



**Thirty First Regional Aviation Safety Group — Pan America Executive Steering Committee Meeting
(RASG-PA ESC/31)**

Buenos Aires, Argentina 8 to 9 November 2018

Agenda Item 5: Other business

ARCM Participation in the PA-RAST

Integration of the Safety Team of Pan-America

(Working paper presented by the President of the ARCM Executive Committee)

EXECUTIVE SUMMARY	
<p>This working paper presents to the ESC of the RAGS-PA, the request that ARCM safety experts and analysts can participate in the PA-RAST work teams, exchanging information gathered from the ARCM SDCPS and participating in the safety data analysis.</p>	
References:	<ul style="list-style-type: none"> • ARCM Functions and Organization Manual • Annex 13 – Aircraft Accident and Incident Investigation • Annex 19 – State Safety Management System • Doc. 9858 – Safety Management System
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"> • Safety

1. Introduction

1.1 The AIG Regional Cooperation Mechanism (ARCM) of South America, called ARCM, has as one of its objectives to contribute to safety improvement of the SAM Region by providing and sharing *safety data intelligence* arising from the processing and analysis of the information obtained from accident and incident investigations that occurred in the SAM Region.

1.2 In relation to this, the AIG Regional Cooperation Mechanism is working in an ARCM SDCPS repository, where all the information gathered from the investigations is uploaded and then processed and analyzed by ARCM experts.

2. Safety Data Collection and Processing System (SDCPS)

2.1 When an accident, serious incident or incident happens, the investigation process begins. Its purpose is, if possible, the determination of the causes or factors that contribute to the occurrence of timely and effective recommendations in order to avoid recurrence.

2.2 Besides determining the probable causes of accidents/incidents, the AIG organizations identify, in most of their investigations, the real or potential safety deficiencies, hazards and threats. With this proactive role, the AIG organizations contribute to safety management through an important and necessary integration with the aeronautical authority, service providers, manufacturers and organizations focused on safety.

2.3 In order to conduct a thorough analysis and processing of regional accident and incident data, the ARCM established a **safety data collection and processing system (SDCPS)** as a source of reactive and proactive information that can be processed and analyzed to obtain data intelligence. Its purpose is to be shared, worked and articulated in the framework of the SSP, so that those managing the State safety can guide or redirect the efforts and resources to improve safety.

2.4 The ARCM SDCPS uses the ADREP/ECCAIRS system as platform. The ARCM procedures for the SDCPS implementation were created in every State, which allowed the storage, addition and keeping of concise and updated information. The structuring of such procedures has the following tools:

- a) **notification;**
- b) **normalizad record** of notifications;
- c) **collection and capture;**
- d) **processing of ARCM collected data;**
- e) that present the **safety performance indicators;**
- f) that determine **preventive measures** necessary to mitigate the safety risks;
- g) **safety surveillance** based on risks;
- h) to **protect the information;**
- i) to **exchange information;** and
- j) **to communicate** the safety information available to the users.

In relation to the management of the safety information, some procedures were developed in order to:

- a) provide a timely and precise hazards notification;
- b) have quality in the processing of collected data;
- c) clearly have the type of data or information that can be used to support the safety analysis;
- d) have the analysis to identify hazards through methodologies of identification and control of potential consequences;
- e) manage the safety risks and those associated to combined hazards;
- f) balance the need of data protection with that that will make available the data to those that can strengthen aircraft safety;
- g) constantly control safety with the vision of creating safety trend indicators; and
- h) develop safety reports.

In the context of collection, processing and analysis of safety data, the ARCM SDCPS includes the following types of data or information, among others, that must be used to support the safety data analysis that the ARCM manages:

- a) accident investigation data;
- b) serious incident investigation data; and
- c) incident investigation data (with the intervention of the AIG organization).

The ARCM SDCPS is able to collect safety accident/incident information for aircraft with weights over 2250 kg and 2.250 kg or less for the following operations:

- a) scheduled and non-scheduled commercial air transport;
- b) general aviation;
- c) corporate aviation;
- d) air work; and
- e) unmanned aviation (remotely piloted aircraft systems - RPAS).

3. Conclusions

3.1 Currently, the ARCM has a SDCPS repository that stores reactive and proactive information of the SAM Region, scheduled as well as non-scheduled commercial aviation without considering the weight of the aircraft.

This data mining is available to be processed and analysed to obtain safety *data intelligence* to be used to create the safety reports and also to be worked and shared with every organization or body working with safety.

3.2 From this source of information, repetitive precursors of some events, identified in an investigation process and able to provide a guideline in relation to where the mitigation measures should be oriented to, can be obtained.

3.3 If this SDCPS *data intelligence* can be processed together with the predictive information provided by the operators and safety organizations, it will become a tool with an extraordinary power to allow the accurate identification of real or potential safety deficiencies as well as the hazards that must be addressed. Some of these precursors have their origins in general aviation and then, commercial aviation.

4. Suggested actions

4.1 The RAGS-PA authorities are invited to:

- a) take note and comment on the information provided in this working paper and **Appendix A**; and
- b) analyze the request that the ARCM participate in the safety work team of PA-RAST Pan-America.

APPENDIX A

SDCPS ARCM



*Trigésima Primera Reunión del Comité Directivo
Ejecutivo del Grupo Regional de Seguridad
Operacional de la Aviación — Panamérica*

*Thirty First Regional Aviation Safety Group
Pan America Executive Steering Committee Meeting*



Primeros pasos hacia el ARCM

First steps towards the ARCM

- ARCM SAM 01 (2014)**

 - Diagnóstico y análisis de la situación actual de los organismos de investigación de la región.
 - Diagnosis and analysis of the current situation of the research organizations in the region.

- ARCM SAM 02 (2015)**

 - Establecimiento y Gestión del ARCM de Sudamérica
 - Establishment and Management of the ARCM of South America

- ARCM SAM 03 (2016)**

 - Uso plataforma ADREP-ECCAIRS
 - Investigadores multinacionales
 - Grupo de trabajo RE
 - Base de Datos Regional (SDCPS)
 - Use platform ADREP-ECCAIRS
 - Multinational researchers
 - Working group RE
 - Regional Data Base (SDCPS)

- ARCM SAM 04 (2017)**

 - Resultados RE
 - Primer informe de Seguridad Regional
 - Primera RSO Regional
 - RE results
 - First Regional Security report
 - First Regional RSO

- ARCM SAM 05 (2018)**

 - Grupo de trabajo sobre accidentes en aviación agrícola
 - Grupo de trabajo sobre accidentes en vuelos de instrucción
 - Grupo de trabajo sobre el SDCPS
 - Working group on accidents in agricultural aviation
 - Working Group on Accidents on Instructional Flights
 - Working group on the SDCPS



Grupos de trabajos conformados

Work groups conformed



Aviación agrícola
Agricultural aviation



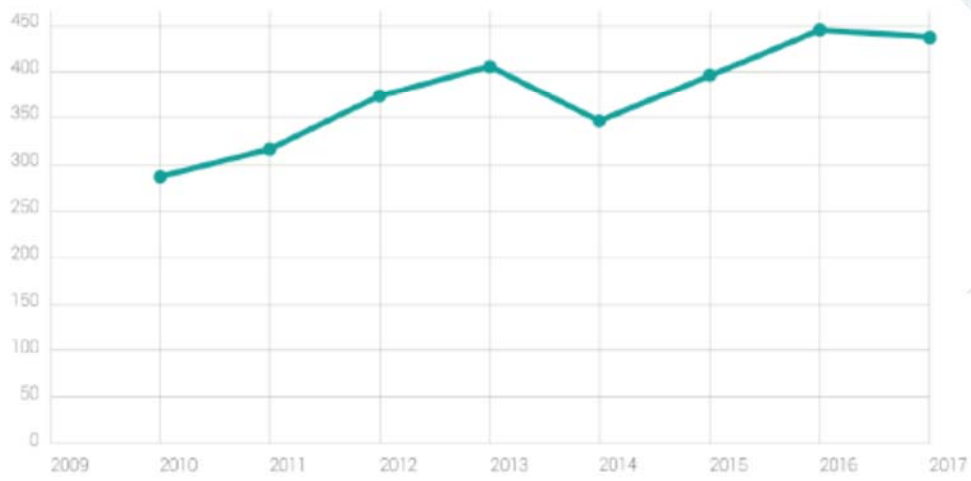
Vuelos de instrucción
Instruction flights



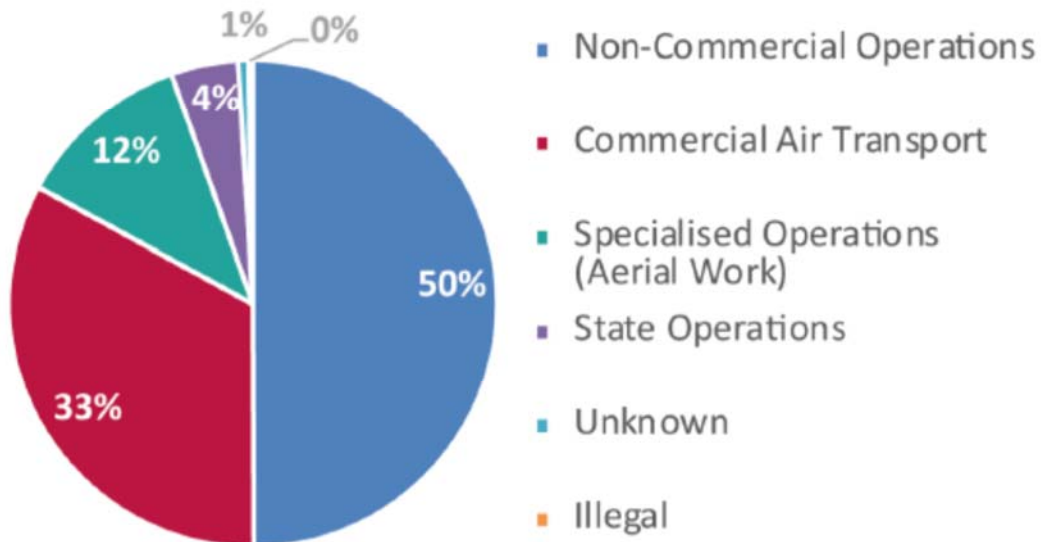
SDCPS

Cantidad de sucesos notificados

Number of events notified

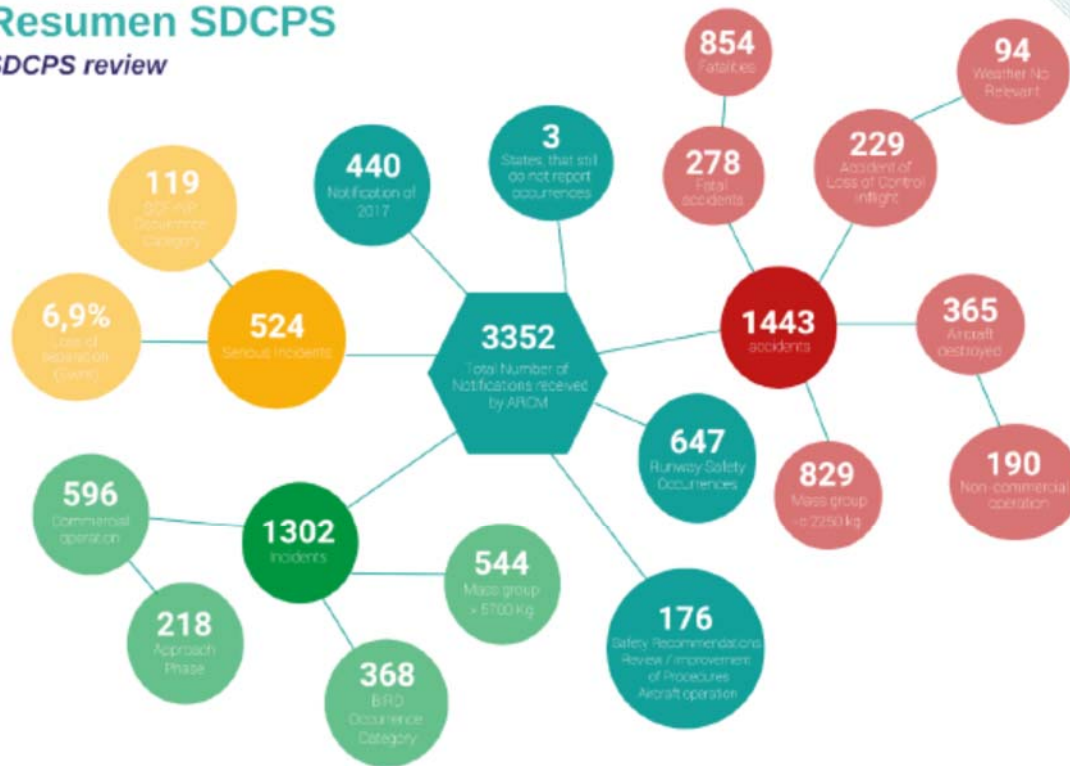


SDCPS ARCM - Operation Type (2010-2017)



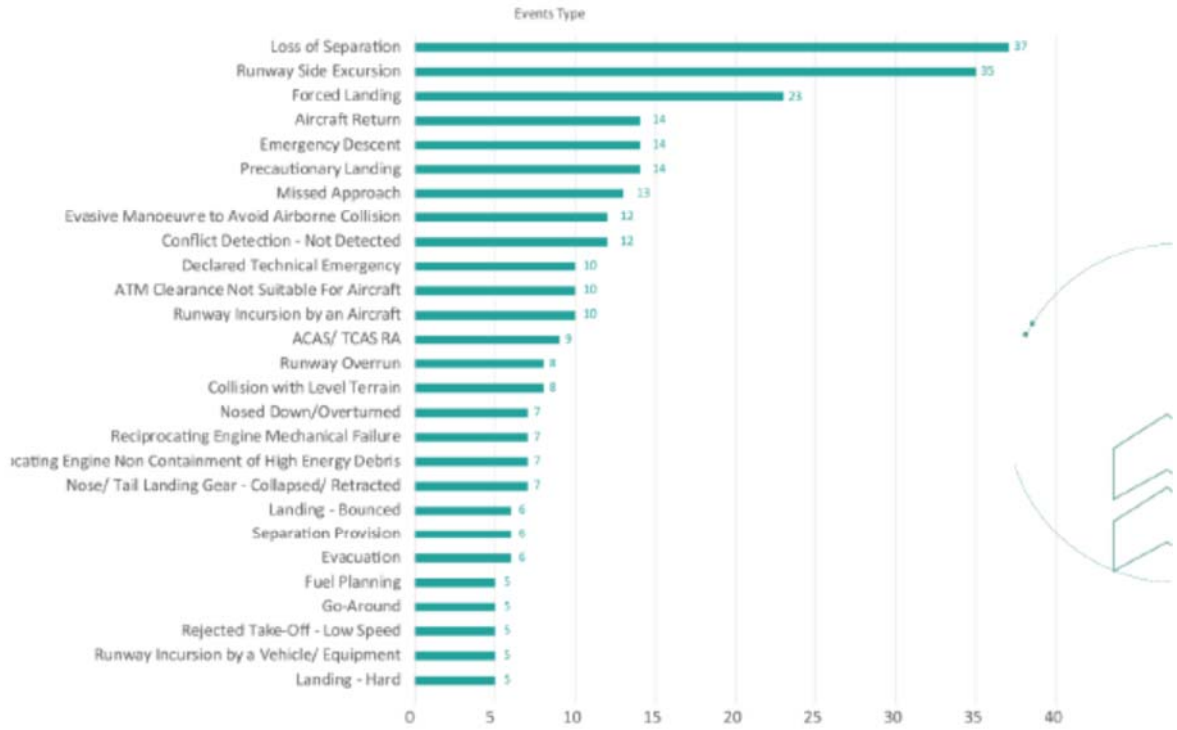
Resumen SDCPS

SDCPS review



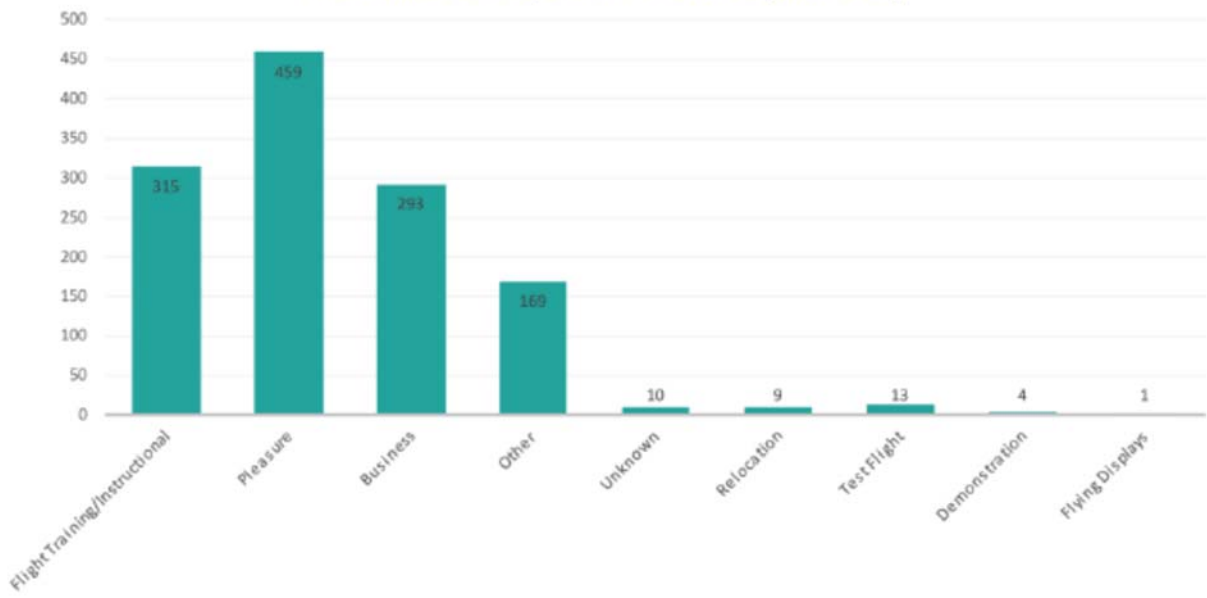
Tipos de eventos registrados en las notificaciones

Types of events recorded in notifications



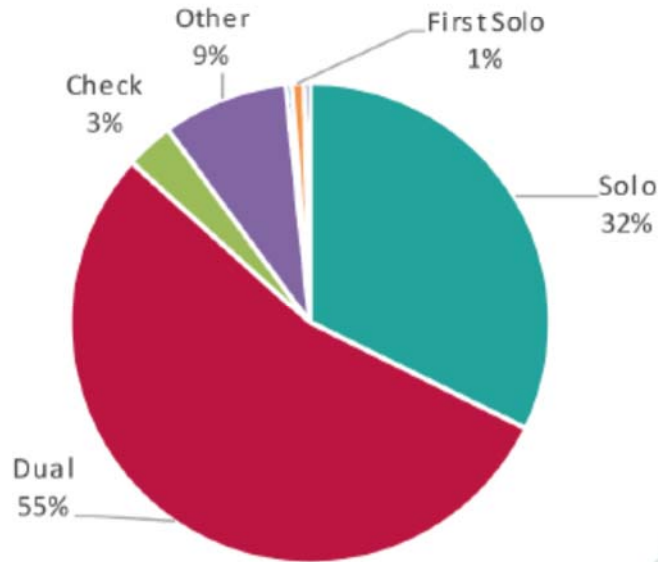
Operaciones no comerciales - SDCPS (2010-2017)

Non-commercial operations - SDCPS (2010-2017)



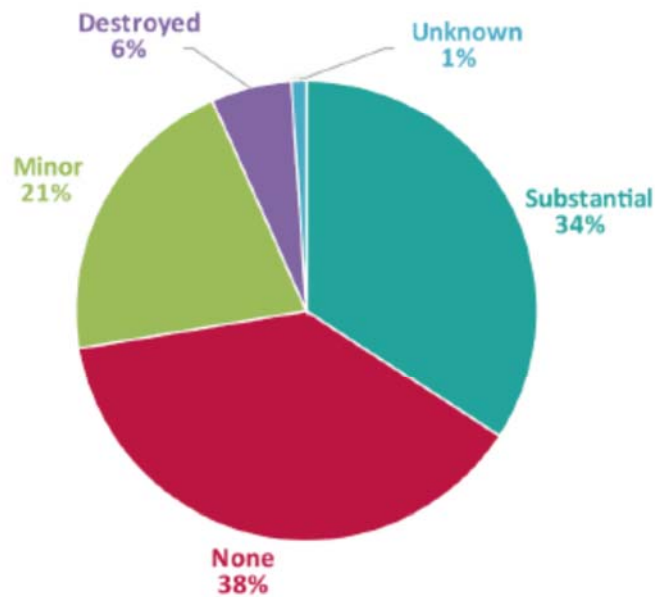
Vuelo de Entrenamiento / Instrucción SDCPS (2010-2017)

Flight Training/Instructional - SDCPS (2010-2017)

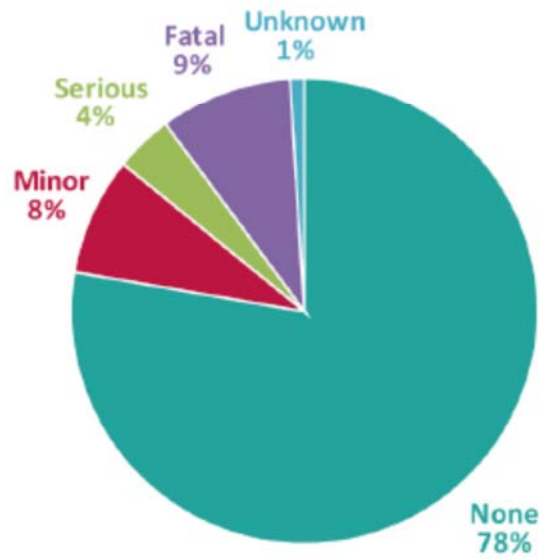


Mayor daño

Highest damage



Nivel de lesión *Injury level*



OBJETIVO FINAL

*Cooperación como
elemento transformador
de realidades*