



**Agenda Item 5: Operational implementation of new ATM automated systems and integration of the existing systems**

**Pre-indicators on possible mid-air collisions**

(Presented by Secretariat)

<b>SUMMARY</b>	
This working paper presents critical information about RASG-PA findings on pre-indicators regarding possible mid-air collisions and requests States and all aviation stakeholders to take actions, contribute, and actively participate in improving the regional safety record in a collaborative manner.	
<b>REFERENCE</b>	
RASG-PA/6 Report (Costa Rica, 27-28 June 2013).	
<b>ICAO Strategic Objectives:</b>	<i>A - Safety E - Environmental Protection</i>

**1. Background**

1.1 The mission of RASG-PA is to improve civil aviation safety in the Pan American Region by harmonizing and coordinating safety efforts aimed at reducing aviation risks in the North American, Central American, Caribbean, and South American regions and promotes the implementation of resulting safety initiatives by all stakeholders.

1.2 RASG-PA follows a collaborative safety management process. In this sense, industry and regulators work together to collect regional safety data from reactive, proactive and predictive sources. This information is transformed into safety intelligence, that is either share public or in a confidential manner.

1.3 Reactive and proactive safety intelligence is annually made public at the RASG-PA Annual Safety Report (ASR). The information processed has identified the following areas of concern:

- a) Runway Excursions (RE);
- b) Controlled Flight into Terrain (CFIT); and
- c) Loss of Control in Flight (LOC-I).

1.4 The Group is now exchanging predictive safety information with the United States Commercial Aviation Safety Team (CAST) and IATA. This information is identifying mid-air collision (MAC) as another area that the region needs to work on.

## 2. Discussion

### Mid-air collision possible pre-indicators

2.1 It was noted that Traffic Alert and Collision Avoidance System Resolution Advisory (TCAS-RA) events increased in the CAR and SAM Regions and can be categorized as pre-indicators of mid-air collisions. Therefore, RASG-PA is recommending that mitigation actions are implemented in this area.

2.2 Analysis of CAST information was conducted using data provided by the Flight Operations Quality Assurance (FOQA) system from 29 North American airlines that included aerodromes with the following criteria: at least 2 airlines, each operating with 360 flights or greater; runways with at least 95% of confidence; and airplane fleet groups of 3 or more airlines. For this analysis, data from over 9.3 million flights was available.

## 3. Suggested action

3.1 The Meeting is invited to take note that predictive safety information of the CAR and SAM Regions exclusively shows an increase in TCAS-RA related events. This identifies mid-air collisions as an area of risk. States and all aviation stakeholders are invited to take action, contribute, and actively participate in improving the regional safety record in a collaborative manner.

3.2 SAM/IG should set align their priorities of operational improvements to mitigate the risk on MAC in the areas of concern that RASG-PA is identified and provide feedback to RASG-PA on these actions.

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