ITF Roundtable for SMS

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Modernizing How We Manage Safety

Proactive

Data informed
Global Aviation Safety Plan (GASP)

- The Global Aviation Safety Plan (GASP) outlines objectives and priorities for civil aviation and it sets forth a strategy which supports the prioritization and continuous improvement of aviation safety.
- It promotes coordination and collaboration among international, regional and national initiatives aimed at delivering a harmonized, safe and efficient international civil aviation system.
Annex 19 – *Safety Management*

Standards and Recommended Practices (SARPs) intended to assist States in proactively managing aviation safety risks.

This proactive strategy is built upon a foundation of compliance with prescriptive requirements.

Includes provisions for the Protection of safety data, safety information and related sources.
As part of the implementation of a State Safety Programme (SSP), States shall require Aviation Service Providers to implement **SMS 4 components** and **12 elements**.

### 1. Safety policy and objectives

1.1 Management commitment  
1.2 Safety accountability and responsibilities  
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
System Description and Interfaces

• There is no “one size fits all” method for SMS implementation
• A system description that identifies organizational structures, processes, and business arrangements is needed
• The system description includes the SMS interfaces within the organization, as well as pertinent interfaces with other external organizations such as subcontractors
SERVICE PROVIDERS

- Airports
- ANSP
- Airlines
- Business Aviation
- Manufacturers

STATES

- SPI
- SPI
- SPI
- SPI
- SPI

Acceptable Level of Safety Performance

Measuring and Monitoring Performance

- Maintain and continually improve safety.
- Determine the impact of any changes to the system on safety performance.
Review

1) Modernizing How We Manage Safety
2) GASP Objectives and priorities for civil aviation
3) Annex 19 – ICAO Safety Management SARPs
4) SMS – 4 components and 12 elements
5) System Description and Interfaces
6) Measurement and monitoring
Questions?
Our Flight Plan

- Economic Rationale for Safety
- Global Air Traffic Forecast
- Modernizing How We Manage Safety
- Global Aviation Safety Plan (GASP)
- Annex 19 – Safety Management
- Safety Management Systems (SMS)
- System Description and Interfaces
- Measuring and Monitoring Performance
Economic rationale for safety

• “Our job is far from done”: https://aviation-safety.net/

• Center for Aviation Safety Research Aviation Safety Management Systems ROI Study
  – Economic rationale for safety management at the macro, mid and micro levels
  – Safety improvement is financially defensible at every level
Global Air Traffic Forecast

- Air traffic is predicted to **double** in the next 15 years
- Our collective responsibility is to **enable** the aviation system to **safely** realize this growth
Universal Safety Oversight Audit Programme (USOAP)

ICAO carries out USOAP audits to determine its Member States’ safety oversight capabilities.

USOAP to include State Safety Programmes:

✓ Voluntary and confidential from 2017
✓ Voluntary from 2018
✓ GASP criteria from 2020
The Need for Safety Management

- Transition from a **reactive system**, to a **proactive system**
- Increased efficiencies with an **effective SMS**

**REACTIVE**

- Accident and Incident Reports

**PROACTIVE**

- Accident and Incident Reports
  - Hazard Identification
  - Risk Management
  - Trend Analysis

- Allocation of resources based on **RISK**


Guidance Material is taking a new direction:

✓ Less prescriptive and more focused on the intended outcomes and the “How?”

✓ Published document complemented by a Safety Management Implementation Website
Phase 2 – July 2017

✓ Phase 1 - released in September 2016 and reflected the Amd 1 to Annex 19
✓ Phase 2 - will further reflect the 4th edition of the SMM and will include an additional module on safety information protection (SIP)
✓ New competencies are required
  ▪ Safety risk management and safety assurance
    ▪ Safety risk assessment
    ▪ Safety data/safety information analysis
    ▪ Safety performance indicators
  ▪ More judgement and experience
✓ Training needs analysis performed taking into account the required competencies
✓ Different approaches to address these needs are being considered: online training, workshops, videos and other modern approaches.
Safety Management Assessment Tools

- The HLSC 2015 Recommended States use the **SSP Gap Analysis** on iSTARS and the **SSP-related USOAP PQs** to progress SSP implementation and communicate to ICAO.

- There is a project underway to consolidate the SSP Gap Analysis Tool and the SSP related protocols with the current work on the SM ICG SSP Assessment Tool into **one multi-layered tool for multiple uses**: gap analysis, implementation planning and ongoing assessment.

- Consideration is being given to **measuring SSP using a maturity model separate from EI**.

- Beginning in January 2020, the threshold for the applicability of the SSP-related PQs will be based on 2020-2022 GASP objectives – 60% threshold to be revisited....
Evolution of Safety Analysis

- **Combining** State audits with State/Industry operational data
  - Through SMS and SSP
  - Protection of information/operational data through Amendment 1 to Annex 19

- **ICAO Safety Information Monitoring Service (SIMS)** as a tool to help States and Industry for collecting, monitoring, visualizing and sharing progress of their SSP and SMS
Safety Performance Indicators

- New appendix in the GASP
- Provides guidance regarding safety and level of activity indicators
- First step towards the development and implementation of harmonized global indicators
  - Can be adapted at the regional, sub-regional, and national levels
Global Aviation Safety Plan (GASP)

- **2017-2019 Edition**
  - **Maintains** the framework, objectives and safety performance enablers of the 2014-2016 edition
  - New **global aviation safety roadmap** ensures that safety initiatives deliver the intended benefits associated with the GASP objectives through enhanced coordination
    - Reducing inconsistencies and duplication of efforts

- **Cooperative, collaborative, and coordinated approach**
  - Together with all stakeholders and under the leadership of ICAO, the GASP offers a long-term vision in developing a harmonized safety strategy.
GASP Roadmap

- **Goals:**
  - Ensure that safety initiatives deliver the intended benefits associated with the GASP objectives
  - Reduce inconsistencies and duplication of efforts
- **Specific safety initiatives aimed at States, Regions and Industry**
- **Complements the GANP**
Aviation Tools to Support Implementation

A ‘NO COUNTRY LEFT BEHIND’ Initiative: IMPLEMENT
Facilitating Data-Driven Decisions for Aviation

Over 30 applications in iSTARS for Safety Analysis and Information
More than 2000+ users registered in iSTARS
Hazards

General Failure Types

Unsafe Acts

Accident Incidents losses

Defenses

Measure & control

Identify & confirm GFTs

Inspect & improve

Minimise

Hazards

Unsafe Acts

Train and motivate

Learn from
Recordings: privacy vs. safety

- Cockpit Voice Recording (CVR) proven critical aircraft accident investigations
- The quality of recordings - CVR and ATC - much better
- Strict rules apply to protect this information
- Rules have been reviewed, refined and strengthened
- Cornerstone of Amendment 1 to A19.
THANK YOU!