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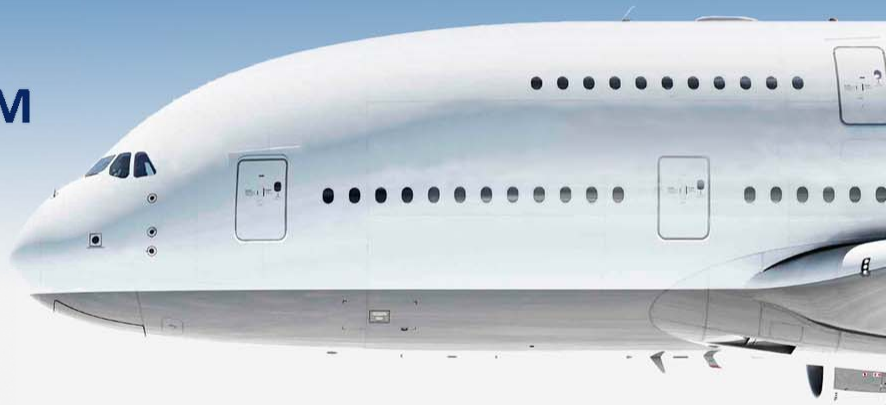
North American, Central American and Caribbean Directors of Civil Aviation

SAFETY INITIATIVES FOR ENHANCING OPERATIONAL SAFETY DATA: SAFETY INFORMATION MONITORING SYSTEM (SIMS)/RST EFFECTIVENESS



ICAO NACC Regional Office

Agenda Item 6.2 - P/03

Ninth Meeting of the North American, Central American and Caribbean Directors of Civil Aviation (NACC/DCA/9)
Port of Spain, Trinidad and Tobago, 25 to 27 June 2019

Safety Initiatives: GASP implementation

The GASP/OPS roadmap -> operational safety risks

Specific SEIs to address each 4 of the HRCs: controlled flight into terrain, loss of control in-flight, mid-air collision and runway safety.

States, regions and industry should use the OPS roadmap to assist them in developing a plan to mitigate the risks associated with these categories of occurrences.

Regional collaboration with key aviation stakeholders-> to support and encourage States efforts to establish mechanisms for the regular sharing and exchange of safety information, analyses, safety risk discoveries/lessons learned and best practices, including Aviation Safety InfoShare, Safety Information Monitoring System (SIMS), RASGs.

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NO COUNTRY LEFT BEHIND

SIMS
Safety Information Monitoring System

Connect
(data, States, service providers)

Monitor
(performance, indicator, improvement)

Identify
(hazards, risks)

Share
(safety information)

What is SIMS – Definition

The Safety Information Monitoring System (SIMS) is an ICAO web-based information system comprised of different **applications**, which generate **indicators** in support of State Safety Programmes (SSP) and Safety Management Systems (SMS).

Why SIMS – Objective

- ✓ SIMS aims to promote the cooperation amongst States and industry for the collections, analysis and sharing of available data pertinent to the monitoring of safety performance;
- ✓ Implement the recommendations of the HLSC/02
- ✓ Assist States in implementing Annex 19, amendment 1, Safety Management
- ✓ Encourage States to become more data-driven and open to sharing of safety information

Why SIMS – Benefits

Supports
the identification of hazards and risks

Allows
monitoring of safety performance

Resolves
need for in-house analytics technology

Facilitates
data-driven decision making

Who connects to SIMS – Target Audience

ICAO Member State

Service Providers

- Air traffic services (ATS) providers
- Air operators
- Operators of certified aerodromes
- Type design or manufacture of aircraft, engines or propellers
- Approved Training Organizations
- Approved maintenance organizations

SIMS – Current applications

Ramp Inspections

This application uses Foreign Ramp Inspection data collected from inspecting States. The application allows for prioritization of ramp inspections and monitoring of air operator's compliance. Ramp Inspection sharing is currently available per RASG.

Airspace Monitoring

The application allows for the monitoring of performance through horizontal flight efficiency (HFE) indicators. Indicators are calculated by FIR, using ADS-B positioning data.

The application also contains indicators related to airspace occurrences such as TCAS alerts.

Approach Monitoring

The purpose of this application is to monitor vertical flight efficiency such as continous descent operations (CDO).

For each airport, the application also monitors approach related events such as missed approaches.

Occurrences

This application is using occurrences reported to States through their mandatory and voluntary reporting systems.

Indicators include number of severe occurrences as well as a reporting index.

Runway Safety

The application monitors landings with tailwind exceeding 5 knots as well as other runway safety related leading indicators.

ADS-B Coverage

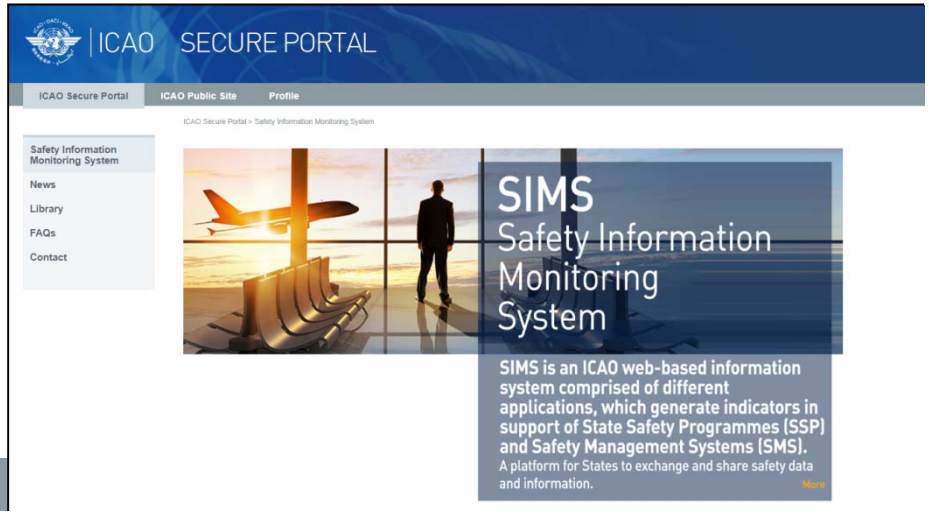
This application allows for selection of any airspace and airport and determines the current ADS-B coverage of that zone. It is used to evaluate if an airspace or airport is suitable to be monitored under SIMS.

SIMS – Regional implementation

- ✓ Safety Electronic Tools Presentations from ICAO
- ✓ Safety ASDS (Aviation Safety Data Systems)/SIMS Workshop event held in Curacao May 14 to May 17, 2019
- ✓ Dominican Republic and Trinidad and Tobago had join SIMS.
  - ✓ Follow-up: A letter with a expression of interest and participate in the project for exchanging and sharing relevant safety information was sent.
- ✓ Similar letters for joining SIMS: Belize, Costa Rica, Cuba, El Salvador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua and Bahamas.

SIMS Website: https://www.icao.int/safety/sims

SIMS Application under ICAO Secure Portal:



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SHARING AND EXCHANGE OF SAFETY INFORMATION
Runway Safety Team (RST) EFFECTIVENESS IN THE CAR REGION

From the analysis of available runway safety accident/serious incident data/risk assessment: runway excursions as the highest risk category with a total risk weight significantly higher than all other categories

ICAO and Runway Safety Partners have also identified runway incursions as a high risk category.

Although the number of runway incursion accidents reported between the period of 2008 to 2016 is very low, the number of runway incursion incidents remains high (at a rate of 1 report per day according to IATA STEADES data). There is a very high fatality risk associated with runway incursion accidents.

SHARING AND EXCHANGE OF SAFETY INFORMATION
Runway Safety Team (RST) EFFECTIVENESS IN THE CAR REGION

- ✓ In the CAR Region there are 151 international airports from which 84 airports are certified representing 56%
- ✓ In relation to RST, there are 73 airports that have already implemented the RST and 25 in process.
- ✓ The RSTs at each airport have shown its effectiveness in identifying hot spots, conducting risk assessments and introducing mitigating measures.

Example: RST Aruba: reduction of unstable approaches identified by RASG-PA

SHARING AND EXCHANGE OF SAFETY INFORMATION
Runway Safety Team (RST) EFFECTIVENESS IN THE CAR REGION

Runway Safety-related Events Are Dealt With When Assisting In RST Implementation In The CAR Region To Ensure Its Effectiveness:

- Abnormal Runway Contact
- Bird Strike
- Ground Collision
- Ground Handling
- Runway Excursion
- Runway Incursion
- Loss of Control on the Ground
- Collision with Obstacle(s)
- Undershoot / Overshoot
- Aerodrome

Suggested Actions for States:

- ✓ Participation in RASG-PA
- ✓ Participation in SIMS initiative
- ✓ Implement RST if not established and Conduct assessment on Runway Safety Team effectiveness if already established

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