



Twenty - Eighth Regional Aviation Safety Group — Pan America Executive Steering Committee Meeting (RASG-PA ESC/28)

ICAO SAM Regional Office, Lima, Peru, 4 to 5 May 2017

Agenda Item 9: Items/Briefings of Interest to the RASG-PA ESC

SAFETY INFORMATION MONITORING SERVICE (SIMS)

(Presented by secretariat)

EXECUTIVE SUMMARY	
<p>This working paper presents to the RASG-PA ESC/28 meeting, an overview of the ICAO Safety Information Monitoring Service (SIMS), a concept based on the principles of Annex 19 - Safety Data Collection and Processing Systems (SDCPS). Furthermore, it highlights the progress of the regional office in the implementation of this tool as part of the strategies to support SAM States in the implementation of their State Safety Programme (SSP).</p>	
Action:	RASG-PA ESC to provide continuous support in the implementation of SIMS, as part of the strategy for the implementation of SSP in the SAM States.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"> • Safety
<i>References:</i>	<ul style="list-style-type: none"> • Annex 19 - Safety Management, and other safety related Annexes, • ICAO Doc 9859/AN474 - Safety Management Manual 3rd ed.

1. Introduction

1.1 According to Annex 19 States shall establish safety data collection and processing systems to collect safety information that may not be captured by the incident reporting systems (Annex 19 – Chapter 5.1 refers).

1.2 In some cases, dealing with large volumes of fast-moving and highly complex data involves challenges related to the capturing, cleaning, integration, storage, processing, searching, sharing, transferring, mining, analysis, and visualization of big data for States.

1.3 The Safety Information Monitoring Service (SIMS) is an initiative based on one of the recommendations of the second ICAO High-level Safety Conference (HLSC/2015) towards the development of a global framework for the exchange of safety information (HLSC Recommendation 2/3 refers). In addition, it supports the implementation of the Global Air Navigation Plan (GANP) and the Global Aviation Safety Plan (GASP).

1.4 ICAO encourages Member States to join SIMS and actively participate in this initiative. In view of this, the ICAO SAM Regional Office has been working with States within the region to implement SIMS as part of the ongoing activities supporting the implementation of the SSP in compliance with ICAO Annex 19.

2. Safety Information Monitoring Service (SIMS)

2.1 The sharing and exchange of information is a fundamental tenet of a safe air transportation system. Tools, systems, and legal frameworks need to be available to enable States and service providers to collect, analyse, and share safety information with others to accurately assess and improve safety performance while optimizing support resource allocation.

2.2 The collection and processing of safety information constitutes a resource intensive, error-prone and challenging task for both States and industry. Furthermore, the sharing of such information is constrained by the lack of available sharing protocols, and non-standardized output formats.

2.3 SIMS is an ICAO web-based safety data and information management system designed to facilitate the collection, processing, reporting, analysis, monitoring, and exchange of safety data and information between participants on a secured platform. This will support States in sharing, exchanging and using safety information, and promote safety intelligence

2.4 The SIMS modules equip States with the ability to:

- a) Track key indicators for SSP;
- b) Analyse various air navigation performance indicators for efficient use of airspace;
- c) Prioritize areas with identified safety concerns;
- d) Address and improve effective implementation of ICAO Standards and Recommended Practices (SARPs);
- e) Illustrate bottom line economic and social impacts of aviation development;
- f) Communicate (to an approved audience) status reports and progress towards agreed goals, and
- g) Other activities related to the planning of airspace.

2.5 States benefit from using information made available through SIMS to set priorities, use resources effectively and make sound investment decisions. The data support safety, capacity, and efficiently building initiatives as part of SSP and SMS and the State and service provider level.

2.6 SIMS is built on a modular structure, whereas each module provides analytical services related to a specific function of a State's oversight and monitoring responsibility. The service is made available to interested States free of charge, but requires entering into an agreement with ICAO for the usage and sharing of appropriate data.

3. Implementation of SIMS in the SAM region

3.1 Since last year, the Regional Office has coordinated with ICAO Headquarters and SAM countries the implementation of SIMS, taking advantage of the modular structure of the system, the implementation will begin with the first two modules.

3.2 The Air Navigation Monitoring Module (SIMS ANM) includes the processing of appropriate data collected through Automatic Dependent Surveillance Broadcast (ADS-B), radar surveillance systems, and other types of flight data monitoring systems. The ANM module requires the input of ADS-B data that is transmitted by the aircraft to produce real-time indicators related to traffic behaviour in terminal and en-route airspace.

3.3 The Ramp Inspection module (RI) comprises of safety data from national ramp inspection programmes. The RI module includes features to display relevant safety and compliance information in a harmonized and user friendly format. This includes visualization of information and the publication of performance dashboards, as well as the sharing of such information through a centralized feedback mechanism. The RI module requires data derived from ramp inspection reports provided by the State.

3.4 The implementation of the first these first two modules (ANM and RI) will begin in May, currently nine States (Argentina, Brazil, Bolivia, Colombia, Chile, Ecuador, Peru, Uruguay, and Venezuela), have expressed their interest in participating in SIMS, the Regional Office in coordination with ICAO Montreal has defined an implementation framework, and the States have designated the focal points to coordinate directly with the Regional Office to facilitate the implementation. The implementation of these two modules is expected to take up to a year after initiating the process.

4. Conclusion

4.1 SIMS will allow States to obtain safety information in a dynamic, safe and efficient way, without the need to make significant investments in "hardware and software." Furthermore, it will support States in implementing the SSP., and assist service providers in tasks related to SMS.

4.2 The information provided by SIMS will enable ICAO Regional Offices to have information on regional indicators available in a timely manner. This will greatly facilitate the identification of existing or developing safety issues.

5 Suggested action

5.1 The Meeting is invited to:

- a) Take note of information provided in this paper; and
- b) support SAM States and the Regional Office in the implementation of SIMS, as part of the strategy for the implementation of SSP in compliance with Annex 19 and Doc 9859.

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