

# Update on: Safety Management Standards & Best Practices

*Capt. Gustavo Barba*

*[gbarba@telefonica.net](mailto:gbarba@telefonica.net)*

*Member of the Board of Directors*



<http://www.iaso-organization.org/>

# Outline

- ICAO Global Safety Strategy - GASP
- ICAO 2<sup>nd</sup> High Level Safety Conference (HLSC) – February 2015
- ICAO Universal safety Oversight Audit Programme - USOAP/CMA
- ICAO Safety Management SARPs
- 21-22 April Workshop outline
- Questions & Answers

# ICAO global safety strategy



SAFETY

Assist ICAO States and regions in their aviation safety policy, planning and implementation activities:

- sets out the global air navigation **safety objectives** including specific milestones and priorities
- provides a planning framework to make through the use of the **four Safety Performance Enablers**: standardization, collaboration, resources and safety information exchange
- practice guidance material to assist States and regions in their efforts to tailor State and regional **solutions to address the global objectives and priorities.**

2014–2016  
Global Aviation Safety Plan



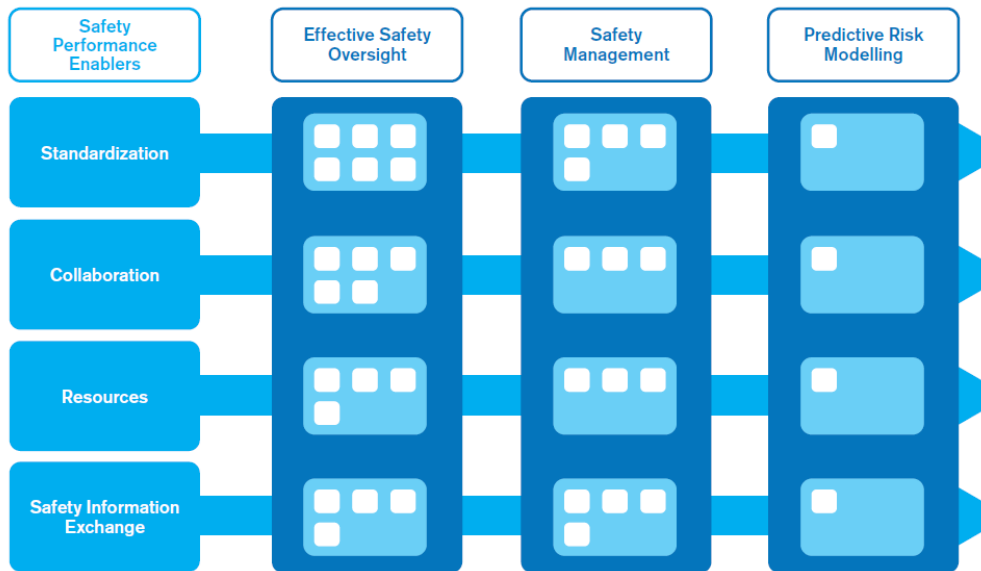
Aviation Safety Campaign  
Birchwood Conference Center  
Johannesburg, SA  
20 - 22 April 2016

Update on Safety Management Standards and Best Practices



# GASP Framework

**Requires States to move from a compliance-based oversight approach to one which begins to proactively manage risks globally through the identification and control of existing or emerging safety issues**

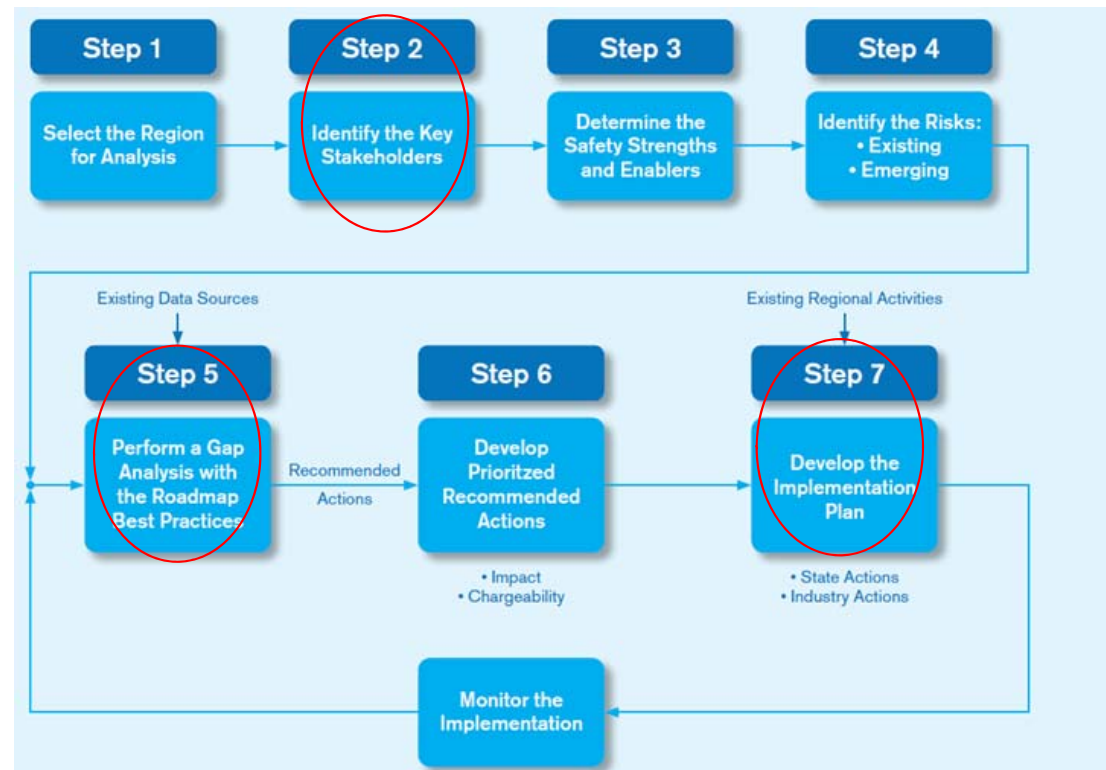
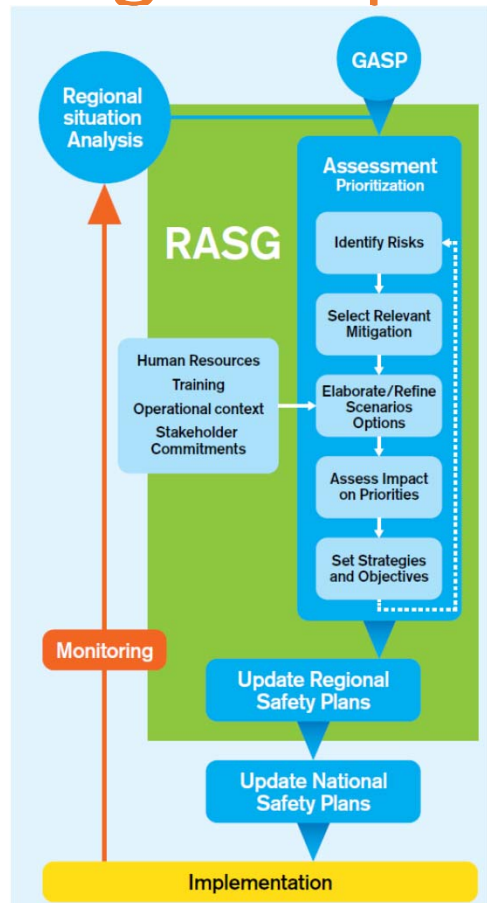


Update on Safety Management Standards and Best Practices



World Food Programme

# Regional planning and implementation



# Global aviation safety priorities

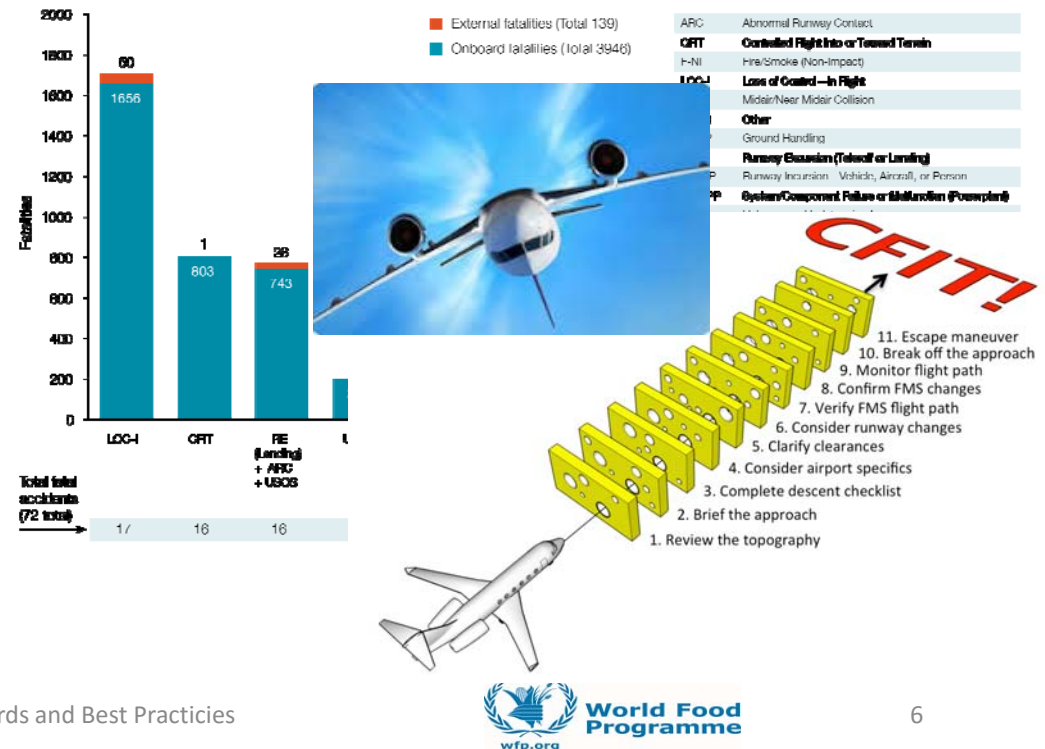
- Improving runway safety performance
- Reducing Controlled Flight into Terrain accidents
- Reducing the number of loss of control in-flight accidents and incidents.



Update on Safety Management Standards and Best Practices

## Fatalities by CICTT Aviation Occurrence Categories

Fatal Accidents | Worldwide Commercial Jet Fleet | 2005 through 2014



# Updating the safety management strategy 2<sup>a</sup> HLSC

Doc 10046, HLSC 2015

INTERNATIONAL CIVIL  
AVIATION ORGANIZATION



## SECOND HIGH-LEVEL SAFETY CONFERENCE 2015

Montréal, 2-5 February 2015

### REPORT

Approved by the Conference and  
published by authority of the Secretary General

States should encourage air operators

to effectively use SMS processes



before implementing a FRMS

in order to gain optimum safety and  
efficiency of its benefit

Update on Safety Management Standards and Best Practices



## 2<sup>a</sup> HLSC - Emerging issues

- **Global flight tracking:**
  - Global Aeronautical Distress and Safety System
  - Performance-based provisions for normal tracking
- **Conflict zones:**
  - Strategy developed by (TF-RCZ)
  - Centralized web-based repository to make information available which supports the assessment of risks over or near CZ
- **Extreme meteorological conditions:**
  - Evaluate the need for improved ICAO airworthiness, operations and detection equipment carriage related provisions in order to further mitigate changing meteorological risks and take appropriate action



## 2<sup>a</sup> HLSC – Safety Management

- **Strategies:**

- Performance based regulations
- Expand SMS applicability
- RPAs operation and risk mitigation

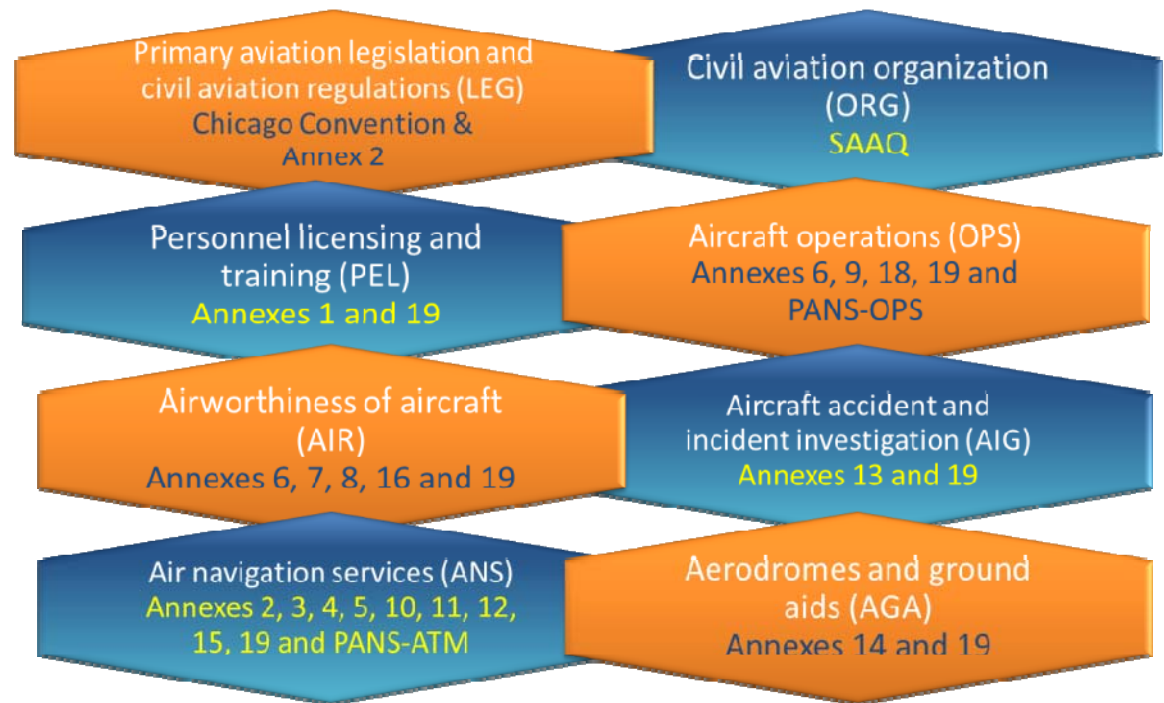
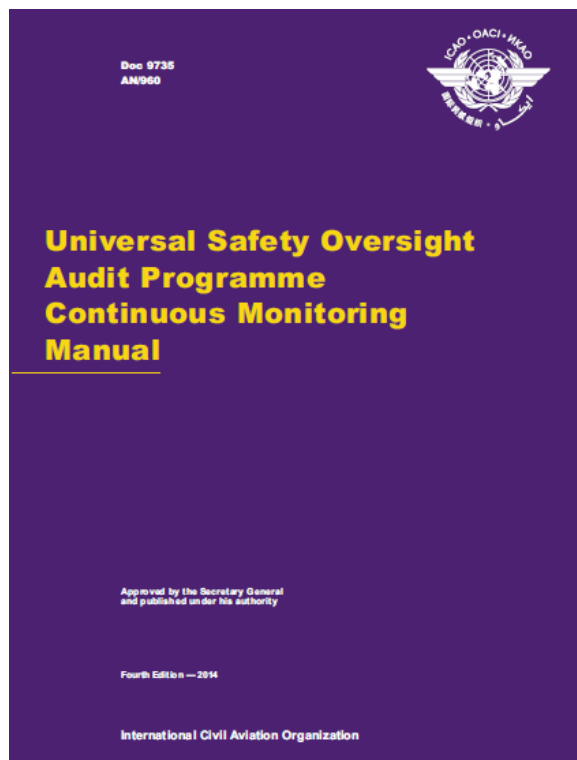
- **SSP:**

- Monitoring and implementation of SSP
- Guidance and mechanisms for sharing best practices to support SSP implementation
- Improve and harmonize the defined SPIs
- Integration of the 8-CE of a SSOS and the 11- elements of the SSP framework
- Harmonize safety data collection provisions

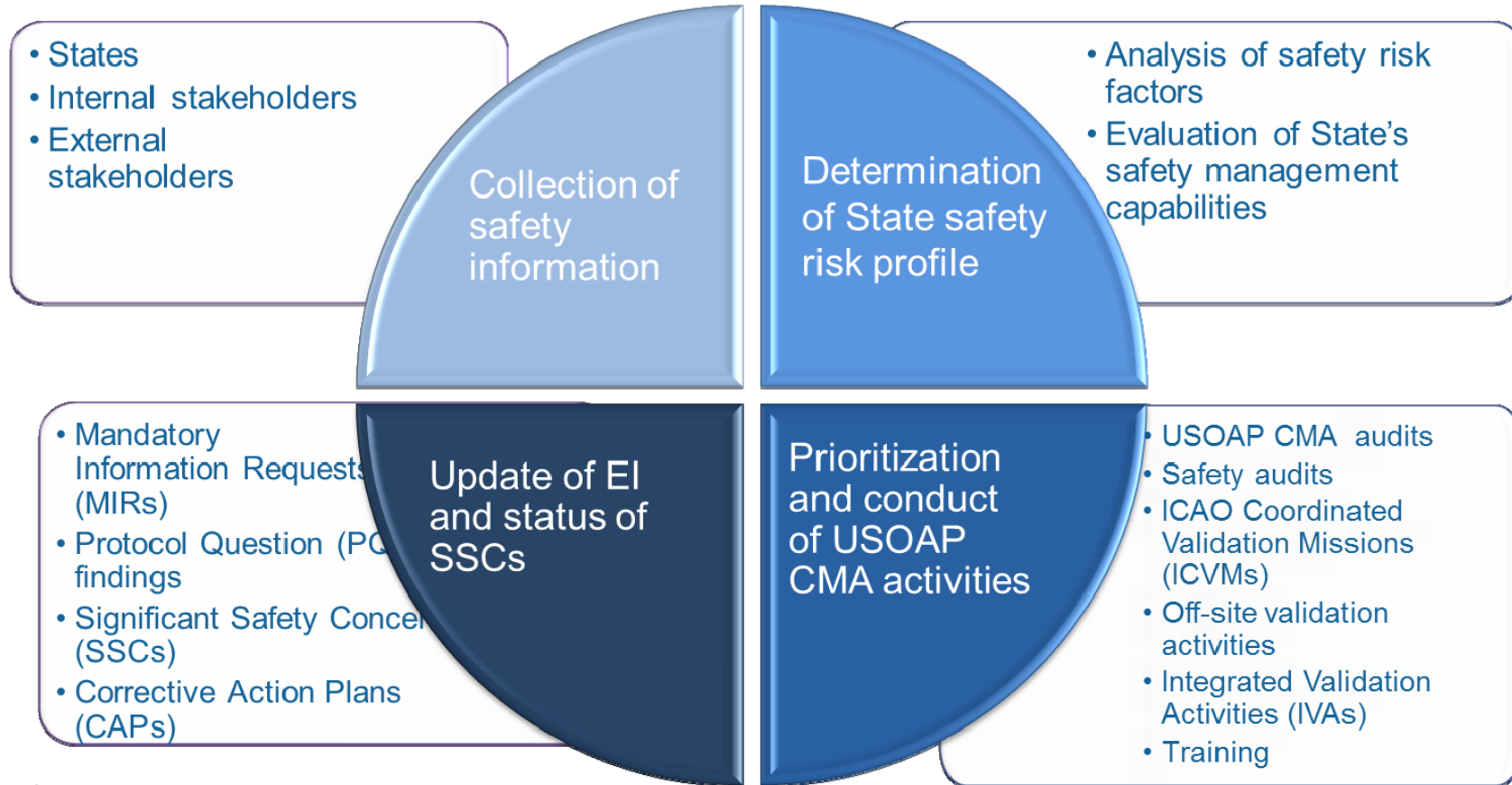
- **Other related issues:**

- Expedite adoption of enhanced safety information protection provisions
- Phased approach towards development of the global framework for exchange information
- Partnership to develop safety roadmap(s) of the GASP
- Enhance of Regional cooperation through partnership

# USOAP-CMA

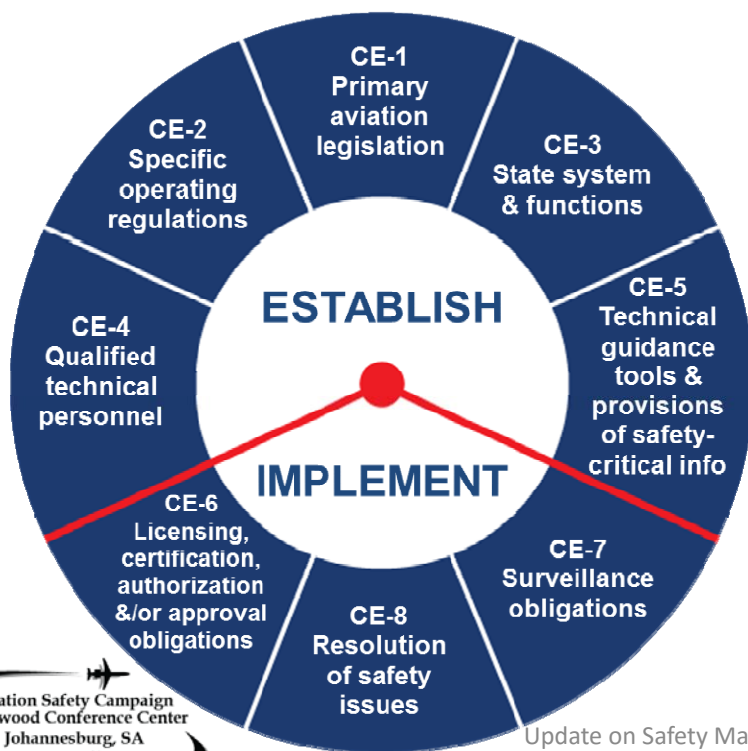


# USOAP CMA components



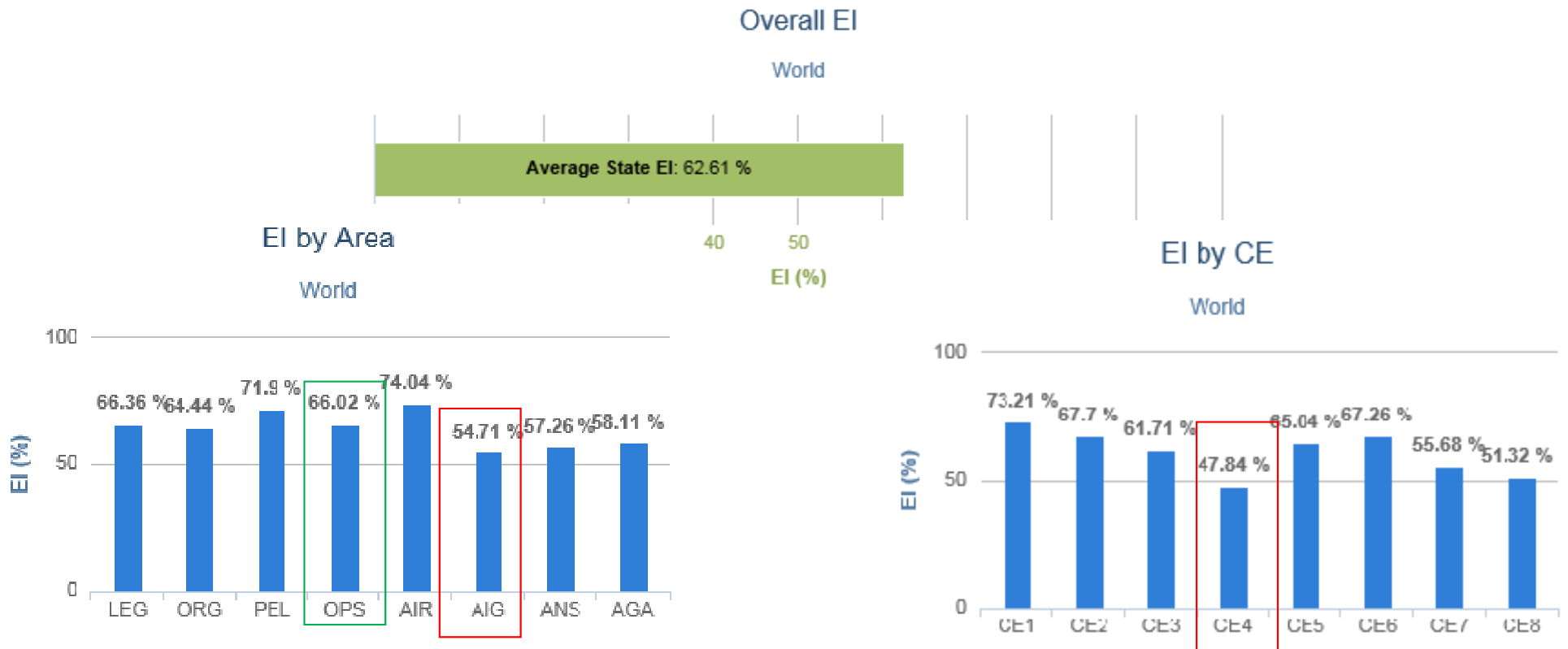
# Critical elements (CEs) of a State Safety Oversight System (SSOS)

*Oversight. The active control of the aviation industry and service providers by the competent regulatory authorities to ensure that the State's international obligations and national requirements are met through the establishment of a system based on the critical elements.*



- The level of effective implementation of the CEs is an indication of a State's capability for safety oversight
- Effective implementation is, calculated for each critical element, each audit area or as an overall measure

# Global's EI snapshot



Update on Safety Management Standards and Best Practices

13

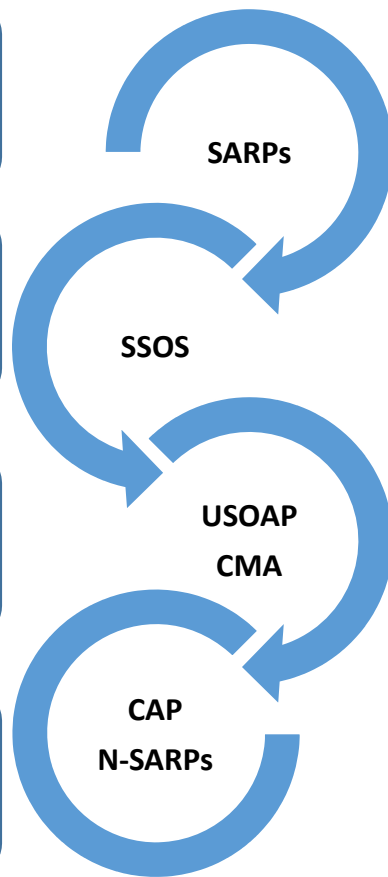
# Continuous improvement cycle

Plan

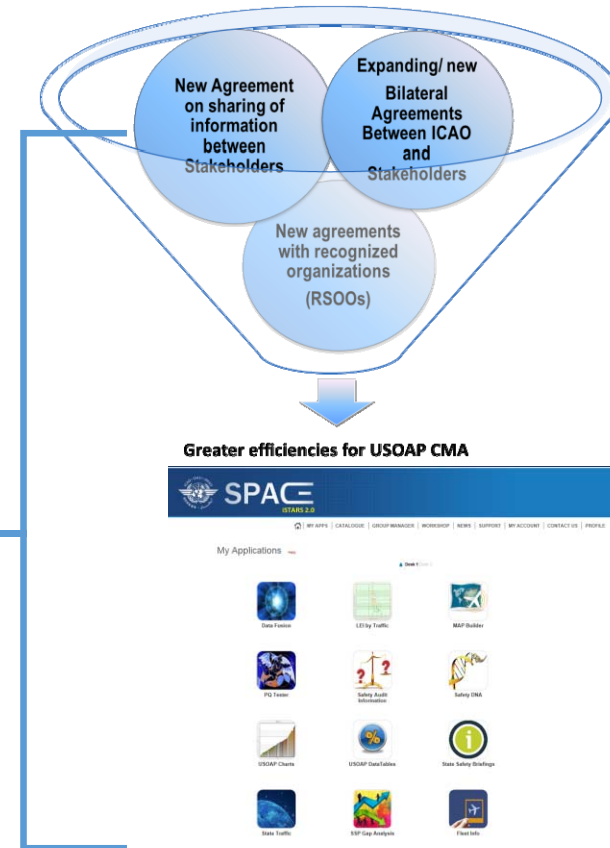
Do

Study

Act



## On Line Framework



Update on Safety Management Standards and Best Practices

# CMA Benefits

Collective sharing of safety data and information

Continuous monitoring of States' safety oversight capabilities

Transition from a one-time assessment activity (snapshot) to a continuous monitoring process

Identification of safety risks

Monitoring of the safety performance of States

# CMA Benefits

Real-time, interactive and effective operational system

Long-term, cost-effective, resource-efficient and sustainable approach

A layered approach to the USOAP programme

Proactive approach to safety under the safety management concept

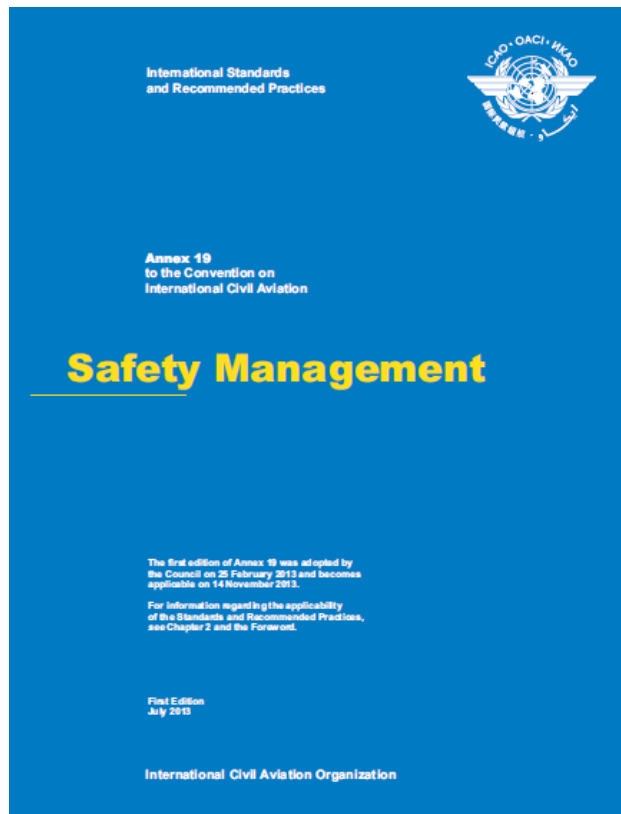
Promotes and encourages the sharing of safety information



# ICAO Safety Management SARPs

## Applicable from 14/11/13

- Contents:
  - State safety management responsibilities:
    - State Safety Programme (SSP)
    - State safety oversight system (SSOS)
  - Safety management system (SMS)
  - Safety data collection, analysis and exchange
  - Safety data analysis and exchange
  - Legal guidance for the protection of information from safety data collection and processing systems



# Key definitions

- **Operational personnel.** Personnel involved in aviation activities who are in a position to report safety information
- **Safety.** The state in which risks associated with aviation activities, related to, or in direct support of the operation of aircraft, are reduced and controlled to an acceptable level
- **Safety management system (SMS).** A systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures
- **Safety performance.** A State or a service provider's safety achievement as defined by its safety performance targets and safety performance indicators.
- **Safety performance indicator.** A data-based parameter used for monitoring and assessing safety performance.
- **Safety performance target.** The planned or intended objective for safety performance indicator(s) over a given period.
- **Safety risk.** The predicted probability and severity of the consequences or outcomes of a hazard.

# Safety management frameworks

## SSP

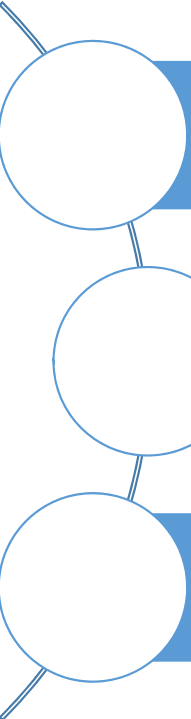
- 1. State safety policy and objectives**
  - 1.1 State safety legislative framework
  - 1.2 State safety responsibilities and accountabilities
  - 1.3 Accident and incident investigation
  - 1.4 Enforcement policy
- 2. State safety risk management**
  - 2.1 Safety requirements for service providers 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

## SMS

- 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 – Safety 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

**State safety programme (SSP). An integrated set of regulations and activities aimed at improving safety.**

# SDCPS SARPS: safety data collection – reporting systems

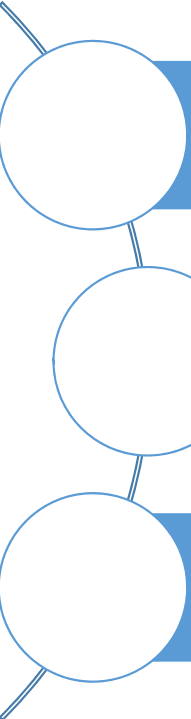


Each State shall establish a mandatory incident reporting system to facilitate collection of information on actual or potential safety deficiencies

Each State shall establish a voluntary incident reporting system to facilitate collection of information on actual or potential safety deficiencies that may not be captured by the mandatory incident reporting system.

**Recommendation** - State authorities responsible for the implementation of the SSP should have access to appropriate information available in the incident reporting systems to support their safety responsibilities.

# SDCPS SARPS: safety data analysis

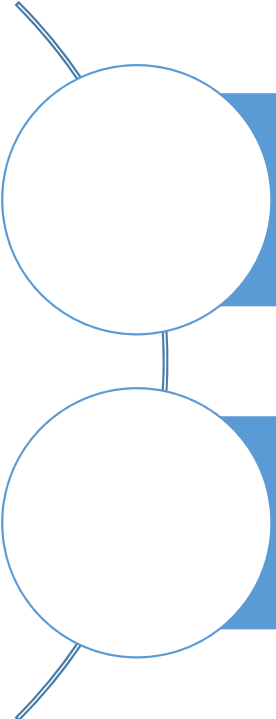


Each State shall establish and maintain a safety database to facilitate the effective analysis of information on actual or potential safety deficiencies obtained, including that from its incident reporting systems, and to determine any actions required for the enhancement of safety

**Recommendation.**— Each State should, following the identification of preventive actions required to address actual or potential safety deficiencies, implement these actions and establish a process to monitor implementation and effectiveness of the responses

**Recommendation.**— The database systems should use standardized formats to facilitate data exchange

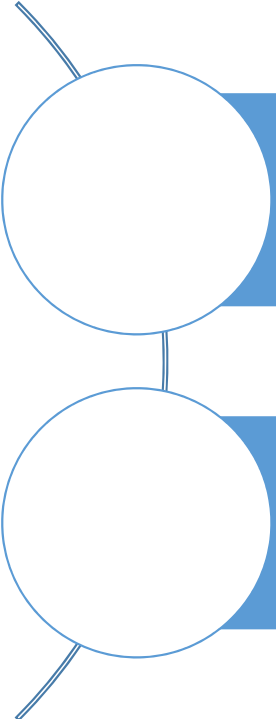
# SDCPS SARPS: safety data protection



A voluntary incident reporting system shall be non-punitive and afford protection to the sources of the information.

**Recommendation.**— States should not make available or use safety data referenced in 5.1 or 5.2 for other than safety-related purposes, unless exceptionally, an appropriate authority determines in accordance with their national legislation, the value of its disclosure or use in any particular instance, outweighs the adverse impact such action may have on aviation safety.

# SDCPS SARPS: safety information exchange



**Recommendation.**— If a State, in the analysis of the information contained in its database, identifies safety matters considered to be of interest to other States, that State should forward such safety information to them as soon as possible.

**Recommendation.**— Each State should promote the establishment of safety information sharing networks among users of the aviation system and should facilitate the free exchange of information on actual and potential safety deficiencies.

# Principles of protection of information from SDCPS

Safety information should qualify for protection from inappropriate use according to specified conditions that should include, but not necessarily be limited to, **whether the collection of information was for explicit safety purposes and if the disclosure of the information would inhibit its continued availability**

The **protection should be specific** for each SDCPS, based upon the nature of the safety information it contains.

**A formal procedure should be established** to provide protection to qualified safety information, in accordance with specified conditions

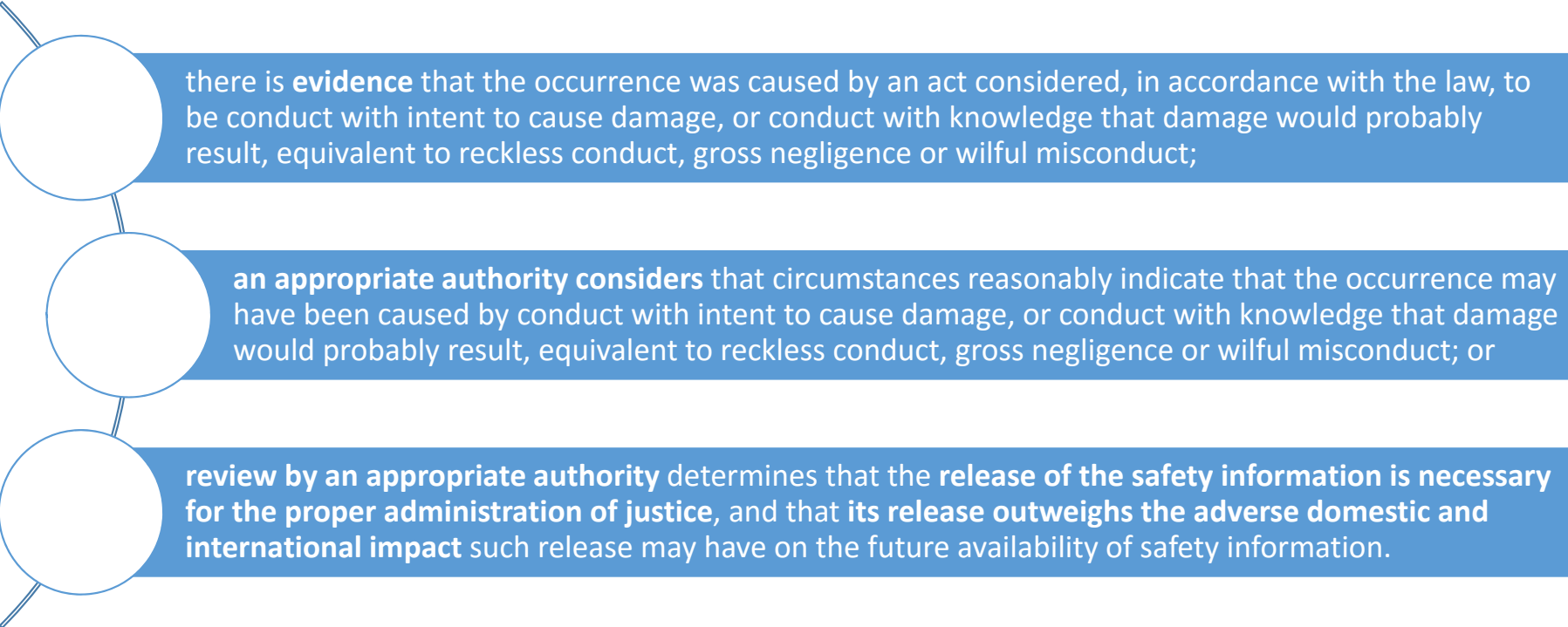
Safety information **should not be used in a way different from the purposes for which it was collected.**

The use of safety information in disciplinary, civil, administrative and criminal proceedings **should be carried out only under suitable safeguards provided by national law**



# Principles of exception of information from SDCPS

Exceptions to the protection of safety information should only be granted by national laws and regulations when:



there is **evidence** that the occurrence was caused by an act considered, in accordance with the law, to be conduct with intent to cause damage, or conduct with knowledge that damage would probably result, equivalent to reckless conduct, gross negligence or wilful misconduct;

**an appropriate authority considers** that circumstances reasonably indicate that the occurrence may have been caused by conduct with intent to cause damage, or conduct with knowledge that damage would probably result, equivalent to reckless conduct, gross negligence or wilful misconduct; or

**review by an appropriate authority** determines that the **release of the safety information is necessary for the proper administration of justice**, and that **its release outweighs the adverse domestic and international impact** such release may have on the future availability of safety information.

# SDCPS SARPS: public disclosure

Subject to the principles of protection and exception outlined above, **any person seeking disclosure of safety information should justify its release.**

**Formal criteria** for disclosure of safety information should be established and **should include**, but not necessarily be limited to, the following:

- disclosure of the safety information is **necessary to correct conditions that compromise safety and/or to change policies and regulations;**
- disclosure of the safety information **does not inhibit its future availability** in order to improve safety;
- disclosure of relevant personal information included in the safety information **complies with applicable privacy laws;** and
- disclosure of the safety information is made in a **de-identified, summarized or aggregate** form

## SDCPS SARPS: responsibility of the custodian of safety information

Each SDCPS should have a designated custodian. It is the responsibility of the custodian of safety information to apply all possible protection regarding the disclosure of the information, unless:

- the custodian of the safety information has the consent of the originator of the information for disclosure; or
- the custodian of the safety information is satisfied that the release of the safety information is in accordance with the principles of exception.

# SDCPS SARPS: protection of recorded information

Considering that ambient workplace recordings required by legislation, such as cockpit voice recorders (CVRs), may be perceived as constituting an invasion of privacy for operational personnel that other professions are not exposed to:

- subject to the principles of protection and exception above, national laws and regulations should consider ambient workplace recordings required by legislation as privileged protected information, i.e. information deserving enhanced protection; and
- national laws and regulations should provide specific measures of protection to such recordings as to their
- confidentiality and access by the public. Such specific measures of protection of workplace recordings required by legislation may include the issuance of orders of non-public disclosure.

# 21-22 April Workshop outline

- Day 1
  - Highlights of ICAO Safety Management Manual 3.0
  - ICAO Safety Management Panel Working program & Annex 19 amendments
  - Performance based environment
  - Safety intelligent & management through reporting system
  - Simple and sustainable approach to SMS
- Day 2
  - ARMS methodology
  - Introduction to Safety Management Operational Processes advanced IT Tool: CGE BowTieXP
  - ICAO TRAINER PLUS Advanced SMS Course