation
- 2 Safety risk management**
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 - 4.1 – Training and education
 - 4.2 – Safety communication

4 Safety promotion

4.1 – Training and education

- ❖ The organization shall develop and maintain a safety training programme that ensures that personnel are trained and competent to perform the SMS duties.
- ❖ The scope of the safety training shall be appropriate to each individual's involvement in the SMS.

4 Safety promotion

4.1 – Training and education

Who?

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

Why?

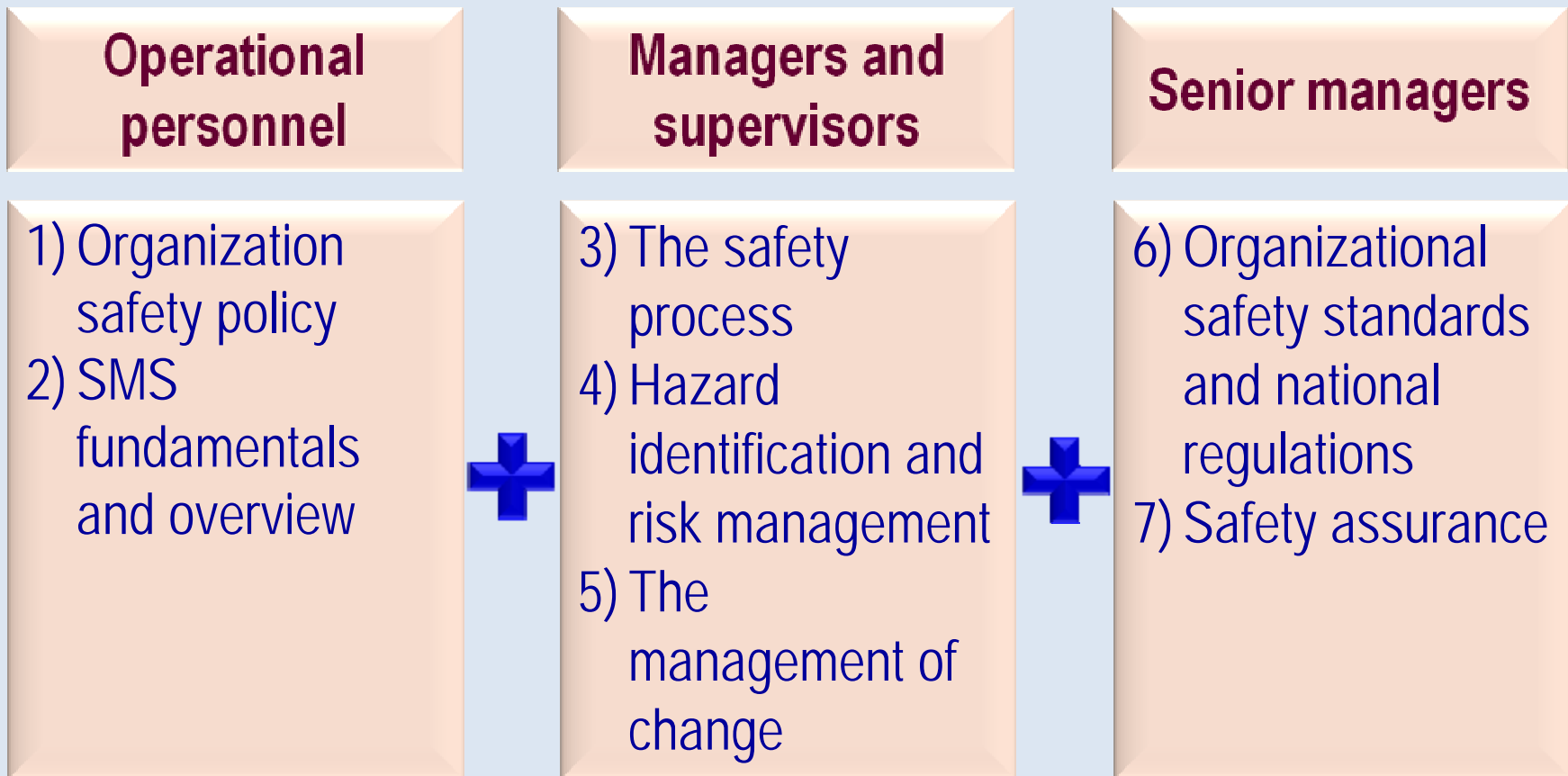
- To ensure that personnel are trained and competent to perform the SMS duties

How much?

- Appropriate to the individual's involvement in the SMS

4 Safety promotion

4.1 – Training and education – A building block approach



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

The bridge

Civil
Aviation
Authority



Service
Providers
SMS





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ICAO SSP Framework

State safety programme

❖ Implementation

➤ Develop the State safety programme (SSP) around the following four components:

1. State safety policy and objectives
2. State safety risk management
3. State safety assurance
4. State safety promotion

ICAO SSP framework

1. State safety policy and objectives

- 1.1 State safety legislative framework
- 1.2 Safety responsibilities and accountabilities
- 1.3 Accident and incident investigation
- 1.4 Enforcement policy

2. State safety risk management

- 2.1 Safety requirements for service providers SMS
- 2.2 Agreement on service providers' safety performance

3. State safety assurance

- 3.1 Safety oversight
- 3.2 Safety data collection, analysis and exchange
- 3.3 Safety data driven targeting of oversight on areas of greater concern or need

4. State safety promotion

- 4.1 Internal training, communication and dissemination of safety information
- 4.2 External training, communication and dissemination of safety information

1. State safety policy and objectives

1.1 – State safety legislative framework

- ❖ The State has promulgated a national **safety legislative framework** and **specific regulations** in compliance with international and national standards that define how the State will conduct the **management of safety** in the State.

1. State safety policy and objectives

1.1 – State safety legislative framework

- ❖ This includes the participation of the State aviation organizations in specific activities related to the management of safety in the State, and the **establishment of the roles, responsibilities, and relationships** of such organizations.
- ❖ The safety legislative framework and specific regulations are **periodically reviewed** to ensure they remain relevant and appropriate to the State.

1. State safety policy and objectives

1.2 – Safety responsibilities and accountabilities

- ❖ The State has **identified, defined and documented** the requirements, responsibilities and accountabilities regarding the establishment and maintenance of the SSP.
- ❖ This includes the directives to **plan, organize, develop, maintain, control and continuously improve** the SSP in a manner that meets the State's safety objectives.
- ❖ It also includes a clear statement about the provision of the necessary **resources** for the implementation of the SSP.

1. State safety policy and objectives

1.2 – Safety responsibilities and accountabilities

❖ Identify the **Accountable executive** with the following responsibilities:

- Full authority for human resources issues.
- Authority for major financial issues.
- Final authority over air operators and service providers under certificate.
- Final responsibility for all State's safety issues.

1. State safety policy and objectives

1.2 – Safety responsibilities and accountabilities

- ❖ Establishment of an SSP implementation team.
 - Allocation of time for all SSP processes among the different management layers of the State safety oversight authority.
 - Introduction of SSP concepts accordingly to the level of all State safety oversight authority's staff.

1. State safety policy and objectives

1.2 – Safety responsibilities and accountabilities

- ❖ Development and implementation of a State's safety policy that contains at least the following points:
 - Oversight of all activities in order to achieve the highest safety standards.
 - Development of legal requirements and applicable regulations to the management of safety in the State.
 - Development of internal and external safety processes to support those legal requirements.
 - Provision of sufficient human and financial resources to ensure properly skilled and trained staff.

1. State safety policy and objectives

1.2 – Safety responsibilities and accountabilities

❖ ... State's safety policy that contains:

- Promote an effective State's safety reporting policy.
- Review the enforcement policy.
- Communicate, with visible endorsement, the State's safety policy to all State safety oversight authority staff.
- Ensure that the State's safety policy is understood, implemented and maintained at all levels within the State safety oversight authority.

1. State safety policy and objectives

1.3 – Accident and incident investigation

- ❖ The State has established an **independent accident and incident investigation process**, the sole objective of which is the prevention of accidents and incidents, and not the apportioning of blame or liability.
- ❖ Such investigations are in **support of the management of safety** in the State.
- ❖ ICAO Assembly Resolution A35/17
 - **Safety information must not be used for purposes other than the purposes for which it was collected.**
 - Legal guidance in Annex 13, Attachment E.

1. State safety policy and objectives

Cont.

- ❖ In the operation of the SSP, the **State maintains the independence** of the accident and incident investigation organization **from other State aviation organizations.**

1. State safety policy and objectives

1.4 – Enforcement policy

- ❖ The State has promulgated an enforcement policy that establishes the conditions and circumstances under which **service providers are allowed to deal with, and resolve, events involving certain safety deviations internally,** within the context of the service provider safety management system (SMS), and to the **satisfaction** of the appropriate State authority.
- ❖ The enforcement policy also establishes the **conditions and circumstances** under which to deal with safety deviations through established enforcement procedures.

1. State safety policy and objectives

1.4 – Enforcement policy

- ❖ The policy should ensure that no information derived from an internal reporting process or a flight data monitoring process established under a SMS will be used as evidence for enforcement action.

ICAO SSP framework

1. **State safety policy and objectives**
 - 1.1 State safety legislative framework
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 - 2.1 Safety requirements for service providers SMS
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 - 3.3 Safety data driven targeting of oversight on areas of greater concern or need
4. **State safety promotion**
 - 4.1 Internal training, communication and dissemination of safety information
 - 4.2 External training, communication and dissemination of safety information

2. State safety risk management

2.1 – Safety requirements for service providers SMS

- ❖ The State has **established the controls** which govern how service providers will identify hazards and manage safety risks.
- ❖ These include the requirements, **specific operating regulations** and implementation policies for service providers SMS.
- ❖ The requirements, specific operating regulations and implementation policies are **periodically reviewed** to ensure they remain relevant and appropriate to the service providers.

2. State safety risk management

2.2 – Agreement on service providers' safety performance

- ❖ The State has **agreed** with individual service providers on the **safety performance of their SMS**.
- ❖ The agreed safety performance of individual service providers SMS is **periodically reviewed** to ensure it remains relevant and appropriate to the service providers.

2. State safety risk management

2.2 – Agreement on service providers' safety performance

- ❖ The agreed safety performance of the SMS shall be:
 - **Commensurate to the complexity** of individual service provider's specific operational contexts; and
 - The availability of individual service provider's **resources to address safety risks**.
- ❖ **Periodical reviews** of the agreed safety performance of the SMS shall be conducted to ensure it remains relevant and appropriate to the service providers.

ICAO SSP framework

1. **State safety policy and objectives**
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3. State safety assurance

3.1 – Safety oversight

- ❖ The State has established mechanisms to ensure an **effective monitoring of the eight critical elements** of the safety oversight function.
- ❖ The State has also established mechanisms to ensure that the **identification of hazards and the management of safety risks** by service providers follow established regulatory controls (requirements, specific operating regulations and implementation policies).

3. State safety assurance

3.1 – Safety oversight

- ❖ These mechanisms include **inspections, audits and surveys** to ensure that regulatory safety risk controls are appropriately integrated into the service providers SMS, that they are being practiced as designed, and that the regulatory controls have the intended effect on safety risks.

3. State safety assurance

3.2 – Safety data collection, analysis and exchange

- ❖ The State has established **mechanisms to ensure the capture and storage of data** on hazards and safety risks at both an individual and aggregate State's level.
- ❖ The State has also established **mechanisms to develop information from the stored data**, and to actively exchange safety information with service providers and/or other States as appropriate

3. State safety assurance

3.2 – Safety data collection, analysis and exchange

- ❖ Develop and establish mechanisms to ensure the capture and storage of data on hazards and safety risks:
 - Internal SSP audits.
 - Confidential reporting systems.
 - State safety hazard and risk database.
 - Means to extract information from the stored data.
 - Analyse the data.
 - Determine what mechanism(s) will be used to collect operational hazards at an aggregate State level.
 - Exchange information and/or data with other sources of safety information.

3. State safety assurance

3.3 – Safety data driven targeting of oversight on areas of greater concern or need

- ❖ The State has established procedures to prioritize inspections, audits and surveys towards those areas of greater safety concern or need, as identified by the analysis of data on hazards, their consequences in operations, and the assessed safety risks.

ICAO SSP framework

1. **State safety policy and objectives**
 - 1.1 State safety legislative framework
 - 1.2 Safety responsibilities and accountabilities
 - 1.3 Accident and incident investigation
 - 1.4 Enforcement policy
2. **State safety risk management**
 - 2.1 Safety requirements for service providers SMS
 - 2.2 Agreement on service providers' safety performance
3. **State safety assurance**
 - 3.1 Safety oversight
 - 3.2 Safety data collection, analysis and exchange
 - 3.3 Safety data driven targeting of oversight on areas of greater concern or need
4. **State safety promotion**
 - 4.1 Internal training, communication and dissemination of safety information
 - 4.2 External training, communication and dissemination of safety information

4. State safety promotion

4.1 – Internal training, communication and dissemination of safety information

- ❖ The **State provides training** and fosters awareness and two-way communication of safety relevant information to support, within the State aviation organizations, the development of an organizational culture that fosters an effective and efficient SSP.
- ❖ **Develop an SSP training programme** around the four components of the SSP for staff, including:
 - Indoctrination/initial safety training
 - On the job (OJT) safety training
 - Recurrent safety training

4. State safety promotion

4.2 – External training, communication and dissemination of safety information

❖ The State:

- Provides guidance material on SMS safety training for the service providers.
- Establish means to communicate safety related issues internally and externally:
 - Safety policies and procedures
 - News letters
 - Bulletins
 - Website



ICAO regional workshop

Working group activities

Working group activities

- ❖ A facilitator will be appointed, who will coordinate the discussions.
- ❖ A summary of discussions will be written (*flip charts or electronic forms*), a draft report will be prepared for its presentation in the plenary sessions, and a member of the group will brief on the findings.
- ❖ Same instructions apply for both the implementation of the SMS and the implementation de the SSP.

Analysis of alternatives for SMS implementation

- ❖ Discuss each element of the ICAO SMS framework (*Slide N° 31*) and its relevance to the Region, in terms of:
 1. Obstacles that may be anticipated for the implementation of each SMS element of the ICAO framework.
 2. Potential solutions to overcome these obstacles
 3. The contribution of ICAO to the potential solutions
 4. Any other relevant aspects.

Analysis of alternatives for **SSP** implementation of

- ❖ Discuss each element of the ICAO SSP framework (*Slide N° 65*) and its relevance to the Region, in terms of:
 1. Obstacles that may be anticipated for the implementation of each SSP element of the ICAO framework.
 2. Potential solutions to overcome these obstacles.
 3. The contribution of ICAO to the potential solutions.
 4. Any other relevant aspects.

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Programme (SSP) Implementation