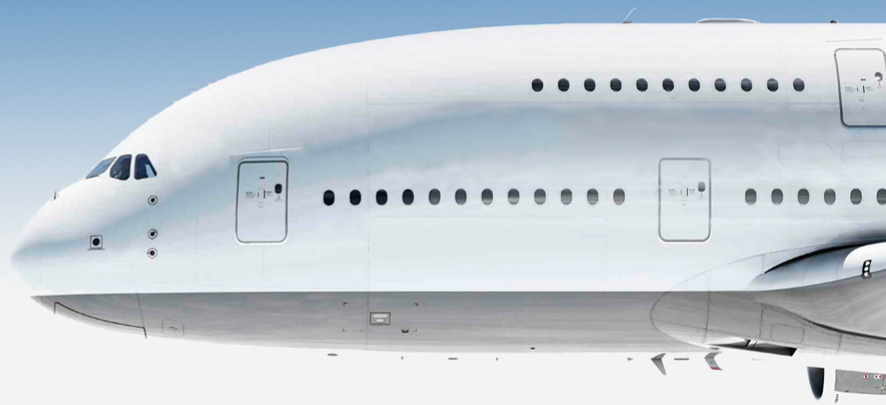
SAFE TRAVELS

Committed to leave no one behind



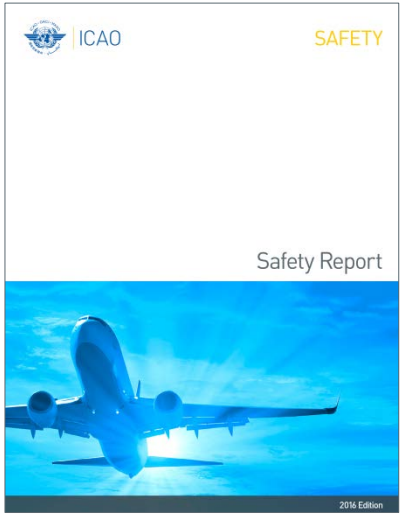
ICAO's Agenda for SAFETY

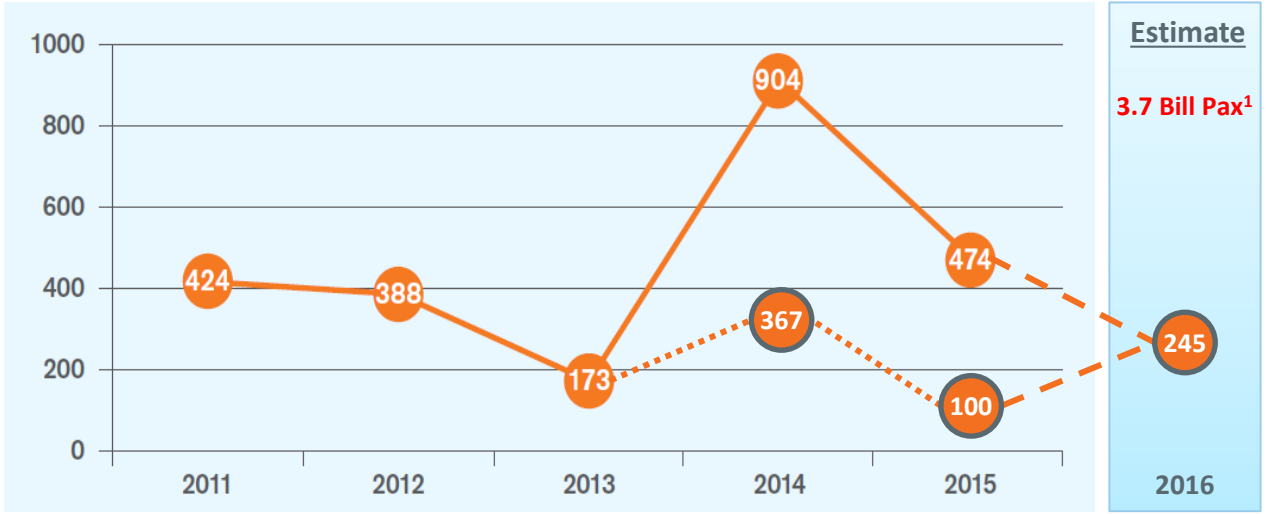
Catalin Radu
Deputy Director, Aviation Safety
Air Navigation Bureau – ICAO

AFI Aviation Week
22-25 May 2017

Our
Aspirational
Safety Goal

Fatalities Trend for Scheduled Commercial Flights (2011 – 2016)

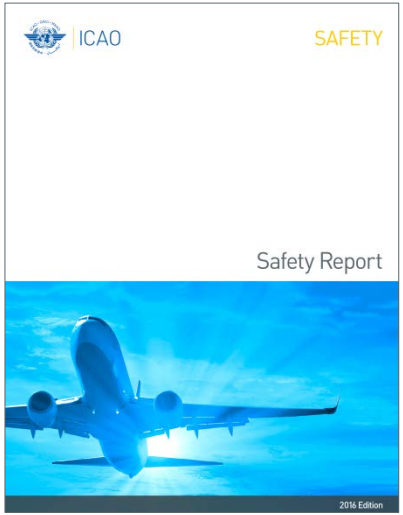


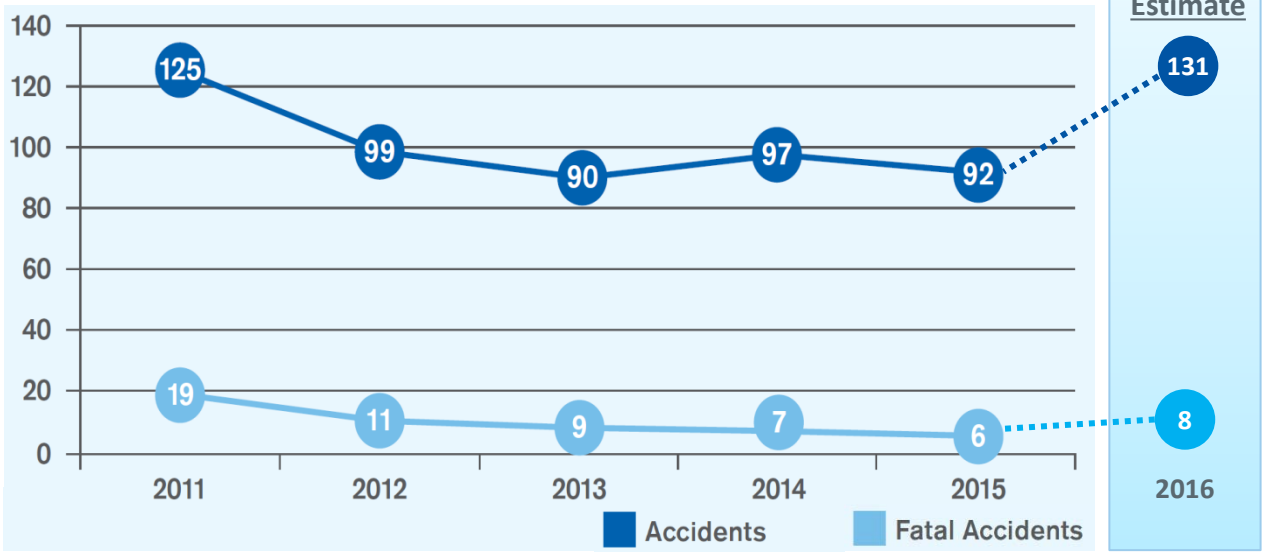


Fatalities showed a spike during 2014, and then recovered in 2015

1: https://www.icao.int/Newsroom/Pages/traffic-growth-and-airline-profitability-were-highlights-of-air-transport-in-2016.aspx

Fatalities Trend for Scheduled Commercial Flights (2011 – 2016)





Fatal accidents have been stable

We are not that far…

Regional Accident Statistics: 2013

RASG	Estimated Departures (in millions)	Number of accidents	Accident rate (per million departures)	Fatal accidents	Fatalities
AFI	0.7	9	12.9	1	33
APAC	8.6	19	2.2	1	49
EUR	7.9	21			
MID	1.1	2			
PA	13.8	39			
WORLD	32.1	90			

Regional Accide

RASG	Estimated Departures (in millions)	Number of accidents			
AFI	0.7	6			
APAC	10.2	18	1.8	3	449
EUR	8.9	26	2.9	1	298
MID	3.0	7	2.3	2	39
PA	9.9	41	4.1	0	0
WORLD	**33**	**98**	**3.0**	**7**	**904**

Regional Accident Statistics: 2015

RASG	Estimated Departures (in millions)	Number of accidents	Accident rate (per million departures)	Fatal accidents	Fatalities
AFI	0.8	6	7.3	0	0
APAC	9.8	24	2.5	3	98
			3.0	1	150
			2.5	1	224
			2.6	1	2
			2.8	**6**	**474**

For 2016 (non validated results)

PA (NACC/SAM) and AFI (WACAF/ESAF)

ZERO fatalities

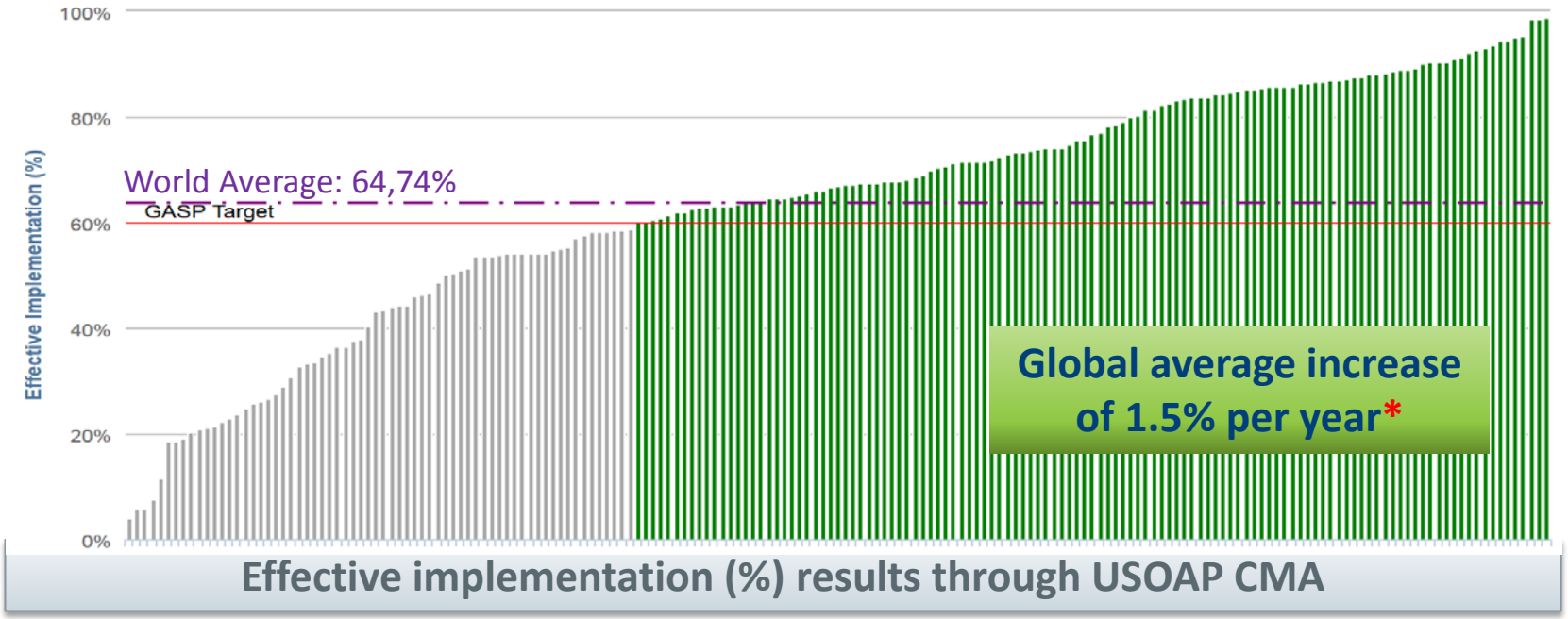
…e regions have already achieved zero fatalities

Air traffic is predicted to
double by 2030
How can we ensure the
safe realization of this growth?

Risks/barriers to achieve our goal

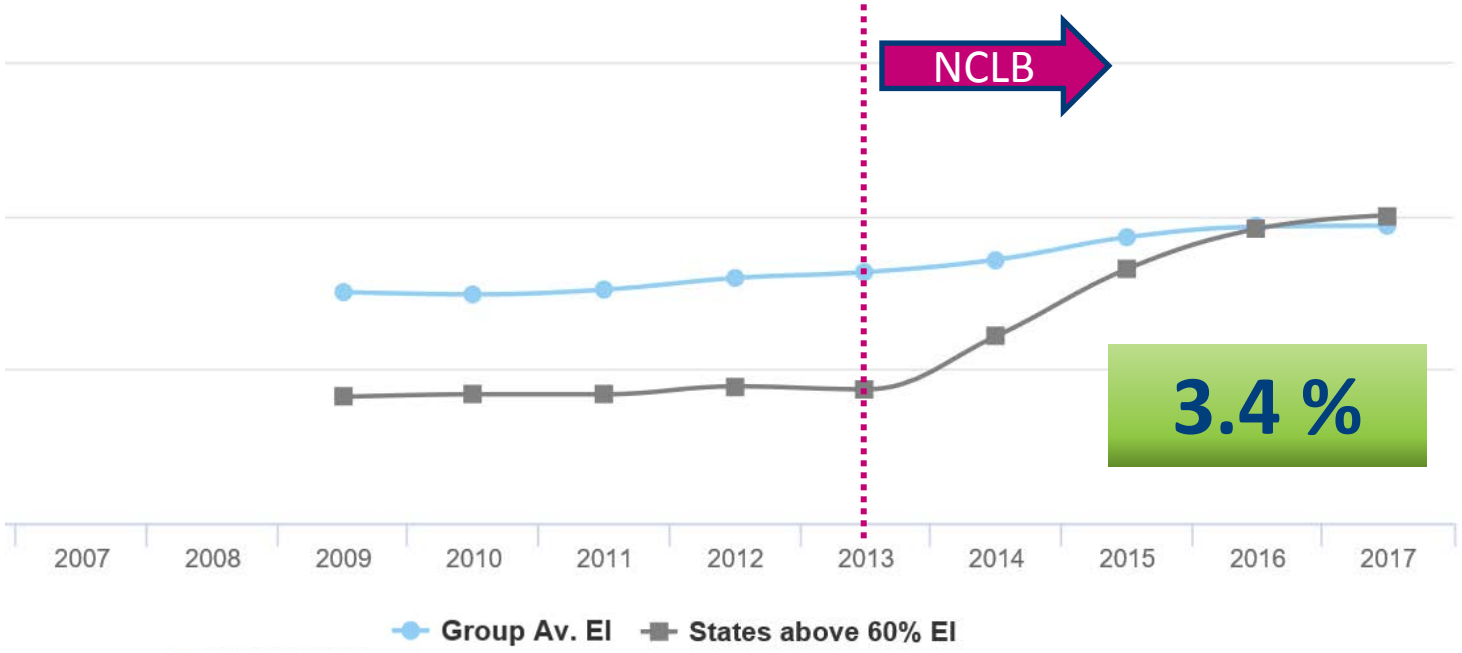
- Effective Implementation of SARPs
- ICAO's Safety priorities: Operational Risks
- Current and emerging issues

Effective Implementation of State Safety Oversight



* *Based on the world average of EI from the period 2011 (60.17) to 2016 (64.74)*

AFI region


NCLB
3.4 %
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Group Av. EI
States above 60% EI

Safe Travels: ICAO's agenda for Safety

WHAT WE HAVE TODAY

(*Effective Implementation of SARPs*)

Evolving Safety Performance

- **iMPLEMENT is a data-driven decision making process that:**
  - **Assesses the current status** of aviation **(Safety Briefings)**
  - **Identifies the best solutions** in order to maintain or improve the aviation capability of the State **(Solution Center)**
  - **Evaluates the needs of the aviation system** (money, people, infrastructure) **(CAA HR Tools, PAINT/iAID, etc.)**
  - **Identifies resources** through existing national, regional, or global mechanisms **(ASIAP, SAFE Fund, etc.)**
  - **Showcases the real added value of air transport** and the socio-economic return on investment of aviation

* Site: www.icao.int/iMPLEMENT

Identify Risks

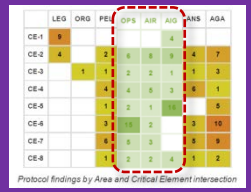
State Safety Briefing

SSP Prerequisites

Reporting on current State risks

Prioritize and Offer Solutions

Solution Center



Prioritizing risks & providing corrective actions

Identifying the needs

PAINT

Infrastructure

SEC FAL

ENVIRO

SIMS for SSP

Global Cost Database

People Structure

CAA-HR Toolkit

Training Needs Analysis

Resourcing the needs

NEEDS TODAY

Money

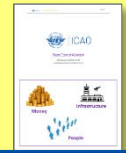
Infrastructure

People

RESOURCING THE NEEDS

- Aviation Development Network
- Aviation Development Fund
- ICAO GSI Database
- Technical Cooperation Assistance

Providing practical solutions to prioritized risks



Aviation Benefits

SOCIO-ECONOMIC BENEFITS OF AVIATION

ENHANCED SAFETY

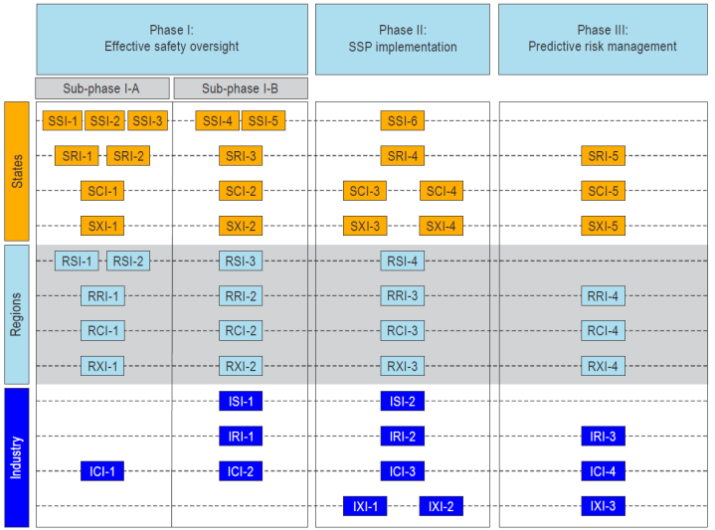
3.4% of global GDP

58.1 million

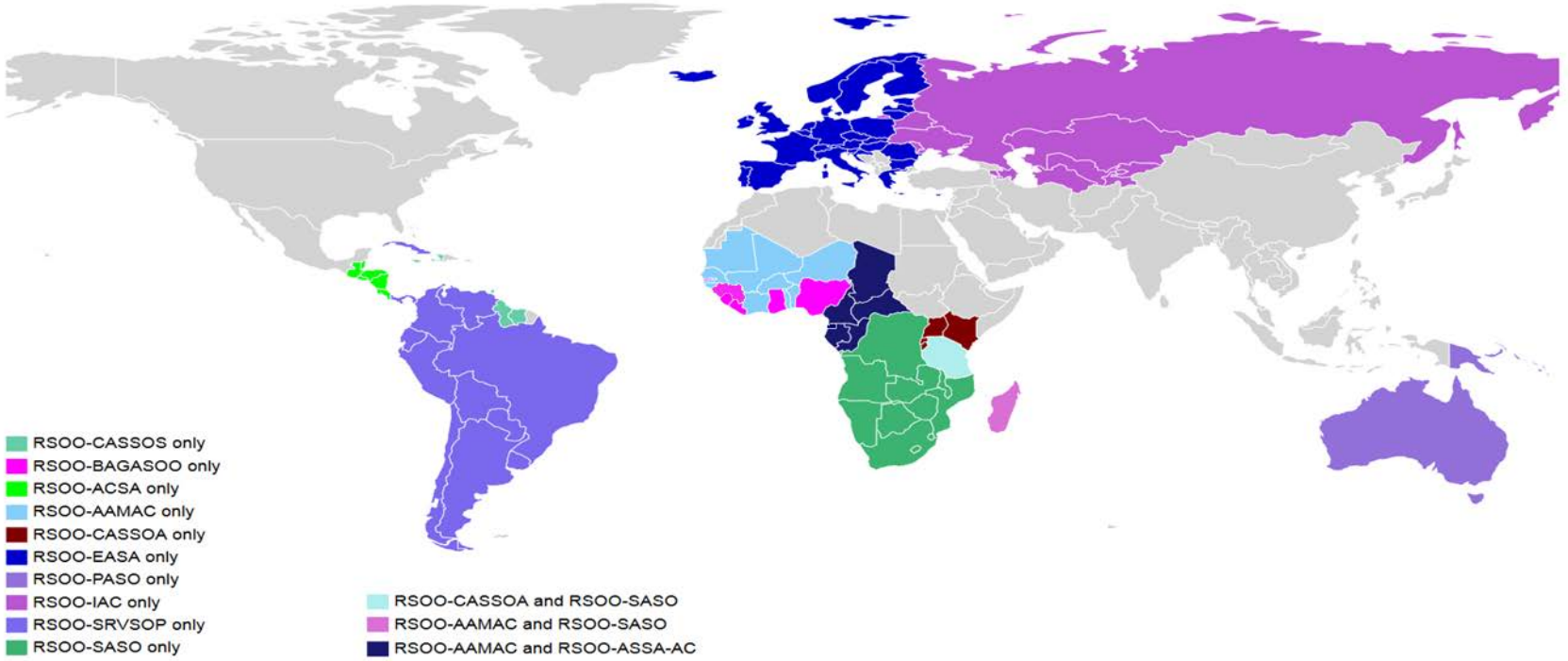
ECONOMIC DRIVER

GASP 2017-2019 Roadmap

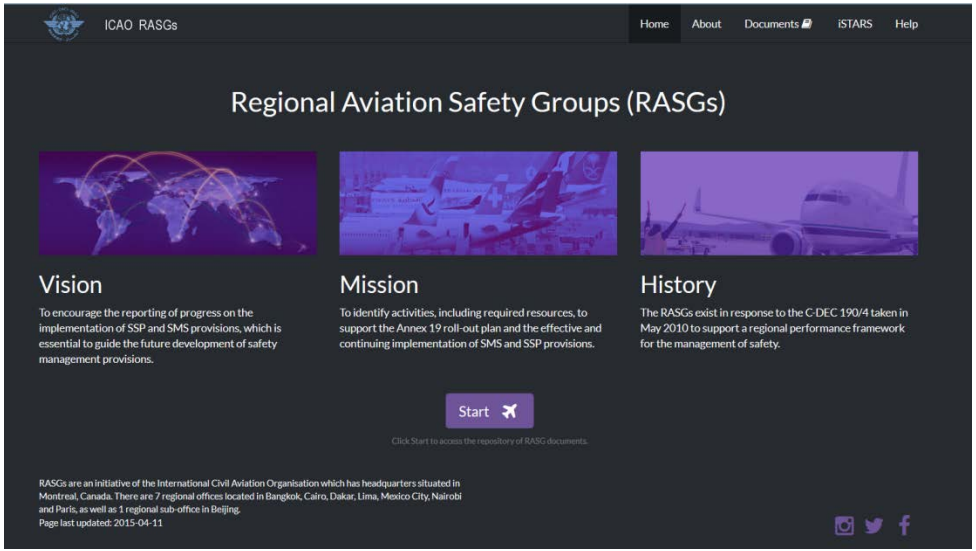
- **Goals:**
  - Ensure that safety initiatives deliver the intended benefits associated with the GASP objectives
  - Reduce inconsistencies and duplication of efforts
- **Specific safety initiatives aimed at States, Regions and Industry**
- **Complements the GANP**
  - Some ASBUs address safety
  - Implementation of ASBUs will require safety assessments prior to implementation

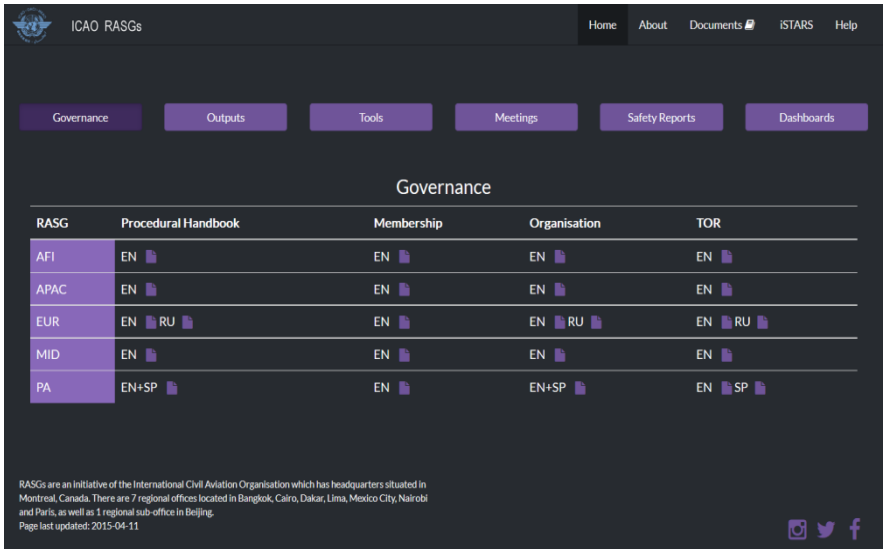


Regional Safety Oversight Organizations (RSOOs)



Cooperative Development of Operational Safety and Continuing Airworthiness Programmes (COSCAPs)


ICAO RASGs
Home
About
Documents
iSTARS
Help
Regional Aviation Safety Groups (RASGs)
Vision
To encourage the reporting of progress on the implementation of SSP and SMS provisions, which is essential to guide the future development of safety management provisions.
Mission
To identify activities, including required resources, to support the Annex 19 roll-out plan and the effective and continuing implementation of SMS and SSP provisions.
History
The RASGs exist in response to the C-DEC 190/4 taken in May 2010 to support a regional performance framework for the management of safety.
Start
Click Start to access the repository of RASG documents.
RASGs are an initiative of the International Civil Aviation Organisation which has headquarters situated in Montreal, Canada. There are 7 regional offices located in Bangkok, Cairo, Dakar, Lima, Mexico City, Nairobi and Paris, as well as 1 regional sub-office in Beijing.
Page last updated: 2015-04-11


ICAO RASGs
Home
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Governance
Outputs
Tools
Meetings
Safety Reports
Dashboards
Governance
RASG | Procedural Handbook | Membership | Organisation | TOR
AFI | EN | EN | EN | EN
APAC | EN | EN | EN | EN
EUR | EN RU | EN | EN RU | EN RU
MID | EN | EN | EN | EN
PA | EN+SP | EN | EN+SP | EN SP
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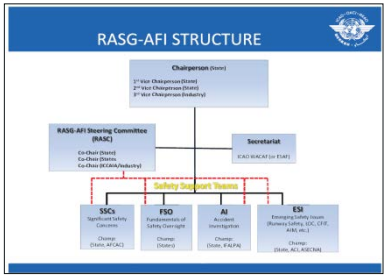
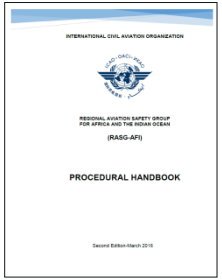
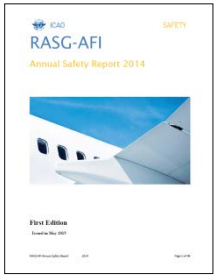
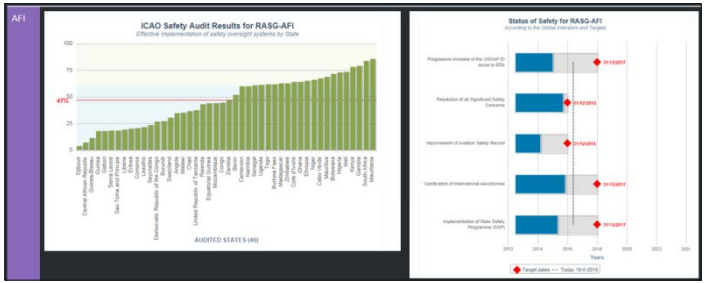

RASG-AFI STRUCTURE
Chairperson
RASG-AFI Steering Committee (RASC)
Secretariat
Safety Support Teams
SSCs
FSO
AI
ESI


INTERNATIONAL CIVIL AVIATION ORGANIZATION
REGIONAL AVIATION SAFETY GROUP FOR AFRICA AND THE INDIAN OCEAN
(RASG-AFI)
PROCEDURAL HANDBOOK
Second Edition-March 2016


ICAO
SAFETY
RASG-AFI
Annual Safety Report 2014
First Edition

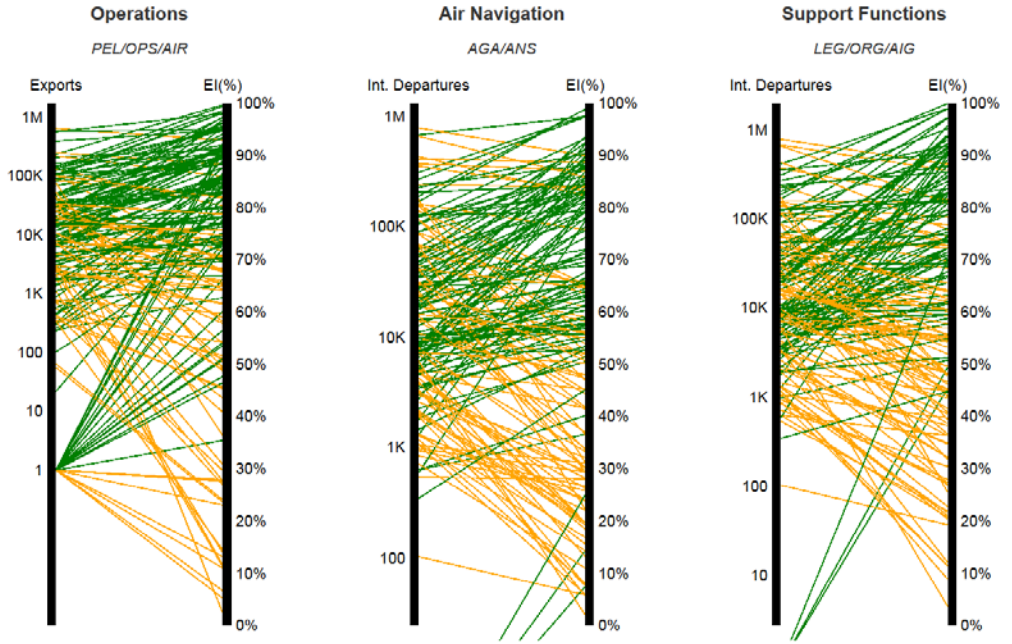

AFI
ICAO Safety Audit Results for RASG-AFI
Effective implementation of safety oversight systems by State
AUDITED STATES (40)
Status of Safety for RASG-AFI

Safe Travels: ICAO's agenda for Safety

WHAT'S NEXT ?

(*Effective Implementation of SARPs*)

Evolution of Analysis: Safety Margins



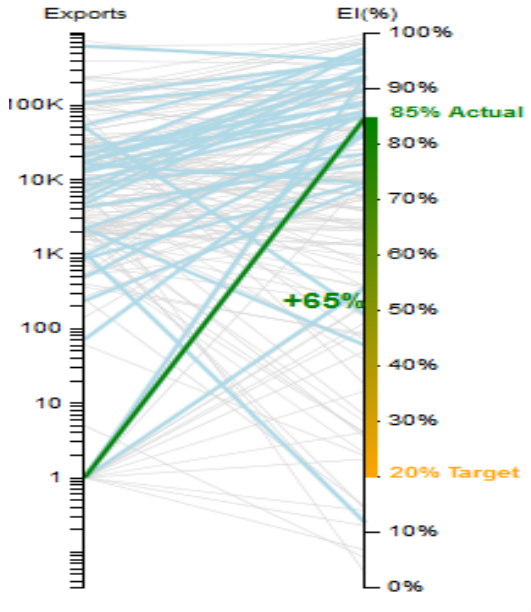
Safety Margin

Risk-based prioritization model based on a State's Traffic and the level of Effective Implementation (EI) in the related technical areas at risk (Operations, Air Navigation, Support Functions)

Operations

PEL/OPS/AIR

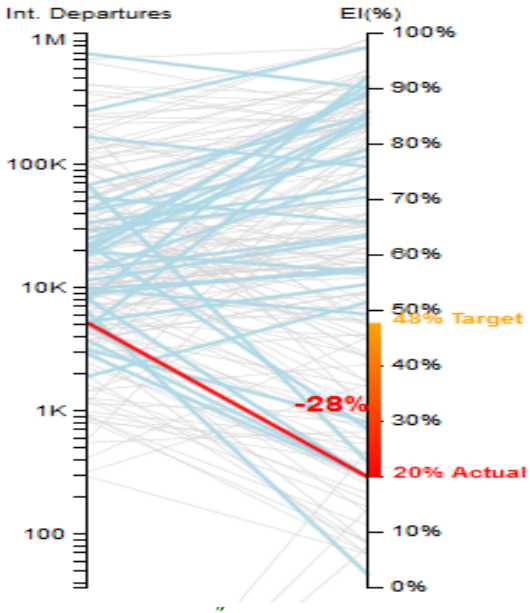
Priority 3



Air Navigation

AGA/ANS

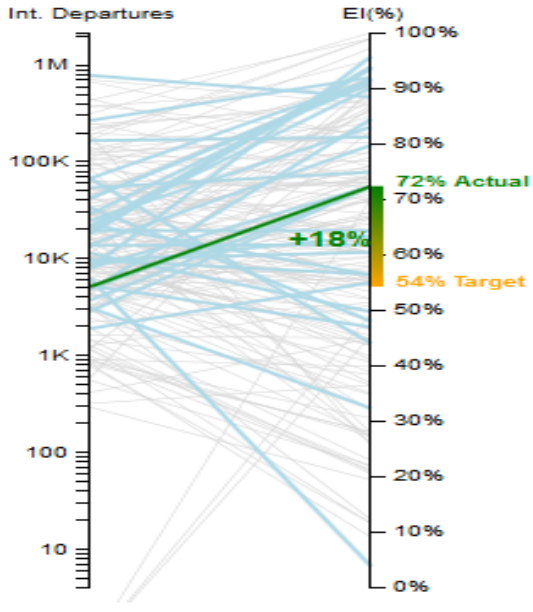
Priority 1



Support Functions

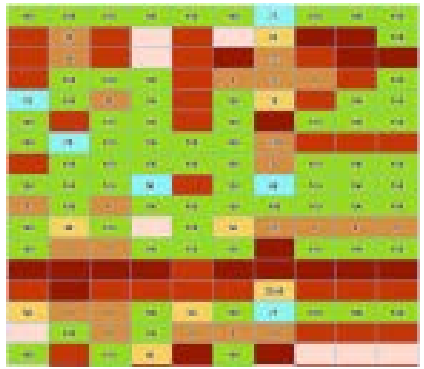
LEG/ORG/AIG

Priority 2



SSP pre-requisites

Identifies pre-requisites to an effective and sustainable SSP implementation



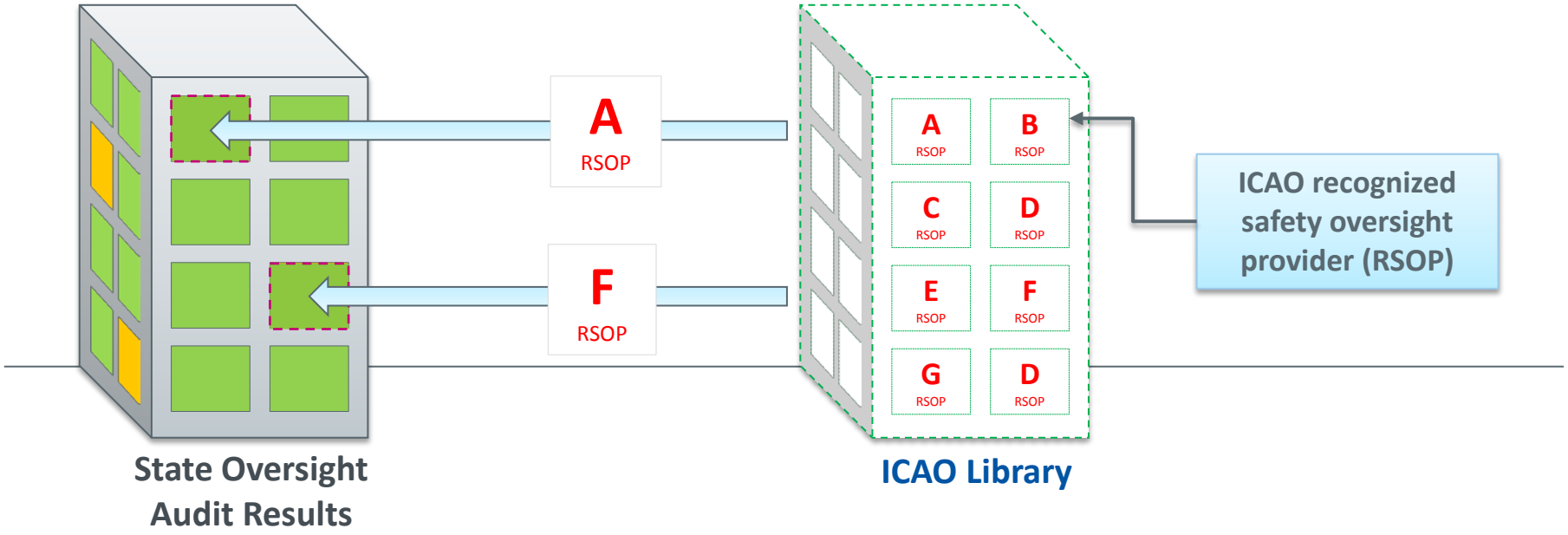
A subset of the approx. 380 USOAP PQs with more granularity than the 60% EI threshold;

Global Aviation Safety Oversight System

(*endorsed during the Global RSOO Forum - Swaziland*)

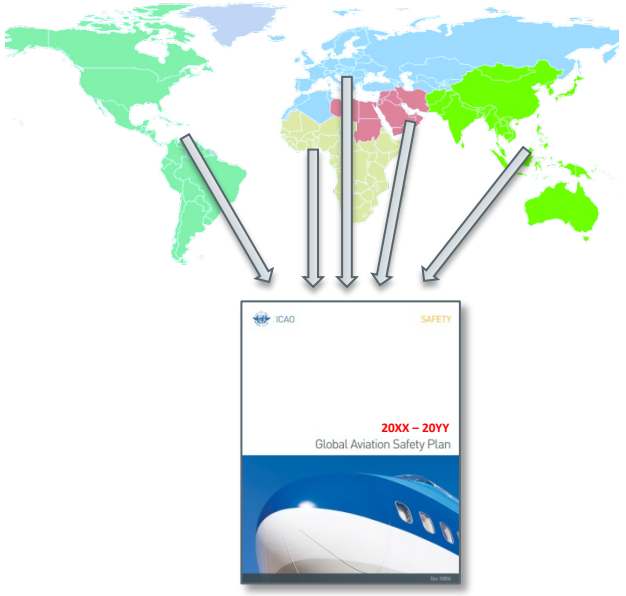
- **Empower and strengthen regional mechanism** (i.e. RSOO, RAIO, etc.) to form the building blocks of a global safety oversight system
- ICAO responsible for **establishing and maintaining an inventory of competent safety oversight providers** and the tasks and functions that they provide
- Regional mechanisms and safety oversight providers to demonstrate competence in the tasks and functions that they provide to a State, in order to qualify as an **ICAO recognized safety oversight provider**

Global Aviation Safety Oversight System (GASOS)



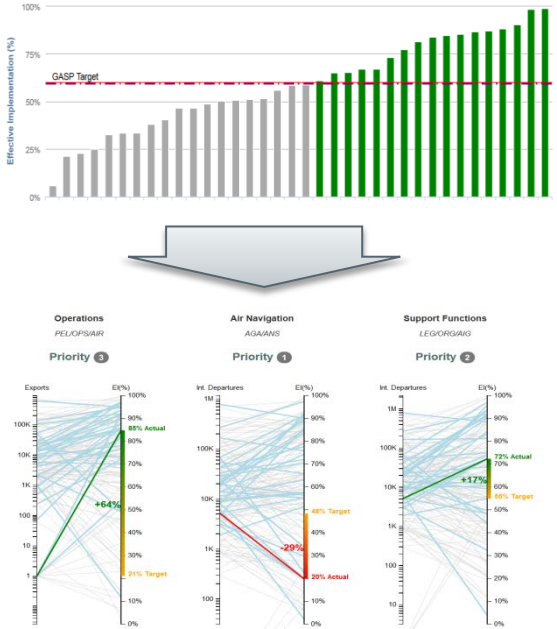
Evolution of RASGs

- RASGs as the **leaders for the management of regional operational risk environment,** as reflected in the Global Aviation Safety Plan (GASP)



Evolution of RASGs

- RASGs as the **leaders for the management of regional operational risk environment**, as reflected in the Global Aviation Safety Plan (GASP)
- RASGs to assist States **in identifying hazards and defining their own specific targets**
  - From 60% EI to an **acceptable Safety Margin** for each State
  - Mapping the risk



Evolution of RASGs

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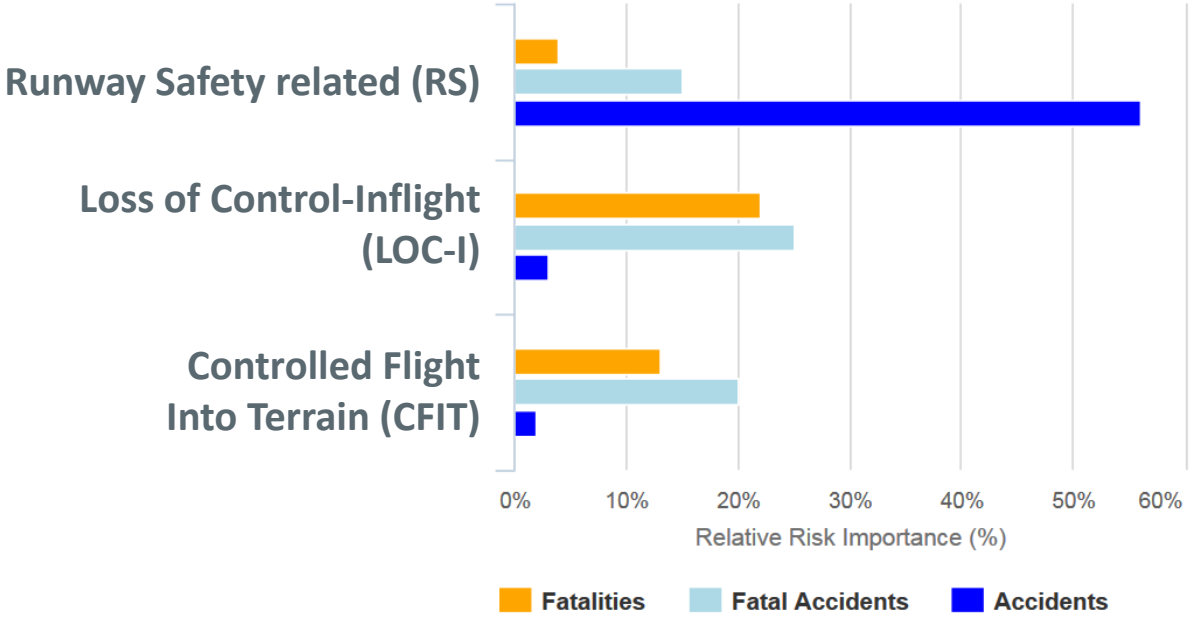
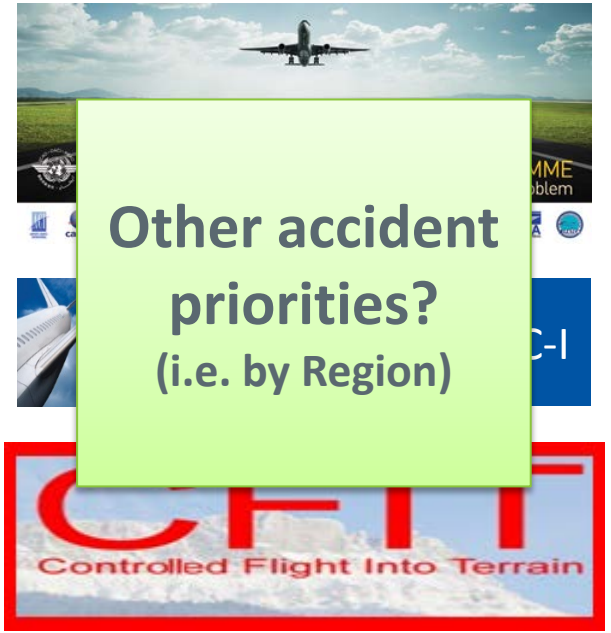
- RASGs to assist States **in identifying hazards and defining their own specific targets**
  - From 60% EI to an **acceptable Safety Margin** for each State
  - Mapping the risk
- RASGs to **harmonize and avoid overlaps**
  - Between States
  - Between RASGs

Risks/barriers to achieve our goal

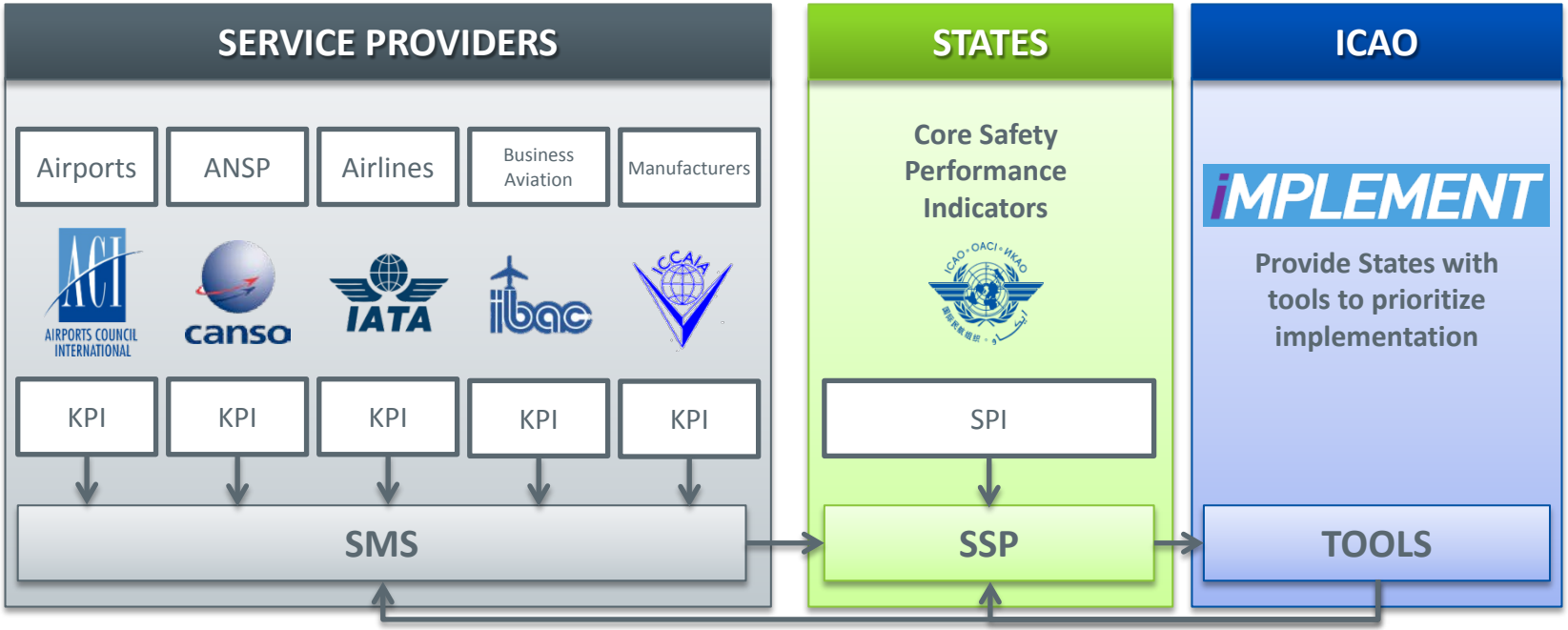
- Effective Implementation of SARPs
- ICAO's Safety priorities: Operational Risks
- Current and emerging issues

Safety Priorities: Operational Risks





Information Sharing and Exchange



Analysis to manage the hazards

ICAO iSTARS 3.0

integrated Safety Trend Analysis and Reporting System

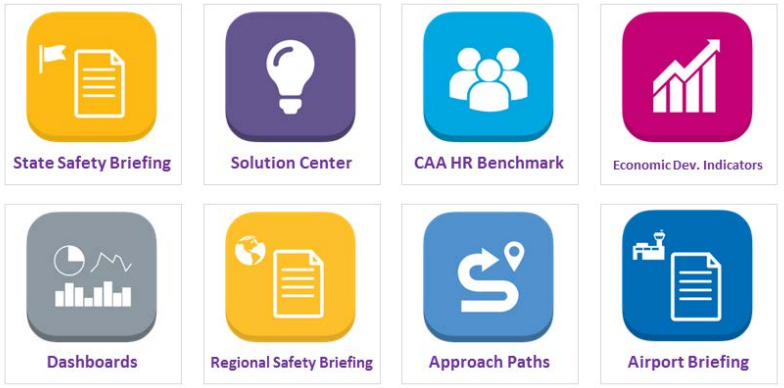
OVER 30

Applications for safety analysis and Information

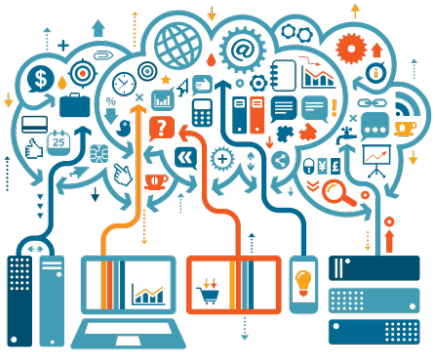
MORE THAN 3000+

Registered users

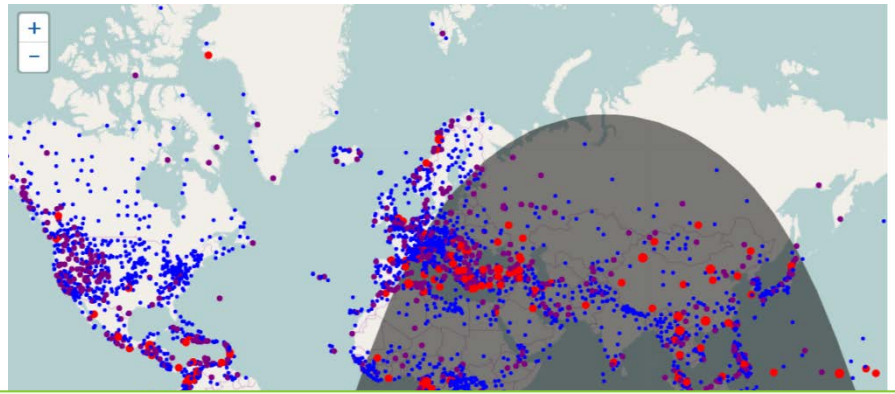
www.icao.int/safety/ISTARS



Risk Mitigation: Managing the Hazards



Airport Hazards (from METARs, NOTAMs, and USOAP)

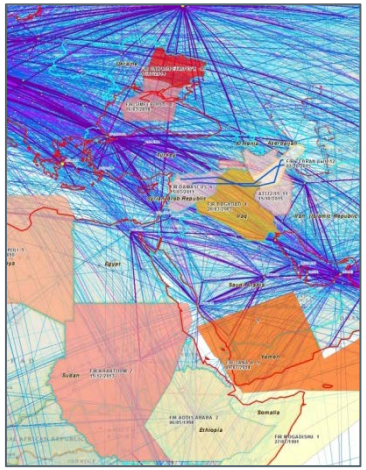


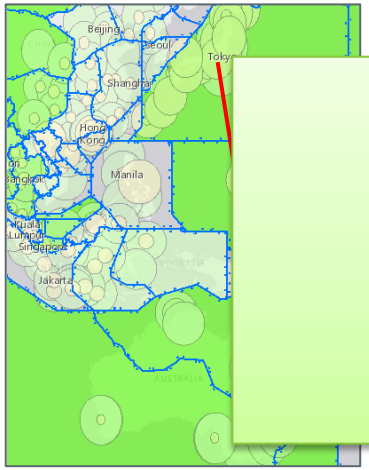
Data driven decision making processes using data from States, Industry, and other stakeholders

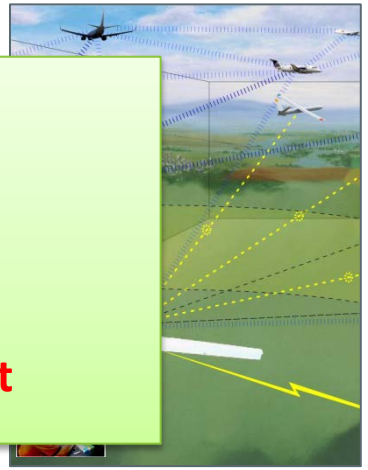
Risks/barriers to achieve our goal

- Effective Implementation of SARPs
- ICAO's Safety priorities: Operational Risks
- Current and emerging issues

Current and Emerging Issues







What next?

Mental Health

GPS interruption

Cargo Safety

Supersonic aircraft

Conflict Zones	Global Tracking	Cyber Safety	RPAS	Space Transportation

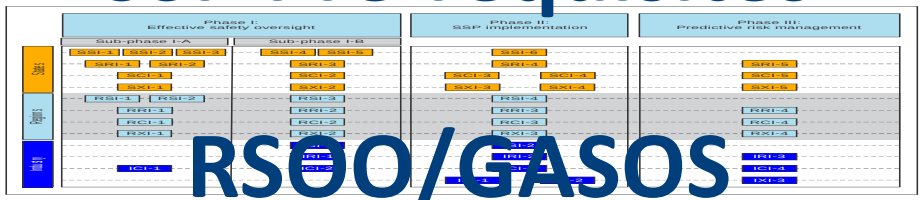
Safe Travels: ICAO's agenda for Safety

SUMMARY

Effective Implementation

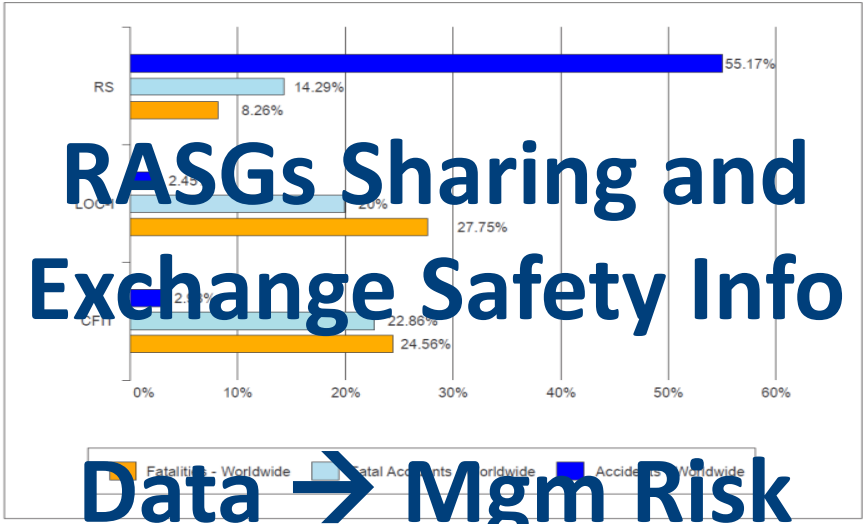
60% → Safety Margin

SSP Pre-requisites



RSOO/GASOS

Safety Priorities

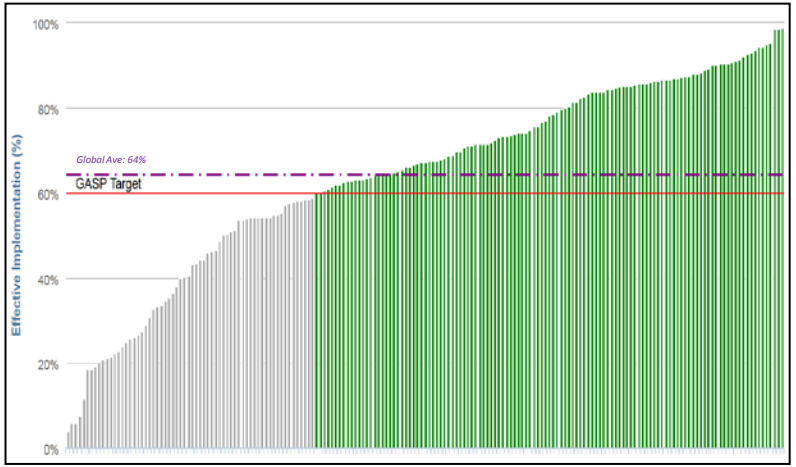


RASGs Sharing and Exchange Safety Info

Data → Mgm Risk

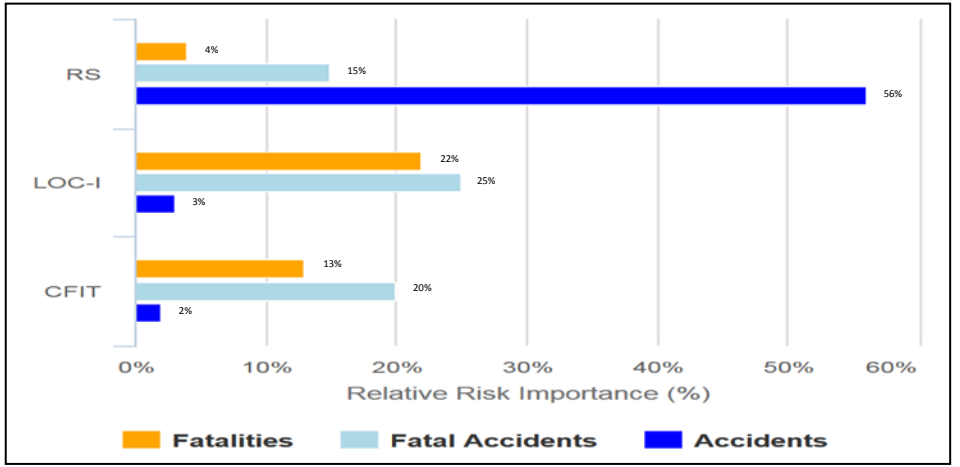
Figure 3-1. High-risk accident categories worldwide (2010–2014)

Effective Implementation



USOAP Audit Results

Operational Risk



Scheduled Commercial flights on airplanes above 5.7t 2012-2016

TARGET 2.1	TARGET 4.1	TARGET 3.1	TARGET 3.2	TARGET 2.2
Safety Margin > 10%	Recognized **RSOO** functions	Sustainable **SSP**	Effective **SSP**	**EI >** 95%
2022	2022	2022	2025	2028

TARGET 1.2	TARGET 5.1	TARGET 4.2	TARGET 4.3	TARGET 5.2	TARGET 1.1
Reduced **Accident rate**	Harmonized KPIs in **SMS**	Safety Risk information to **RASG**	**RASG** Risk Mgmt. Activities	**INDUSTRY** Assessment Programmes	Zero **Fatal** Accidents
Yearly	2020	2022	2022	2022	2030

Effective Implementation

Operational Risk

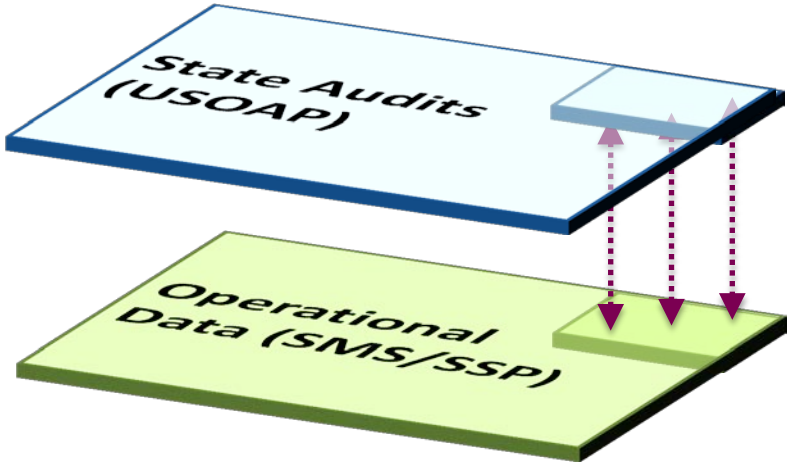
TARGET 2.1	TARGET 4.1	TARGET 3.1	TARGET 3.2	TARGET 2.2
All States to reach a positive safety margin of at least 10%, in all areas	States that need support in areas with negative safety margins, to use recognized RSOO functions	All States to implement a Sustainable SSP	All States to implement an Effective SSP, as appropriate to their aviation system complexity	All States to obtain a score of 95% effective implementation of the eight critical elements of a safety oversight appropriate
Safety Margin > 10%	Recognized **RSOO** functions	Sustainable **SSP**	Effective **SSP**	**EI >** 95%
2022	2022	2022	2025	2028

TARGET 1.2	TARGET 5.1	TARGET 4.2	TARGET 4.3	TARGET 5.2	TARGET 1.1
Maintain an annual decreasing trend of global accident rate	All Service Providers to use globally harmonized indicators, as part of their SMS	All States to contribute information on safety risks, including SSP SPIs, to their respective RASGs	All States with a safety margin of at least 10%, and an Effective SSP, to actively engage in RASGs' safety risk activities	Increase the number of Service Providers participating in the corresponding industry assessment programmes by ICAO	Achieve a consecutive 3-years period without fatal accidents
Reduced **Accident rate**	Harmonized KPIs in **SMS**	Safety Risk information to **RASG**	**RASG** Risk Mgmt. Activities	**INDUSTRY** Assessment Programmes	Zero **Fatal** Accidents
Yearly	2020	2022	2022	2022	2030

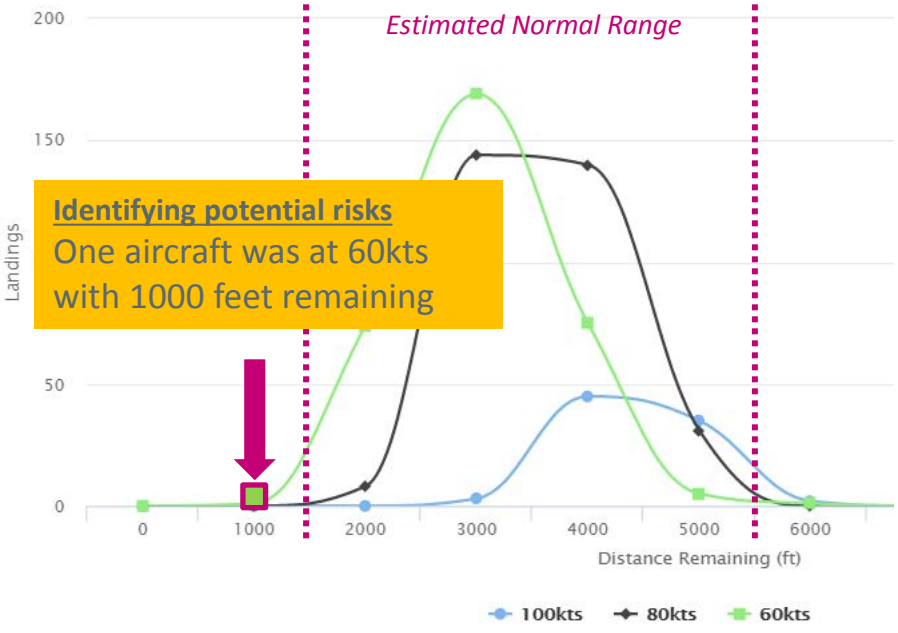
Real-Time Monitoring Aviation's Health

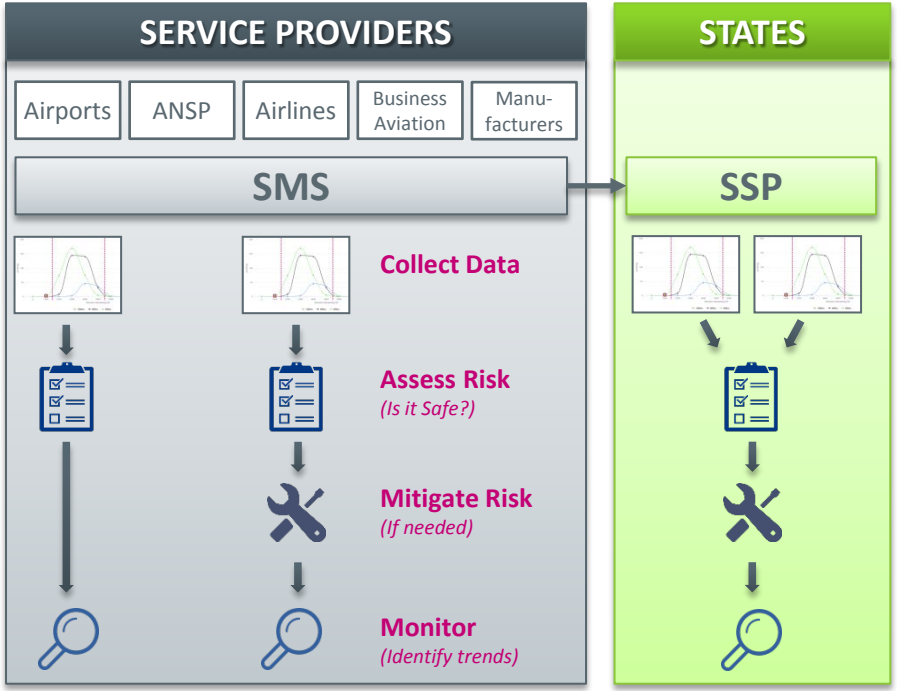
Combining State audits with State/Industry operational data

- Through SMS and SSP
- Protection of information/operational data through Amendment 1 to Annex 19



Real-Time Monitoring Aviation's Health





Our
Aspirational
Safety Goal

UPCOMING EVENTS

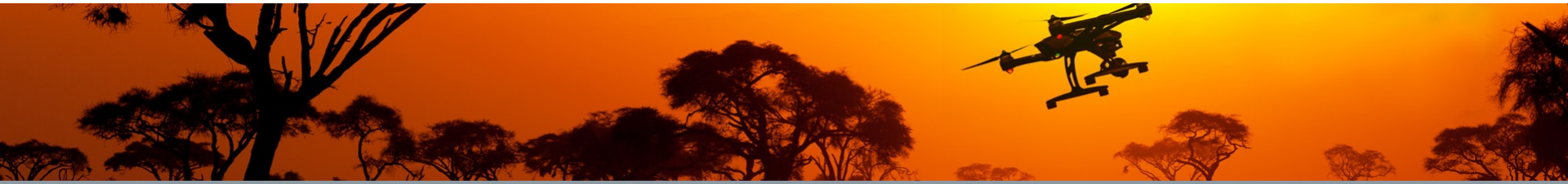
Next Council Off-site Strategy Meeting

- Continuing the theme of ‘No Country Left Behind’
- **Date**: September 2017
- **Topic**: *Improving the implementation of Global Plans*
- **3rd IWAF** to be held in Africa, with the theme “*Financing the Aviation Infrastructure*”

RPAS Symposium for AFI Region

17-18 July, Abuja, Nigeria

- A forum for participants to exchange ideas and implementation experiences and contribute to the future of RPAS and UAS in Africa.
- The symposia will provide an important information-sharing opportunity for regulators, service providers, operational personnel and all aviation professionals involved in RPAS or UAS activities.
- Followed by a WACAF regional RPAS workshop 19-21 July.



Safety Management Regional Symposia

4 Regional Symposia, starting from Q3 2017

- A forum for participants to **exchange ideas** and **implementation experiences** and contribute to the future of safety management.
- The symposia will provide an important information-sharing opportunity for **regulators, service providers, operational personnel and all aviation professionals involved in safety-management activities**.
- To include a **workshop** with **hands-on exercises**
- **Dates**:
  - **APAC and MID Regions**: Hosted by **Singapore** / **12-15 September 2017**
  - **EUR/NAT Region**: Hosted by the EC and Estonian Presidency of the EU, **Tallinn** / **16-18 October 2017**
  - **NACC and SAM Regions: 2018** (exact dates and location to be confirmed)
  - **ESAF and WACAF Regions: 2018** (exact dates and location to be confirmed)

Sustainability and enhancement of safety and air navigation system performance

- **Two back-to-back symposiums from 11 – 15 December 2017 in Montréal, Canada**
  - 2nd **Global Air Navigation Industry Symposium (GANIS)** to discuss issues and chart next steps to achieve a seamless global aviation system
  - 1st **Safety and Air Navigation Implementation Symposium (SANIS)** to offer a performance-based implementation methodology including the first **Global RASG/PIRG Forum**
- **Includes an Industry exhibition of current and emerging technologies**
  - Showcase solutions which will provide a snapshot of the global air navigation industry
  - Provide insight on how all stakeholders can work together to address technical, operational, regulatory and economic challenges
- **A crucial networking and knowledge-sharing opportunity**
  - Presentations from ICAO, international and regional organizations, standards-making organizations and leading industry stakeholders
- **Will lay the foundation for the 13th AN-Conference in 2018**

MONTRÉAL
(HEADQUARTERS)
PARIS
(EUROPEAN AND
NORTH ATLANTIC)
BEIJING
(ASIA-PACIFIC
SUB-OFFICE)
CAIRO
(MIDDLE EAST)
MEXICO CITY
(NORTH AMERICA AND CARIBBEAN)
DAKAR
(WESTERN AFRICA)
BANGKOK
(ASIA-PACIFIC)
NAIROBI
(EASTERN AFRICA)
LIMA
(SOUTH AMERICA)
ICAO

THANK YOU!