



INTERNATIONAL CIVIL AVIATION ORGANIZATION

A United Nations Specialized Agency

Runway Safety: The Big Picture

RASG-PA Aviation Safety Seminar/Workshop

St. Johns', Antigua, 10-12 September 2013

Eduardo Chacin

Regional Officer, Flight Safety

ICAO NACC Regional Office

ICAO Documents and Reports



Air Transport Facts & Figures (ICAO)



3.0 billion
+4.7%
growth rate vs. 2011

Passengers carried
in **2012***



6.4 billion
+4.4%
average annual
growth rate

Forecasted passengers carried
in **2030**

31 million
+0.7%
vs. 2011

Aircraft departures
in **2012***



59 million
+3.6%
average annual
growth rate

Forecasted aircraft departures in
2030

*Preliminary figures

Traffic Statistics for Revenue Schedule Services

Air Transport Facts & Figures (ICAO) cont

5.4 trillion
Revenue Passenger-Kilometres
in **2012***

+4.9%
growth rate vs. 2011

182 billion
Freight Tonne-Kilometres
in **2012***

-1.1%
growth rate vs. 2011

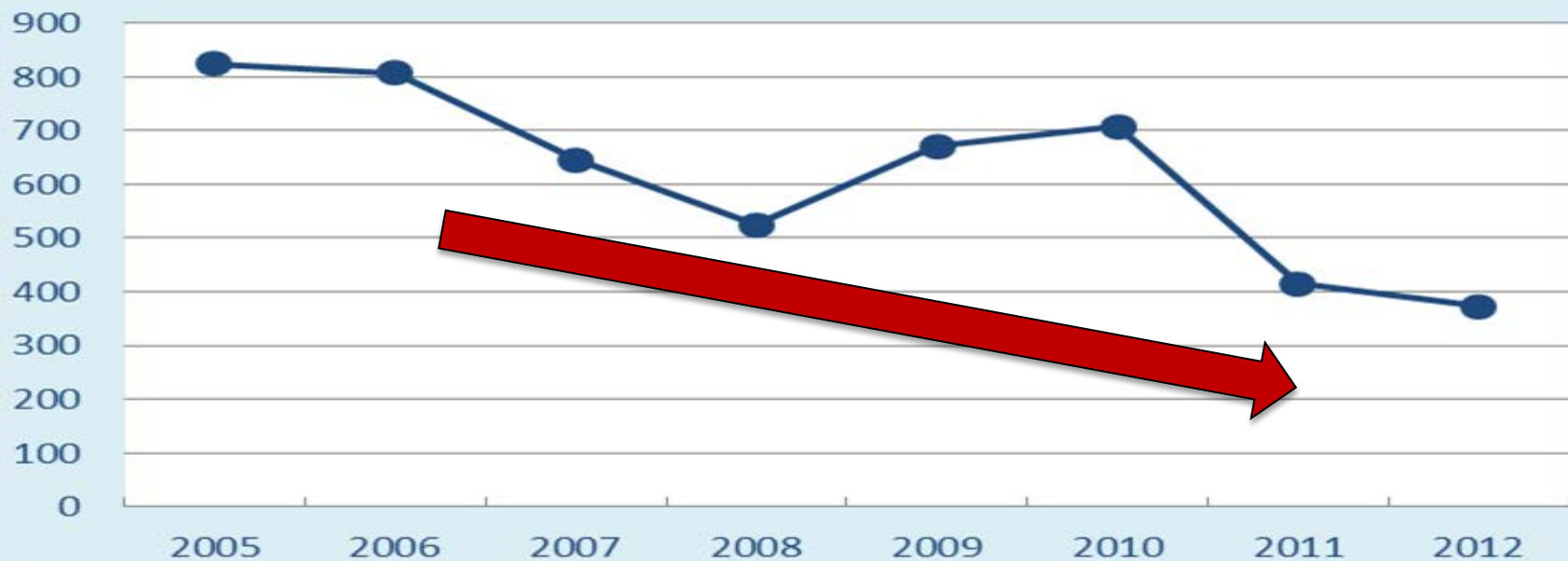
Traffic Statistics for Revenue Schedule Services

Status of Global Aviation Safety



Scheduled Commercial Traffic – MTOW > 2 250 kg

Fatality Trends: 2005 - 2012



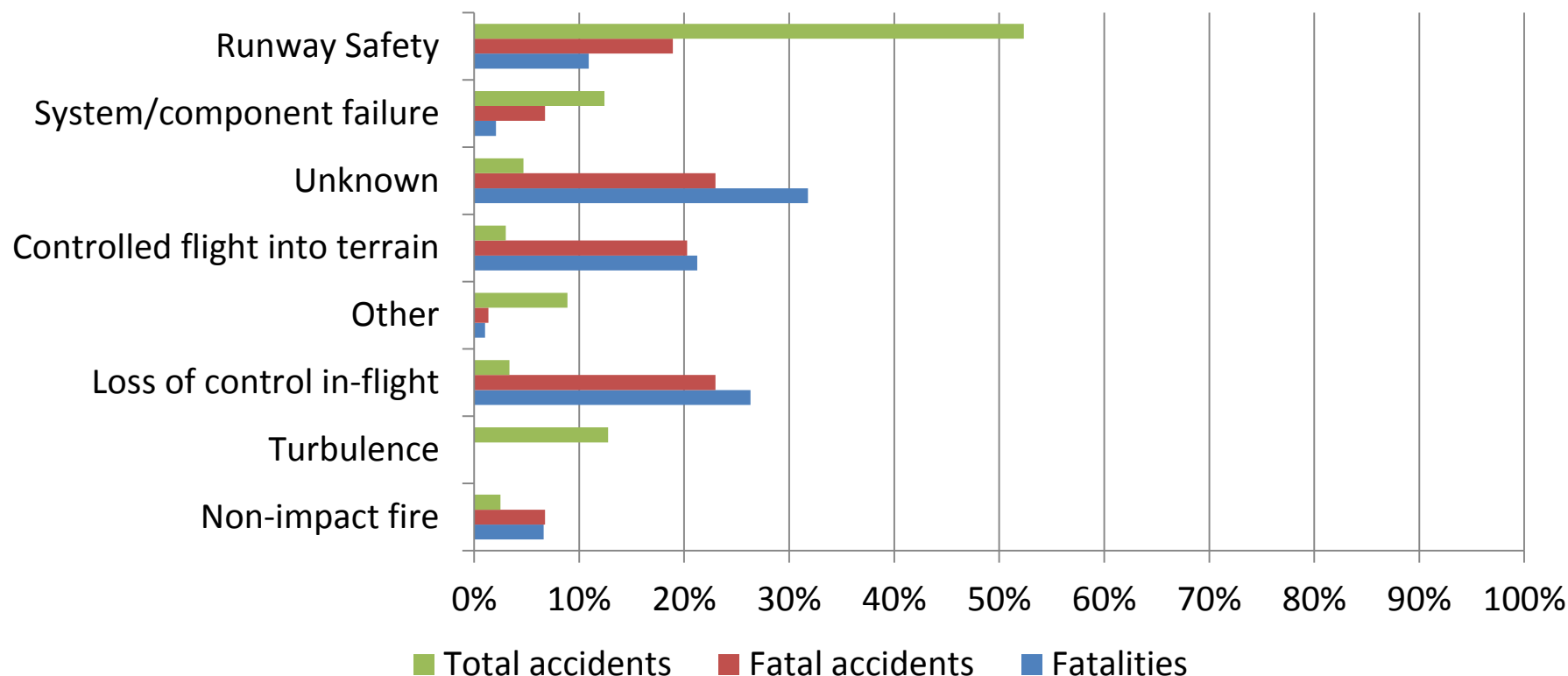
NUMBER OF FATALITIES CONTINUE TO DECLINE
GLOBAL ACCIDENT RATE IS SIGNIFICANTLY LOWER

Safety Overview

Worldwide

Accidents & Related Fatalities by Occurrence Categories

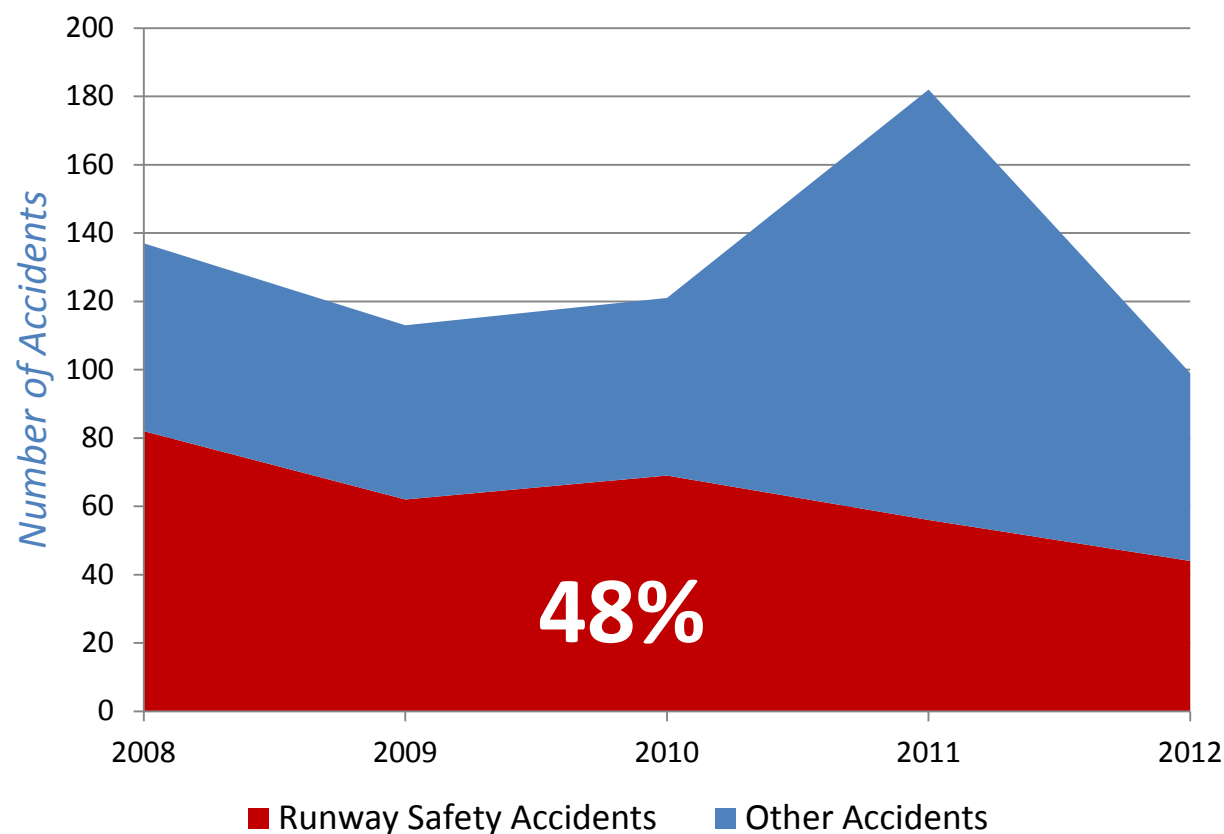
Scheduled Commercial Traffic – MTOW > 2 250 kg (Yrs 2008 - 2012)



Runway Safety Overview

Runway Safety Accidents

Scheduled Commercial Traffic – MTOW > 2 250 kg (Yrs 2008- 2012)



Runway Safety Accidents

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

ICAO Safety Priorities – Data Driven



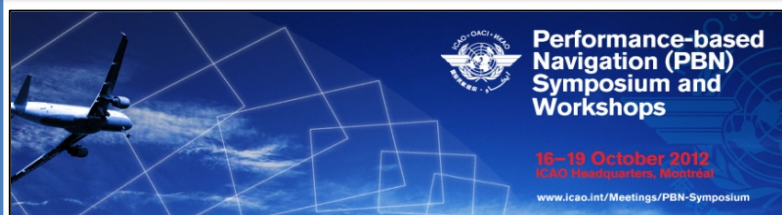
1. RUNWAY SAFETY



Location	Date
St John's, Antigua and Barbuda	27-29 May 2013
Europe	4 th Quarter 2013
Kuala Lumpur, Malaysia	4 th Quarter 2013



2. CONTROLLED FLIGHT INTO TERRAIN (CFIT)



- **Major improvements in the last decade due to:**
 - Enhanced ground proximity warning systems
 - Glass cockpits, terrain alerting systems
 - Emphasis by ICAO, regulators and industry on education and training
- **Several initiatives under consideration to increase situational awareness**
 - Heads-up display, synthetic and enhanced visions systems

3. LOSS OF CONTROL - INFLIGHT



- **Bringing the aviation community together to:**
 - Review what has been done through **Loss of Control and Recovery Training (LOCART)** a collaboration of International regulators/experts;
 - Hear what is planned through the US FAA ARC and the International Committee for Aviation Training in Extended Envelope (Mar-Sep 2012);
 - Learn about new Licensing and training Standards in Annex 1 and Annex 6, Part 1 (Nov 2013); and
 - **Agree on a global work programme for the future**



The Assembly:

1. *Urges* States to take measures to enhance runway safety, including the **establishment of runway safety programmes** using a **multidisciplinary approach**, that include at least **regulators, aircraft operators, air navigation services providers, aerodrome operators and aircraft manufacturers** to prevent and mitigate the effects of runway excursions, runway incursions and other occurrences related to runway safety;
 2. *Resolves* that ICAO shall actively **pursue runway safety using a multidisciplinary approach**; and
- (...)



Associated practice no. 1:

- The runway safety programmes should be based on **inter-organizational safety management** including the **creation of local runway safety teams** that **address prevention and mitigation of runway excursions, runway incursions and other occurrences related to runway safety.**

ICAOs Runway Safety Programme



✈ Outcomes of GRSS:

- Identification of hazards requires **collaboration** of all stakeholders
- Solutions need to be standardized to international standards and harmonized to facilitate efficient international operations
- **Runway Safety Teams** – should be established locally and hosted by the airports
- RSP partners have committed to work together to compile and promote proven solutions and endorse best practices

✈ Regional Runway Safety Seminars (RRSSs):

- Promote and enhance implementation of solutions through multidisciplinary RSTs

✈ Runway Safety Website www.icao.int/RunwaySafety :

- Easy access to information on public website
- Development of RST Action Plan Tool
- Share documents and toolkits from RSP Partners



Objectives of the RRSS

1. Improve runway safety outcomes
2. The establishment of RSTs
3. Provide tools for use by RSTs
4. Develop a regional strategy to establish, promote and provide ongoing support to RSTs

Focus on the Region



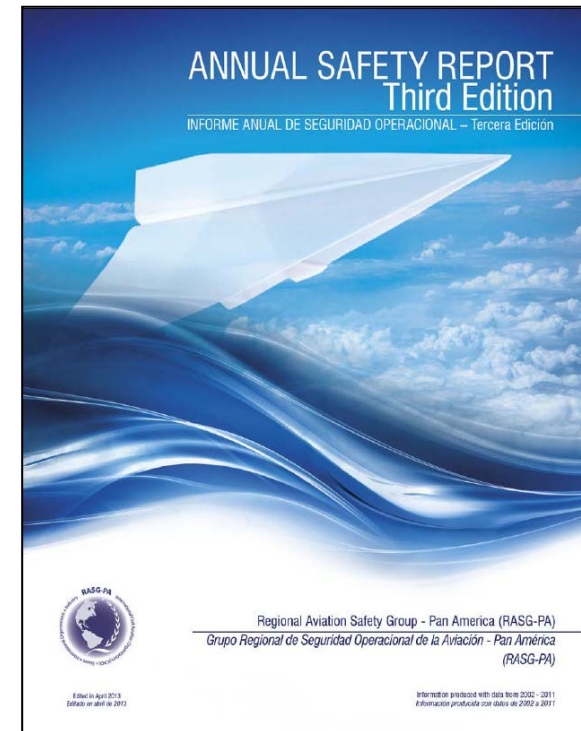
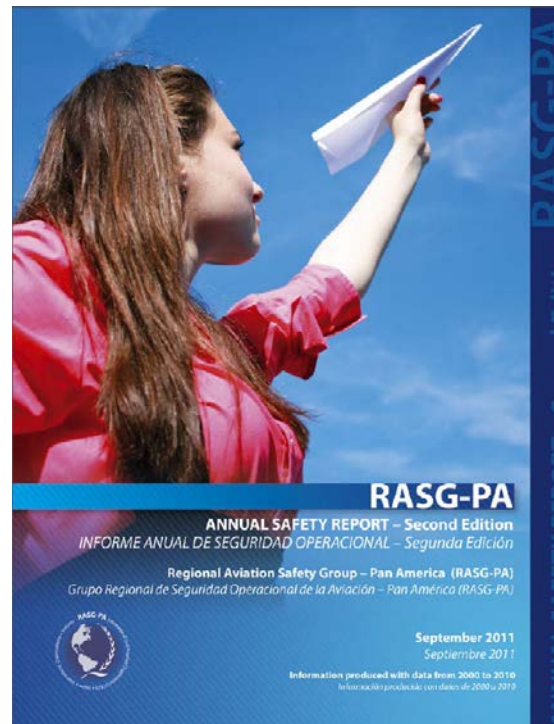
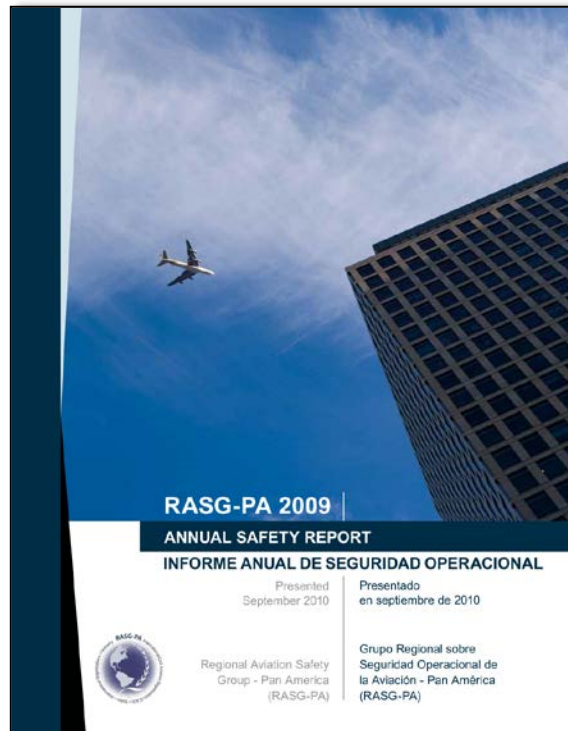
-



- First in the World (2008)
- Multiregional
- Includes States, International Organizations & Industry
- Adopted in other ICAO Regions
- Aligned with GASP and GASR
- Data Driven
- Results Oriented



RASG-PA - Data driven Annual Safety Reports

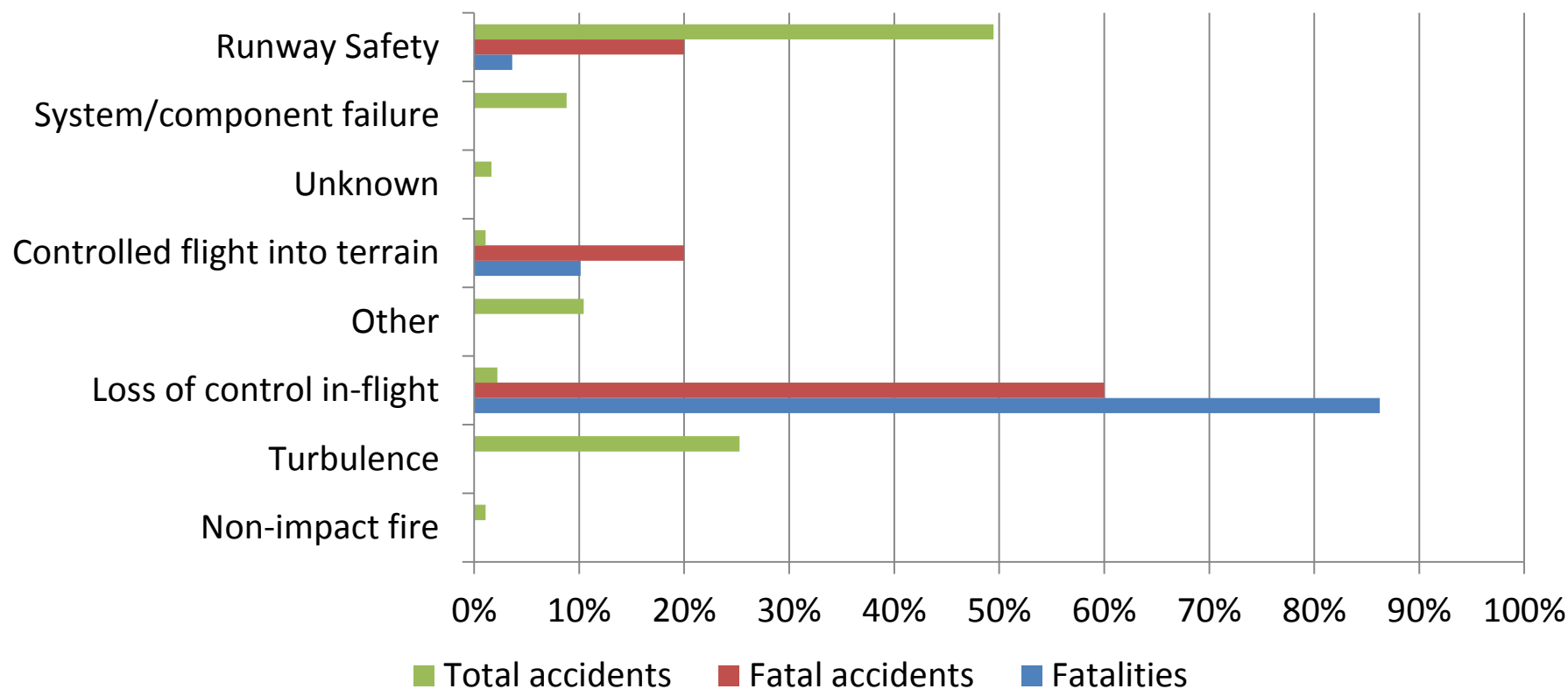


Runway Safety Overview

NAM/CAR Region

Accidents & Related Fatalities by Occurrence Categories

Scheduled Commercial Traffic – MTOW > 2 250 kg (Yrs 2008- 2012)

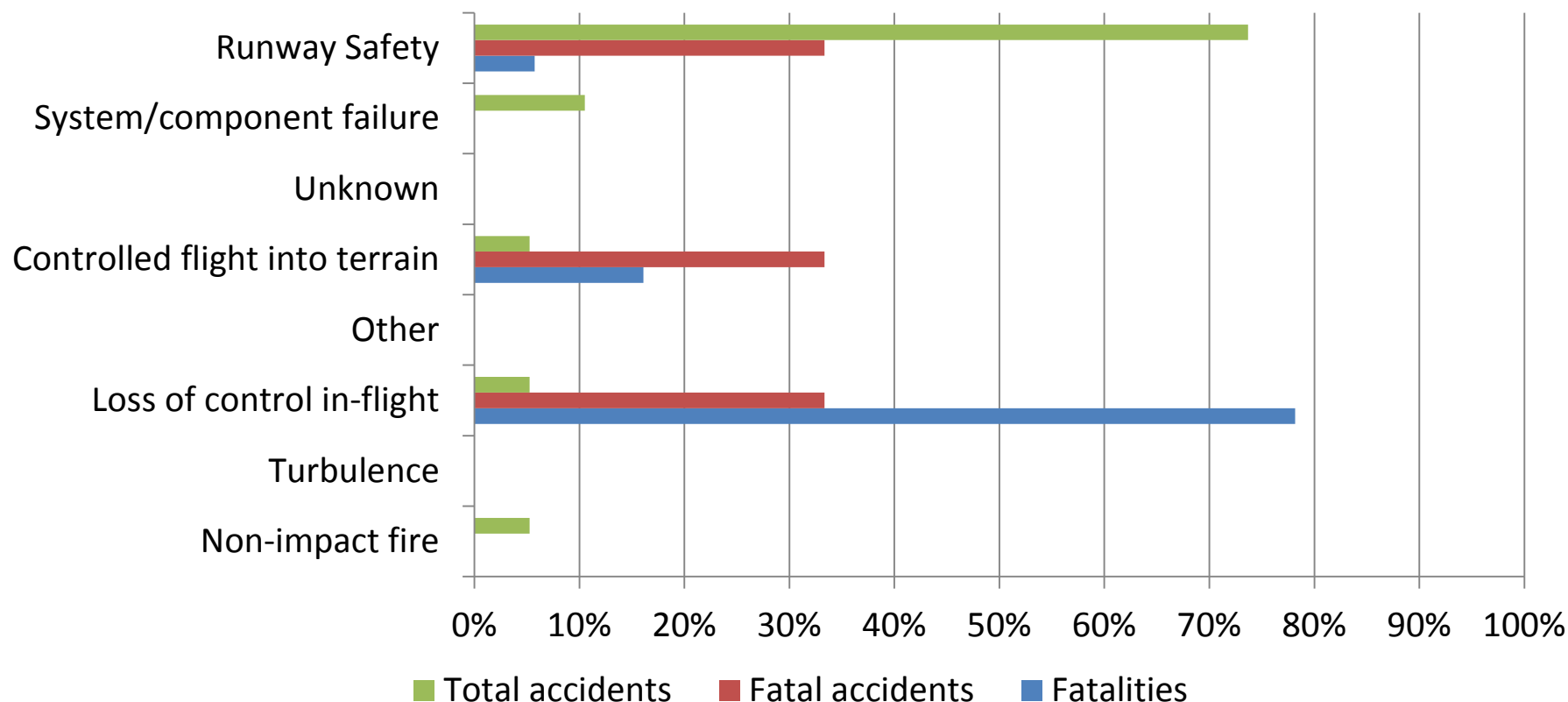


Runway Safety Overview cont.

Caribbean

Accidents & Related Fatalities by Occurrence Categories

Scheduled Commercial Traffic – MTOW > 2 250 kg (Yrs 2008- 2012)



2001-2011

Pan America Regional Safety Summary



Top fatal accident categories are:

A graphic on the left side of the slide consists of three concentric semi-circles. The outermost is dark blue, the middle is medium blue, and the innermost is light blue. They are positioned to the left of the text boxes, with the largest semi-circle aligned with the top text box.

Runway Excursions (RE)

Controlled Flight into Terrain (CFIT)

Loss of Control In-flight (LOC-I)

RASG-PA Safety Activities

- 2009: identified 3 top data-driven risk areas (fatalities) in NAM/CAR/SAM Regions:
 - RE: Runway Excursion
 - CFIT: Controlled Flight Into Terrain
 - LOC-I: Lost of Control In-Flight
- 2010: recommended Safety Enhancement Initiatives (SEIs) to mitigate 3 top data-driven risk areas
- 2011: applying Detailed Implementation Plans (DIPs)
- 2012: continue with DIPs implementation
- 2013: development of new DIPs

RASG-PA Safety Enhancement Initiatives

Runway Excursions (RE) promote:

- Pilot adherence to Standard Operating Procedures (SOPs) for approach procedures including the go-around decision making process
- Specific training for pilots and air traffic controllers to avoid unstable approaches
- Specific training for aerodrome personnel regarding maintenance and operations of the runway
- **Implementation of Runway Safety Teams (RSTs)**

Successful implementation of Runway Safety Teams (RSTs) in:

- Costa Rica
- Cuba
- Jamaica
- Mexico

Role of Runway Safety Teams (RSTs) in the Region



- Identify and develop mitigation options to:
 1. **Reduce** the number of runway safety related Accidents at individual airports
 2. **Improve** the survivability after a runway excursion

Summary



- This seminar is designed to facilitate the formation of runway safety teams (RSTs) at individual airports
- The fundamentals of RST implementation are straightforward
- The key to successful RST implementation is knowledge, experience and trust
- Partnership is essential
- ICAO is ready to assist



North American
Central American
and Caribbean
(NACC) Office
Mexico City

South American
(SAM) Office
Lima

**ICAO
Headquarters
Montreal**

Western and
Central African
(WACAF) Office
Dakar

European and
North Atlantic
(EUR/NAT) Office
Paris

Middle East
(MID) Office
Cairo

Eastern and
Southern African
(ESAF) Office
Nairobi

Asia and Pacific
(APAC) Office
Bangkok

Thank You

Contact: Eduardo Chacin
echacin@icao.int

Visit: www.icao.int