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Regional Aviation Safety Group – Pan America (RASG-PA) Activities

RASG-PA Aviation Safety Seminar
Mexico City, Mexico, 14-15 January 2015

Eduardo Chacin
Regional Officer Flight Safety
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Air Transport is the Safest Mode of Transportation





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ICAO Statistics Show

2013

2030 (FORECAST)

PASSENGERS
CARRIED

3.1 billion → 6.4 billion

+5% vs 2011

+4.4% annual
growth rate

AIRCRAFT
DEPARTURES

33 million → 59 million

+3.6% annual
growth rate

Traffic Statistics for Revenue Scheduled Services



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The air transport industry continues to grow providing social and economic benefits





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Economic & Social Benefits

2012 Air Transport Facts

**SOCIAL
BENEFITS**

60 million jobs → Worldwide
Directly and supporting sectors

**ECONOMIC
BENEFIT**

2 trillion USD = 3.5% GDP
global

aviation annually carries more than half of the
1 billion international tourists



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Global Accident Rate

(Accidents per million departures)



Source: ICAO Safety Report 2014 Edition

Scheduled commercial operations. Maximum Take-off Weight (MTOW) above 5700 kg



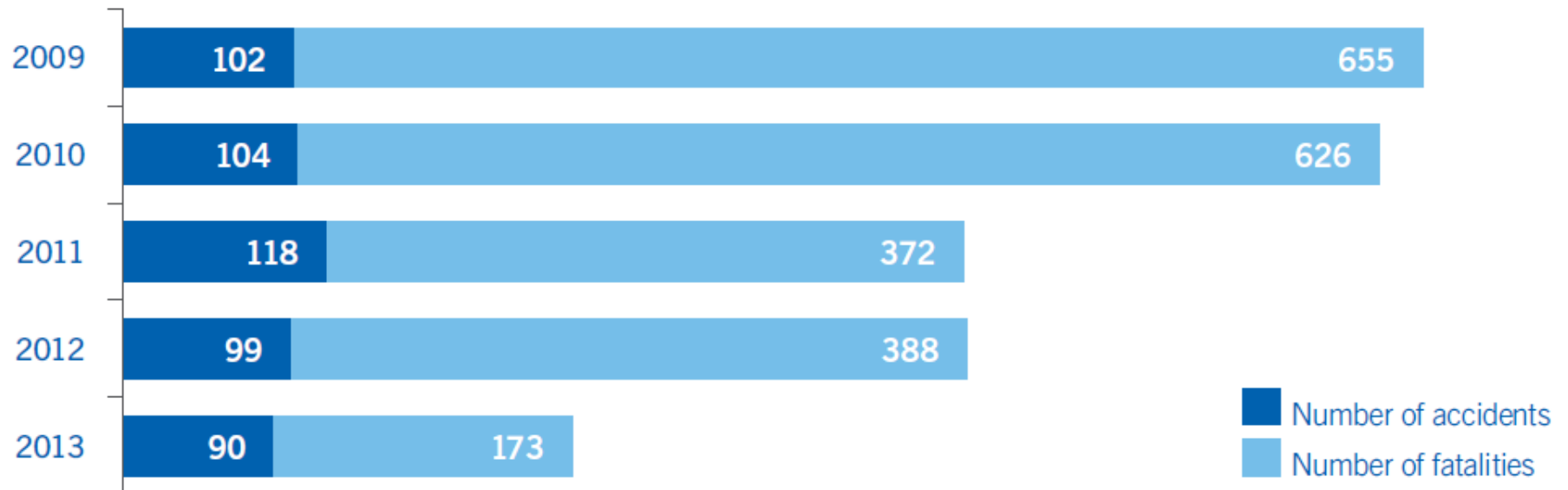
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Global Accidents

Accident Records: 2009–2013 Scheduled Commercial Flights



Scheduled commercial operations. Maximum Take-off Weight (MTOW) above 5700 kg

ICAO Safety Report 2014 Edition



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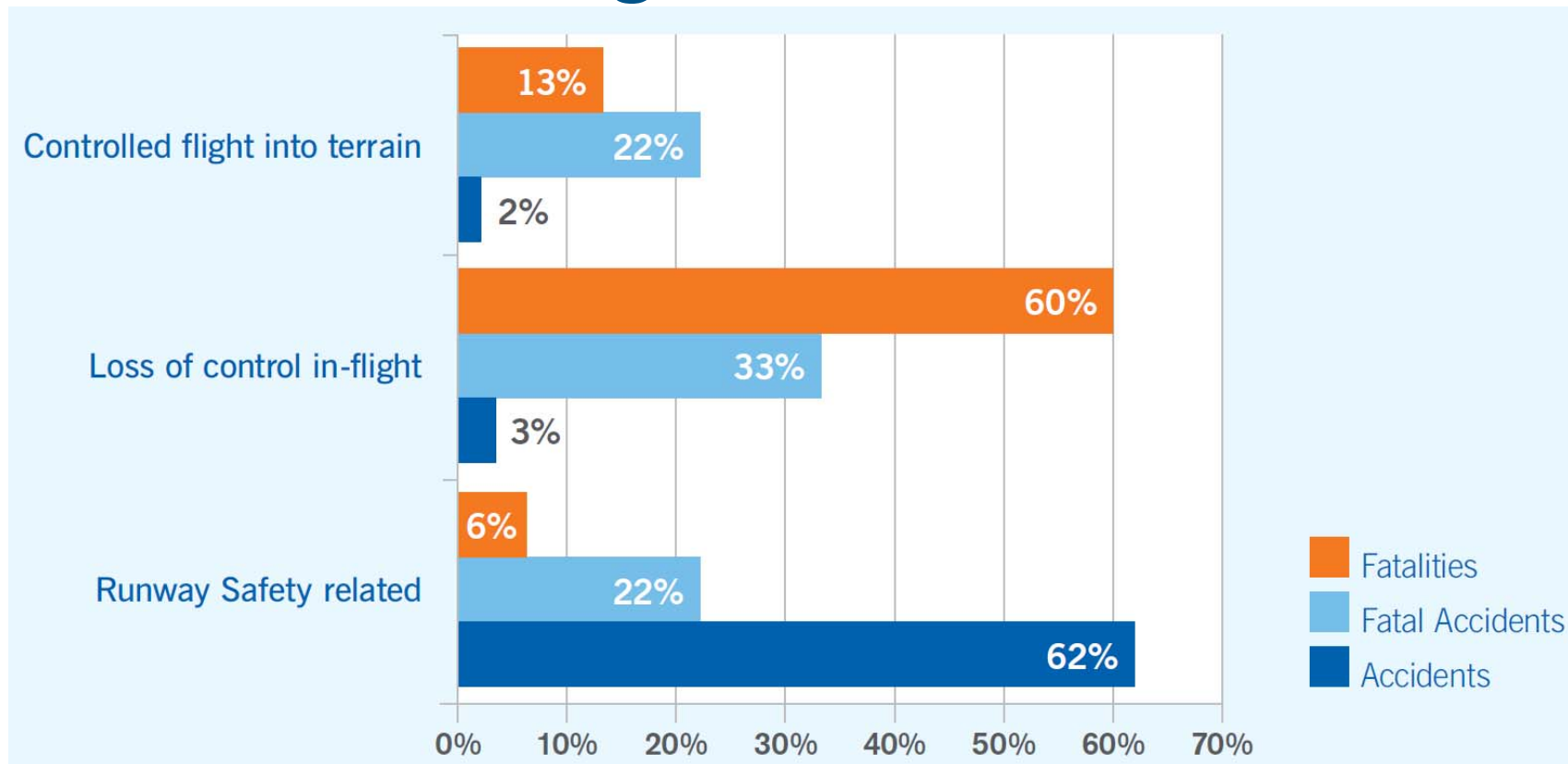
Worldwide Accidents 2013 by RASGs

RASG	Estimated Departures (in millions)	Number of Accidents	Accident Rate (per million departures)	Fatal Accidents	Fatalities	Share of Traffic	Share of Accidents
AFI	0.7	9	12.9	1	33	2%	10%
APAC	8.6	19	2.2	1	49	27%	21%
EUR	7.9	21	2.7	2	71	25%	23%
MID	1.1	2	1.8	0	0	3%	3%
PA	13.8	39	2.8	5	20	43%	43%
WORLD	32.1	90	2.8	9	173	100%	100%

Scheduled Commercial Air Transport Accidents (Aircraft MTOW above 5,700 kilograms) Source: ICAO 2014 Global Safety Report



Distribution of accidents, fatal accidents and fatalities related to the 3 high-risk occurrence categories in 2013



ICAO Safety Report 2014 Edition

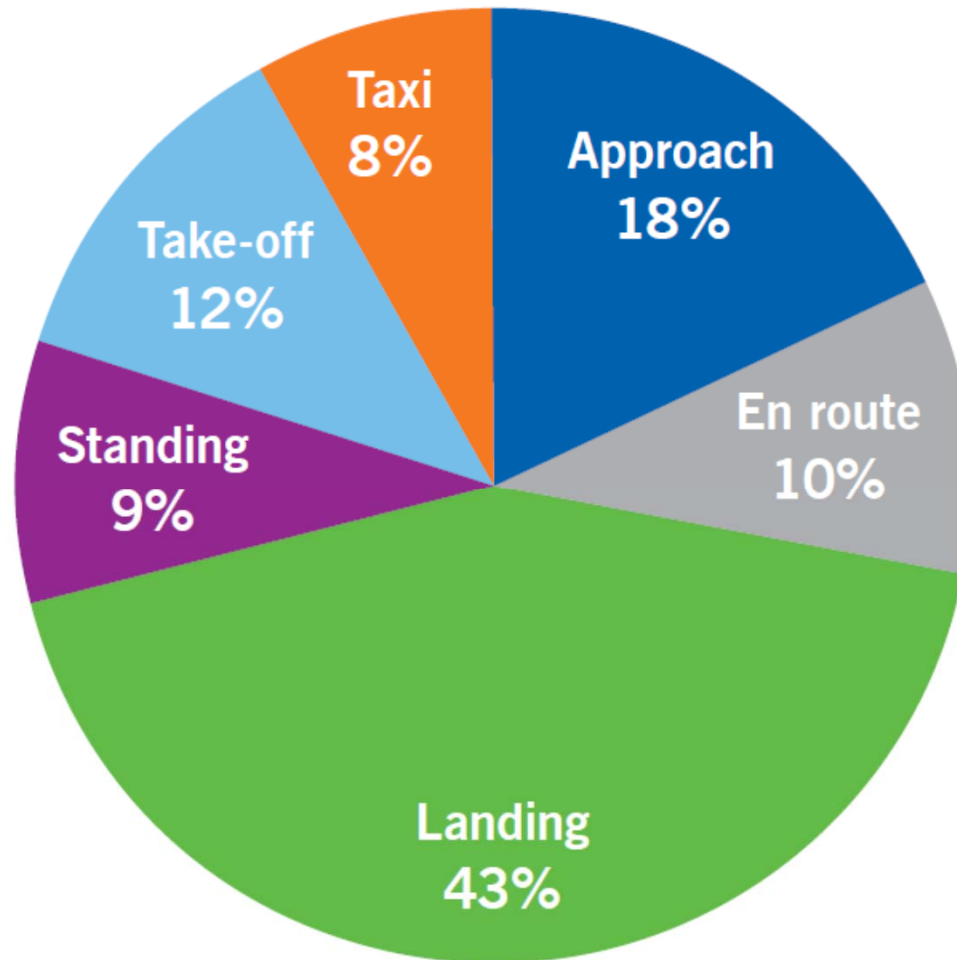


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Accidents per Phase of Flight - 2013



Source: ICAO Safety Report 2014 Edition



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Safety

is one of the strategic objectives of
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ICAO and aviation stakeholders are working in partnership to improve safety



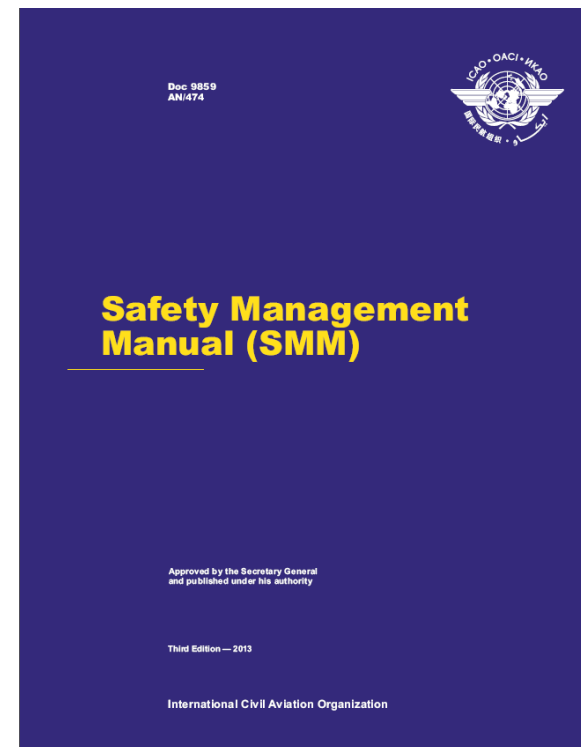
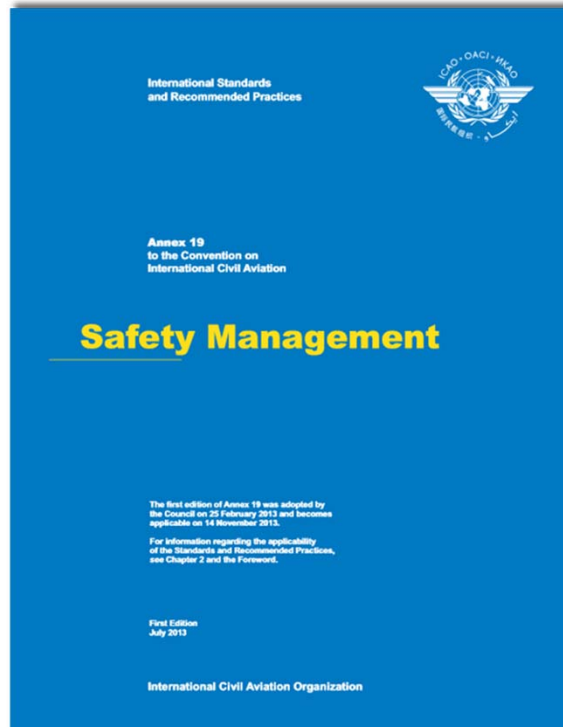


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ICAO developed the new Global Aviation Safety Plan (GASP), Annex 19 and the Safety Management Manual





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**Regional Aviation
Safety Group
(RASG-PA) is a key
contributor to
safety enhancement
in the Pan American
Region**



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Pan American Region

NAM REGION

Bermuda
Canada
Saint Pierre et Miquelon
United States

SAM REGION

Argentina
Bolivia
Brazil
Chile
Colombia
Ecuador
French Guiana
Guyana
Paraguay
Peru
Panama
Suriname
Uruguay
Venezuela

CAR REGION

Anguilla	Haiti
Antigua and Barbuda	Honduras
Aruba	Jamaica
Bahamas	Martinique
Barbados	Mexico
Belize	Montserrat
British Virgin Islands	Nicaragua
Bonaire	Puerto Rico
Cayman Islands	Saba
Costa Rica	Saint Barthélemy
Cuba	Saint Kitts and Nevis
Curaçao	Saint Lucia
Dominica	Saint Vincent and the Grenadines
Dominican Republic	Sint Eustatius
El Salvador	Sint Maarten
Grenada	Trinidad and Tobago
Guadeloupe	Turks and Caicos Islands
Guatemala	Virgin Islands

For Boeing, CAR and SAM Regions are defined as Latin America and Caribbean
For IATA, CAR and SAM Regions are defined as LATAM/CAR Region



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RASG-PA Mission

To improve safety and efficiency in the Pan America Region





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RASG-PA Vision

To involve all the stakeholders in a coordinated effort





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First in the World
(2008)

Multi-regional

States/Territories,
Intl' Organizations
& Industry

Adopted in other
ICAO Regions

Aligned with
GASP

Data-driven
Results Oriented

RASG-PA



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RASG-PA Membership

34 NAM/CAR/SAM States, 19 Territories and...



AIRBUS



ALTA



BOEING



Caribbean Aviation Safety and Security Oversight System



CLAC



COCESNA



FLIGHT
SAFETY

FOUNDATION



The Global Voice of Pilots



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Executive Steering Committee (ESC)



Co-Chair Boeing
(International
organizations &
Industry)



Caribbean Aviation Safety and Security Oversight System

VP United States



VP Costa Rica



VP Curacao and
Co-Chair
(States/Territories)



VP Brazil



VP Chile





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RASG-PA uses different types of safety information

REACTIVE: safety analysis based upon past occurrences (accidents and incidents) in the Pan American Region

PROACTIVE: includes analysis of existing State conditions (ICAO SARPs implementation, traffic variations) and service providers (IATA Operational Safety Audits, ramp inspections)

PREDICTIVE: based upon analysis of Flight Operations Quality Assurance (FOQA) de-identified data, oriented towards identifying potential future hazards for initiating corresponding mitigation actions



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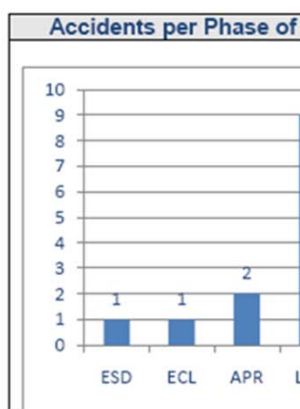
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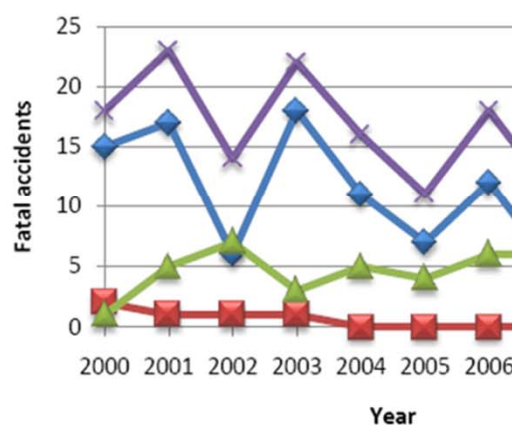
RASG-PA uses safety information from different sources



North America		IATA Members	
14 Accidents (2009)		Hull Losses	
		Fatal	
Passenger	Cargo	Ferry	Jet
64%	36%	0%	100%



Fatal Accidents Distribution



ASIAs Member

44 Airlines

- | | |
|----------------------------------|-------------------------|
| ABX Air | GoJet Airlines |
| Air Wisconsin Airlines | Hawaiian Airlines |
| Alaska Airlines | *Horizon Air |
| Aloha Air Cargo | JetBlue Airways |
| American Airlines | Mesa Airlines |
| American Eagle Airlines | Miami Air International |
| Atlas Air | North American Airlines |
| Cape Air | Omni Air International |
| Chautauqua Airlines | Piedmont Airlines |
| CitationAir | Pinnacle Airlines |
| CommutAir | Polar Air Cargo |
| Compass Airlines | PSA Airlines |
| Delta Air Lines | Republic Airlines |
| Empire Airlines | Shuttle America |
| Evergreen International Airlines | Silver Airways |
| ExpressJet | SkyWest Airlines |
| FedEx Express | Southern Air |
| Frontier Airlines | Southwest Airlines |
| | Spirit Airlines |



- Trans States Airlines
United Airlines
United Parcel Service
US Airways
Virgin America
World Airways

Government

- FAA, NASA,
Naval Air Force Atlantic,
USAF Safety Center

Industry

- AIA, Airbus, ALPA,
A4A, Boeing, CAPA, NACA,
NATCA, RAA, SWAPA

*Newest Member

As of 14 February 2013



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In July
2014...



**RASG-PA signed a MoU
with IATA to access safety
information from IATA's
Flight Data eXchange
(FDX)**





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Pan American Accidents

Year	Total Accidents	Fatal Accidents	Total Fatalities
2003-2012 avg.	38.3	2.7	79.5
2012	35	1	2
2013	38	5*	20

Scheduled Commercial Air Transport Accidents (Aircraft MTOW above 5,700 kilograms)

Source: ICAO ADREP/ECCAIRS – 5th Ed. RASG-PA Annual Safety Report

* 4 in the NAM Region, 1 in the SAM Region



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RASG-PA Risk Reduction Goal

Using 2010 as a baseline, reduce fatality risk for Part 121 or equivalent operations by 50% by the year 2020 in Latin America and the Caribbean



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Top Risk Areas in the Pan American Region

- ✈ Runway Excursion (RE)
- ✈ Loss of Control In-flight (LOC-I)
- ✈ Controlled Flight Into Terrain (CFIT)
- ✈ Mid-Air Collision (MAC)





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RASG-PA Developed Safety Enhancement Initiatives (SEIs) Focused on the Main Risk Areas



Runway
Excursion
(RE)

Controlled
Flight Into
Terrain
(CFIT)

Loss of
Control-
Inflight
(LOC-I)

Mid-Air
Collision
(MAC)

Every SEI has an associated Detailed Implementation Plan (DIP)



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SEI Summary



New SEIs are under development by the Safety Enhancement Teams (SETs)



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RASG-PA Risk Management

Goal: 50% fatality risk reduction

Actual vs. calculated rates and metrics



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Risk Management Strategy

Reactive:
Applied the risk reduction formula to accident set to prioritize SEIs

Proactive:
Implemented SEIs targeting specific high fatality risk areas

Predictive:
Verifying effectiveness of SEIs using precursor trends in FOQA



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Methodology Used to Calculate the Impact of a Safety Enhancing Intervention

$$\text{Accident/Risk Reduction} = f \left(\begin{array}{l} \text{Effectiveness} \\ \text{that an intervention has} \\ \text{for reducing the accident} \\ \text{rate if incorporated} \end{array} , \begin{array}{l} \text{Portion of} \\ \text{Fleet} \\ \text{with intervention} \\ \text{implemented} \end{array} \right)$$

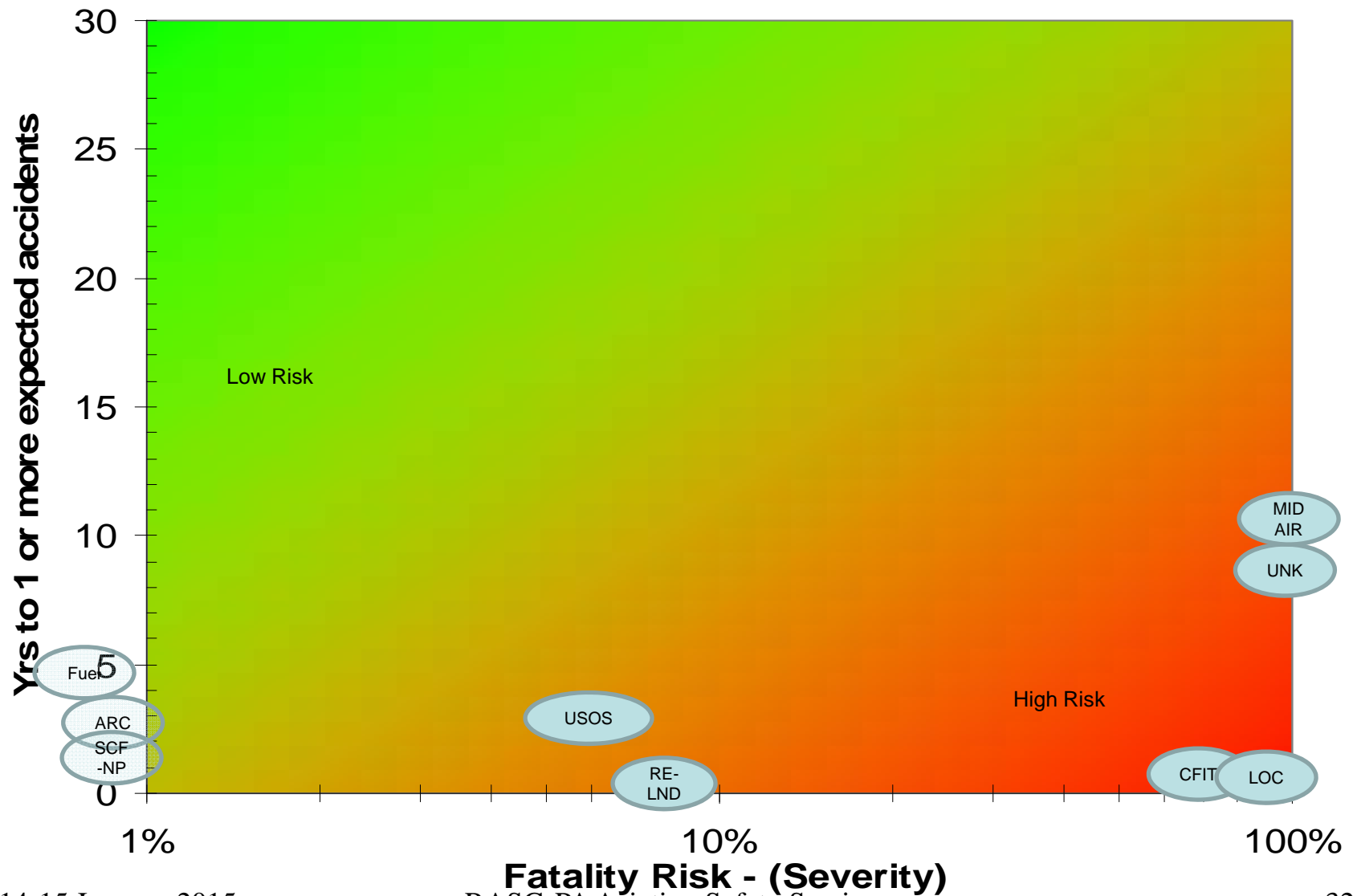
✈ RASG-PA Safety Enhancements Initiatives (SEIs)

- RE/04, RE/09, CFIT/02, CFIT/04, LOC-I/06, LOC-I/07, LOC-I/9, RE/8, RE/11

✈ Accident set used for evaluation

✈ 2000-2010 hull loss and fatal accidents - Operators with operations Similar to Part 121

FOCUS ON RISK: 10 yr. Severity and Occurrence Rate of Accidents by CICTT Category (Hull Loss and/or Fatal Accidents with operations equivalent to Part 121 Operations)



14-15 January 2015

RASG-PA Aviation Safety Seminar
(Portion of People Onboard who Perished)



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Risk Analysis

RASG-PA Goal: 50% fatality risk reduction for the period 2010 – 2020

Fatality risk: full loss passenger load equivalents per million departures

Baseline: 5 year average fatality risk in 2010 = 0.6

2020 Goal = 0.3

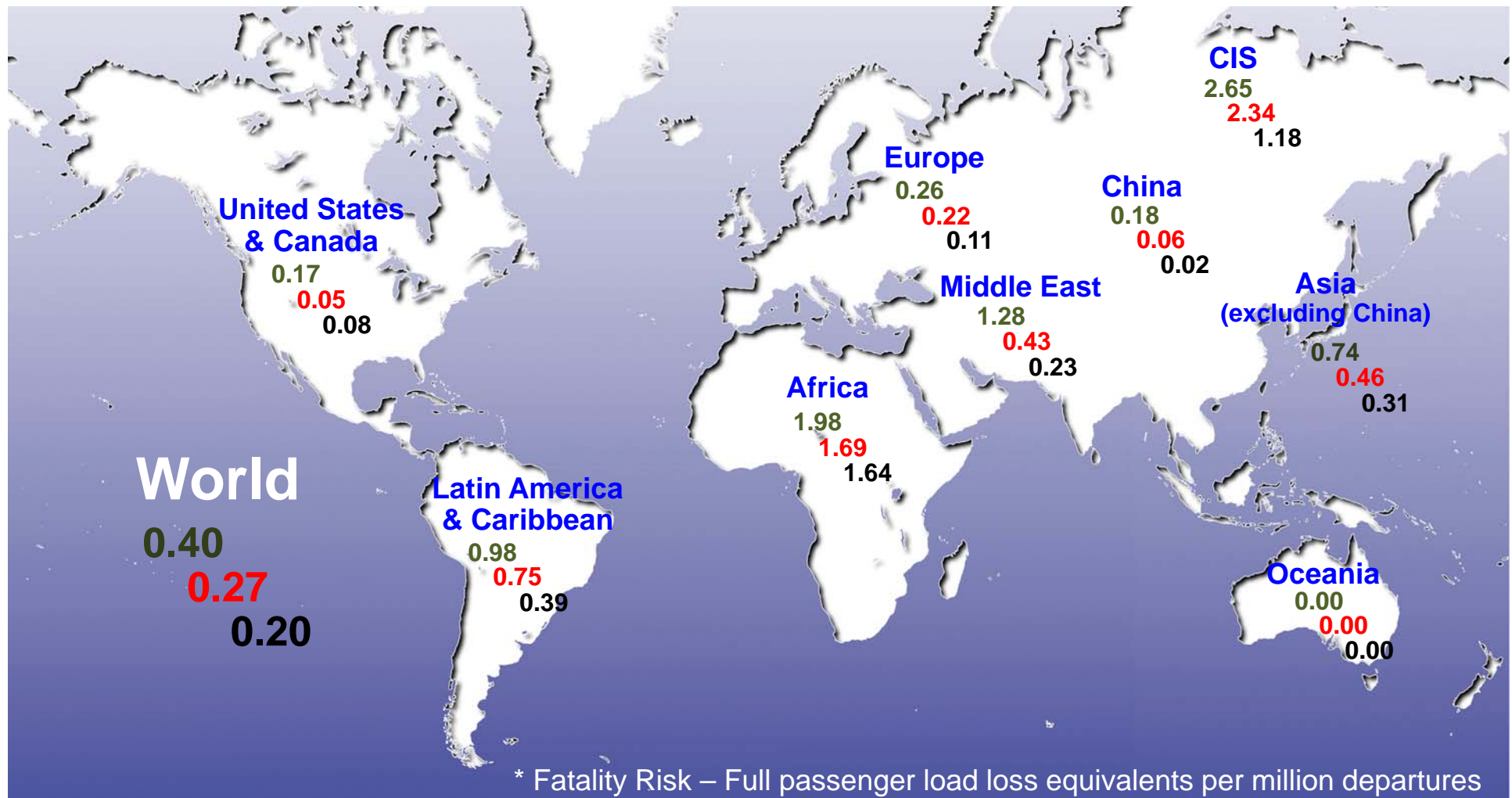
Calculated reduction due to SEIs implemented in the period 2009-2013 = 24%

Calculated Risk through 2013 = 0.4

Fatality Risk* of Commercial Jet Air Travel by Region of the World (10-year rolling average)

2003
2008
2013

Western-built jet transports >60,000-pounds *onboard fatal* accidents, by *airline domicile*





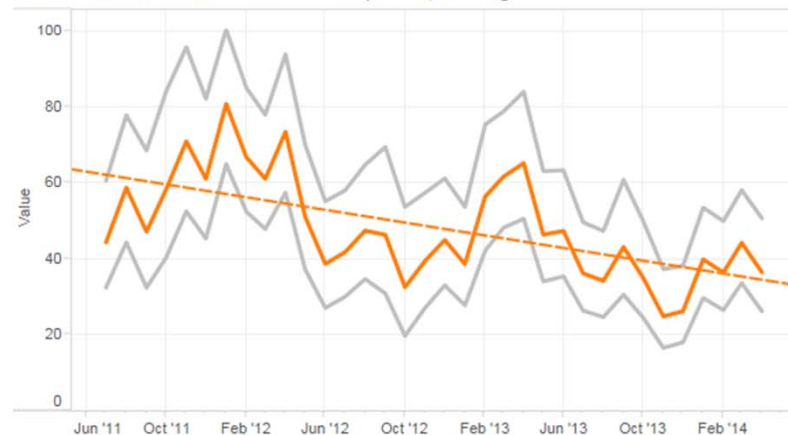
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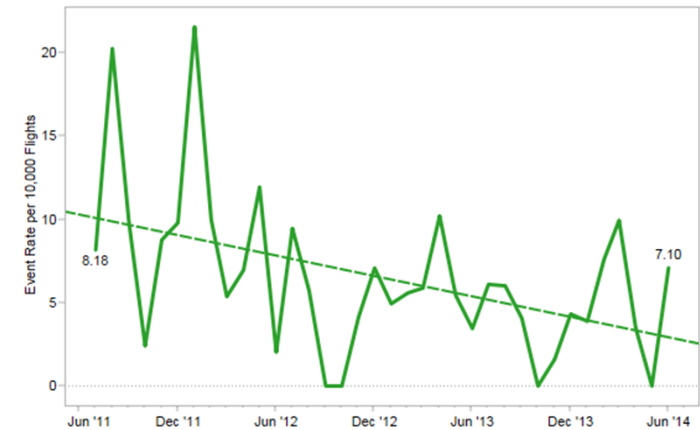
RASG PA Metrics – Verifying Effectiveness of SEIs

All UA Rate for <500 ft HAT Trend per 10,000 Flights



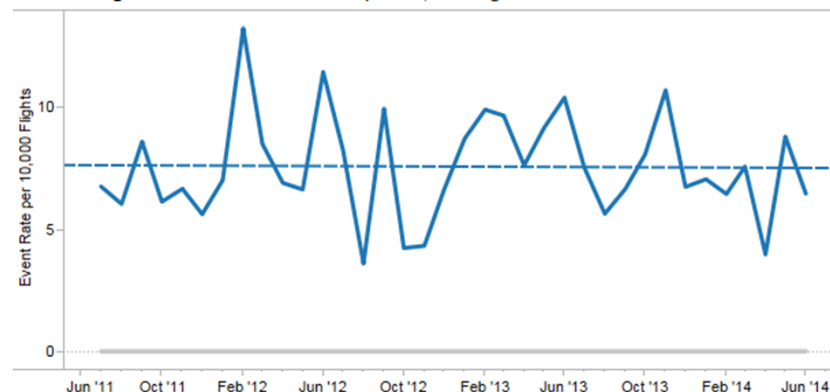
ALAR

Mode 2 Terrain GPWS Event Landing Rate per 10,000 Flights



TAWS

All Landing TCAS Event Trend Rate per 10,000 Flights



TCAS

- Deidentified, aggregate ASIAs FOQA for 27 US airlines flying to 50 airports in the CAR and SAM Regions
- Correlates with IATA FDX information from Latin American airlines



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RASG-PA Deliverables



RASG-PA



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RASG-PA Publishes Annual Safety Reports



Measuring Results

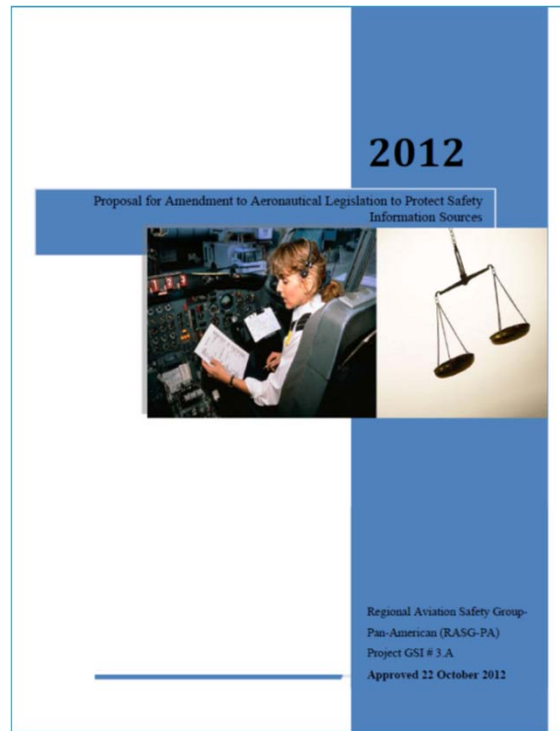


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Created the Proposal for Amendment to Aeronautical Legislation to Protect Safety Information Sources





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Pan American Aviation Safety Summits

1st Pan American AVIATION SAFETY SUMMIT

Working together for a safer industry



April 19-23, 2010
Sao Paulo, Brazil

in partnership with ALTA

2nd PAN AMERICAN AVIATION SAFETY SUMMIT 2011

June 15-16 Mexico City

Working together for a safer industry



in partnership with ALTA



3rd PAN AMERICAN AVIATION SAFETY SUMMIT

June 19-21 | 2012



JUNE 19-21 2012
BOGOTÁ, COLOMBIA

4th PAN AMERICAN AVIATION SAFETY SUMMIT

JUNE 25-26, 2013
SAN JOSE, COSTA RICA



5th PAN AMERICAN AVIATION SAFETY SUMMIT

www.alta.aero



5th PAN AMERICAN
AVIATION SAFETY SUMMIT
SEPTEMBER 9-10th, 2014

CURAÇAO

14-15 January 2015

RASG-PA Aviation Safety Seminar

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Other Deliverables

- ✈ **Consistent use of Standard Spanish and English Phraseology in accordance with the ICAO PANS-ATM – Air Traffic Management (Doc 4444) - Completed**
- ✈ **Establishment of the Central American Accident and Incident Prevention Investigation Commission - Created**
- ✈ **Flight Information Quality Assurance (FOQA) Programme in Central America (PASO) – Active**
- ✈ **Bird Strike Reduction Programme - Completed**
- ✈ **Development of Metrics to Measure Institutional Strengths of the Civil Aviation Authorities** 



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RASG-PA Programme 2014 - 2016

- ✈ Align RASG-PA work programme with GASP
- ✈ Support roll-out of new GASP and Annex 19
- ✈ Mitigate RE, CFIT, LOC-I and MAC risks
- ✈ Monitor/act regarding regional safety issues
- ✈ Ensure coordination with GREPECAS, RSOOs
- ✈ Increase participation of stakeholders
- ✈ Positioning as strategic regional safety forum
- ✈ Collect info for ICAO regional performance dashboard



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Regional Challenges

- ✈ Traffic growth
- ✈ New air transport operators
- ✈ Significant number of new aircraft orders
- ✈ Demand for skilled aviation personnel
- ✈ Training capacity
- ✈ Attractiveness of aviation
- ✈ Attrition related impact
- ✈ Infrastructure deficiencies
- ✈ Resources
- ✈ Political will



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**We are very
ambitious
setting our
safety
target...**





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...but we are confident that with everyone's commitment and continuous support we can achieve it

SUCCESS



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Thank you!