SAFE TRAVELS

Committed to leave no one behind

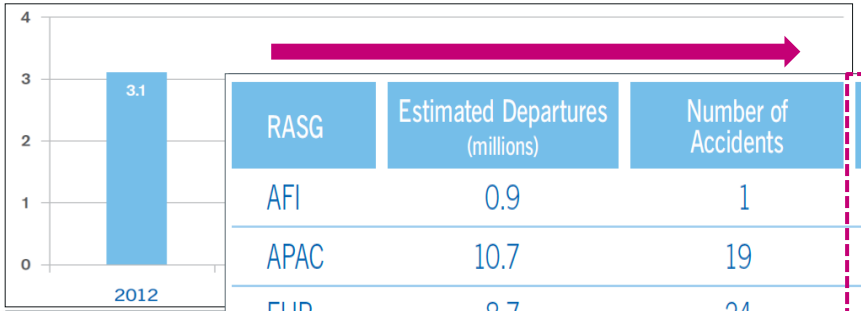
ICAO's Agenda for SAFETY

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

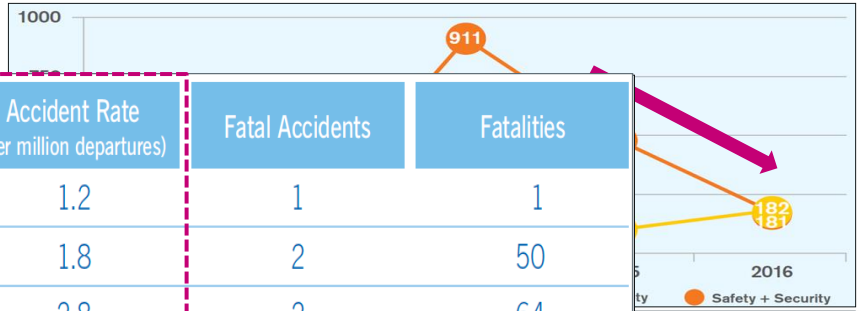
Claude Hurley
1st Vice-President
ICAO Air Navigation Commission

Our
Aspirational
Safety Goal

STATE OF AVIATION SAFETY



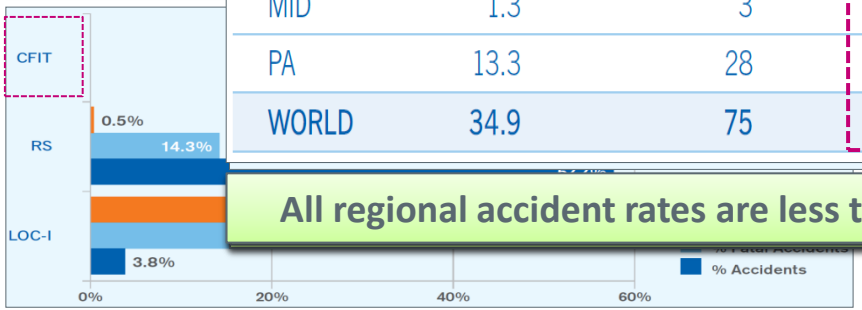
Accident rat



red in 2015 & 2016

RASG	Estimated Departures (millions)	Number of Accidents	Accident Rate (per million departures)	Fatal Accidents	Fatalities
AFI	0.9	1	1.2	1	1
APAC	10.7	19	1.8	2	50
EUR	8.7	24	2.8	2	64
MID	1.3	3	2.3	2	67
PA	13.3	28	2.1	0	0
WORLD	34.9	75	2.1	7	182

All regional accident rates are less than double the Global Accident Rate



No CFIT accidents in 2015 and 2016

					cidents
					1
					2
					2
					2
					0
WORLD	34.9	75	2.1	7	182

Fatalities: 1, 50, 64, 67, 0, 182

All regional accident rates are less than double the Global Accident Rate

*Source: **2017 Safety Report** (https://www.icao.int/safety/Pages/Safety-Report.aspx)*

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 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

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

ZERO fatalities

Regional Accident

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**

ent Statistics: **2016**

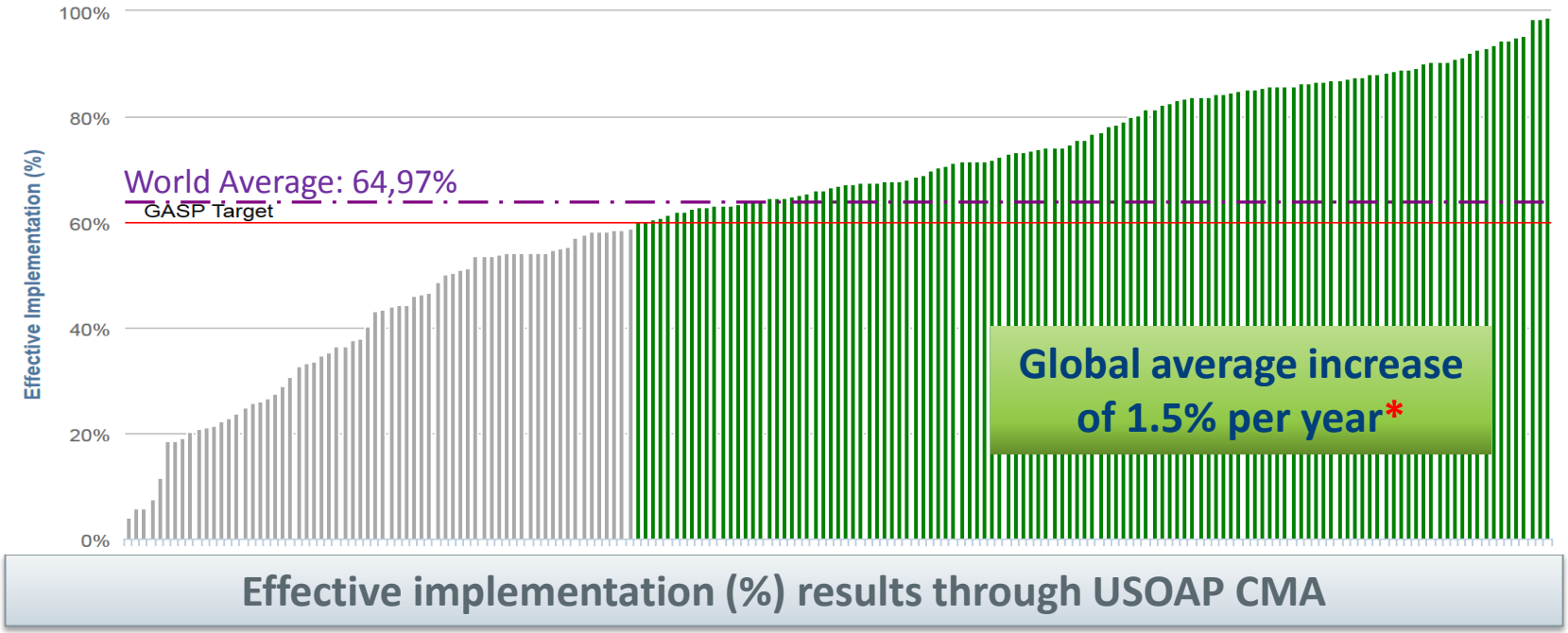
			Accident Rate (per million departures)	Fatal Accidents	Fatalities
			1.2	1	1
APAC	10.7	19	1.8	2	50
EUR	8.7	24	2.8	2	64
MID	1.3	3	2.3	2	67
PA	13.3	28	2.1	0	0
WORLD	34.9	75	2.1	7	182

Air traffic is predicted to
double in the next 15 years
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)*

Safe Travels: ICAO's agenda for Safety

WHAT WE HAVE TODAY

(*Aiming for Effective Implementation of SARPs*)

How we develop Standards and Recommended Practices

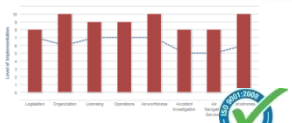
and work towards its effective implementation

Needs Analysis / Validation

Global Plans

Global & Regional

Compliance & Verification



if needed

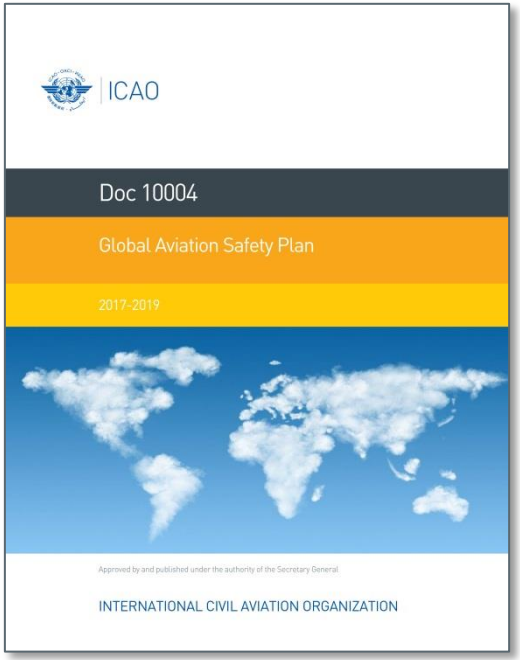
Assess & Measure

SARPs & PANS

Implementation Planning

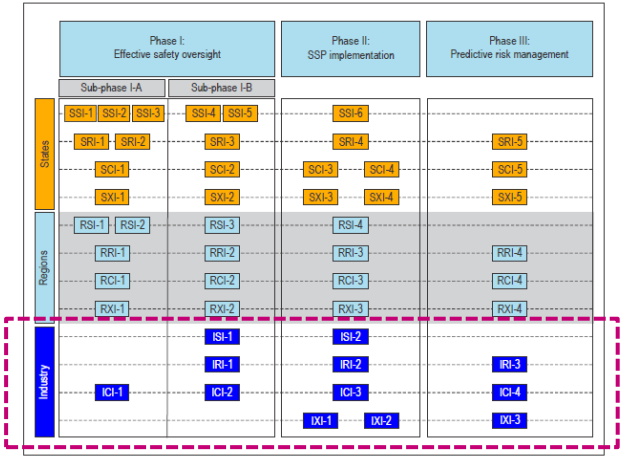
Training & Guidance

Contents of the 2017-2019 GASP



Effective safety oversight	SSP implementation	Predictive risk management
RASGs and other fora: mechanisms for sharing of safety information	RASGs: mature regional monitoring and safety management programmes	All States: implement advanced safety oversight systems, including predictive risk management
States with EI > 60%: SSP implementation	All States: SSP implementation	
All States: achieve 60% EI of CEs		
2017 (near term)	2022 (mid term)	2028 (long term)

GASP objectives and associated timelines



Global aviation safety roadmap diagram

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

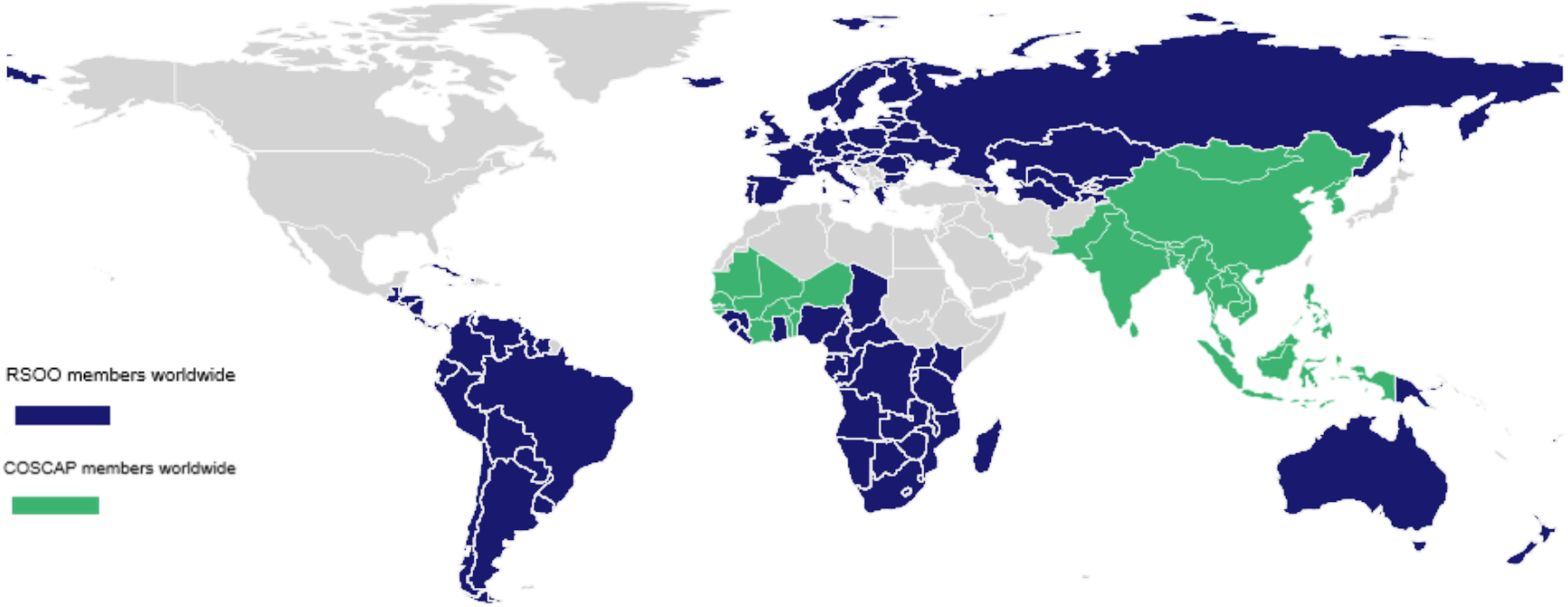
Safety Management Assessment Tools

SSP Foundation Tool

now available on iSTARS

- The SSP Foundation Tool **complements the SSP Gap Analysis** and supports the establishment of a **solid safety oversight foundation** for SSP implementation
- A sub-set of 311 PQs (out of 1,099 total USOAP CMA PQs) have been linked to the foundation of an SSP. These PQs are grouped into **17 subject areas**. One of the subject areas is ***"Delegation".***
- The tool can help States identify weaknesses in their safety oversight system even if they have an EI > 60%.
- States should prioritize and ensure these PQs are addressed when developing their SSP implementation plan.

RSOOs (including COSCAPs)

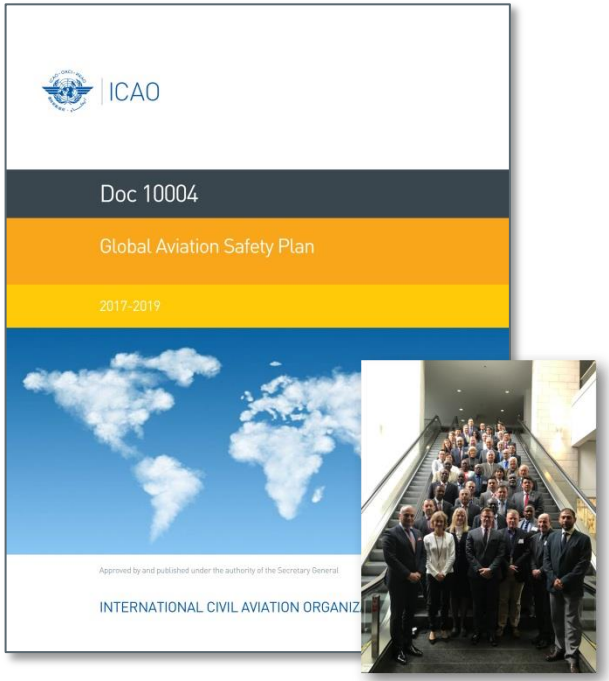


Safe Travels: ICAO's agenda for Safety

WHAT'S NEXT ?

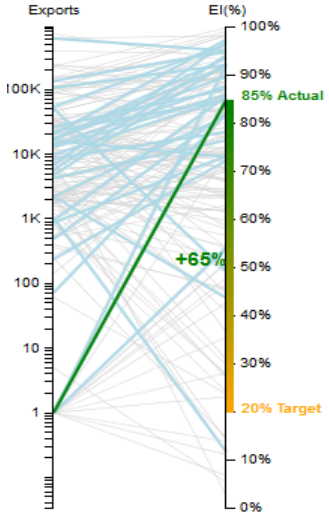
Proposals for Enhancement of GASP

- Global Aviation Safety *programme*
- Establishment of GASP-SG
- Focus on implementation support

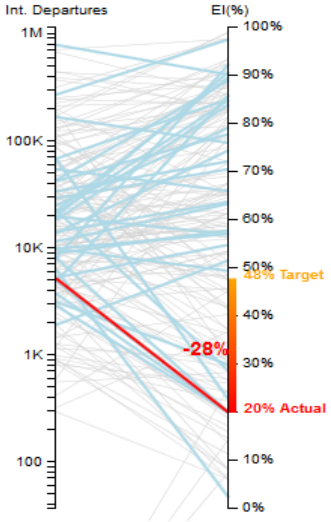


Evolution of Analysis: Safety Margins

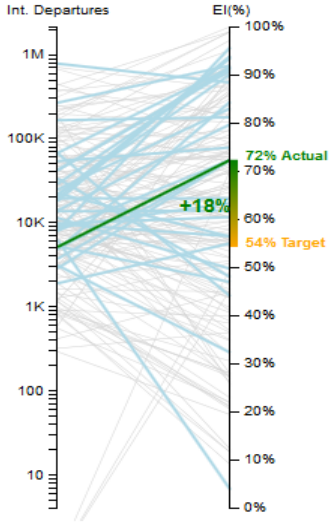
Operations
PEL/OPS/AIR
Priority 3



Air Navigation
AGA/ANS
Priority 1



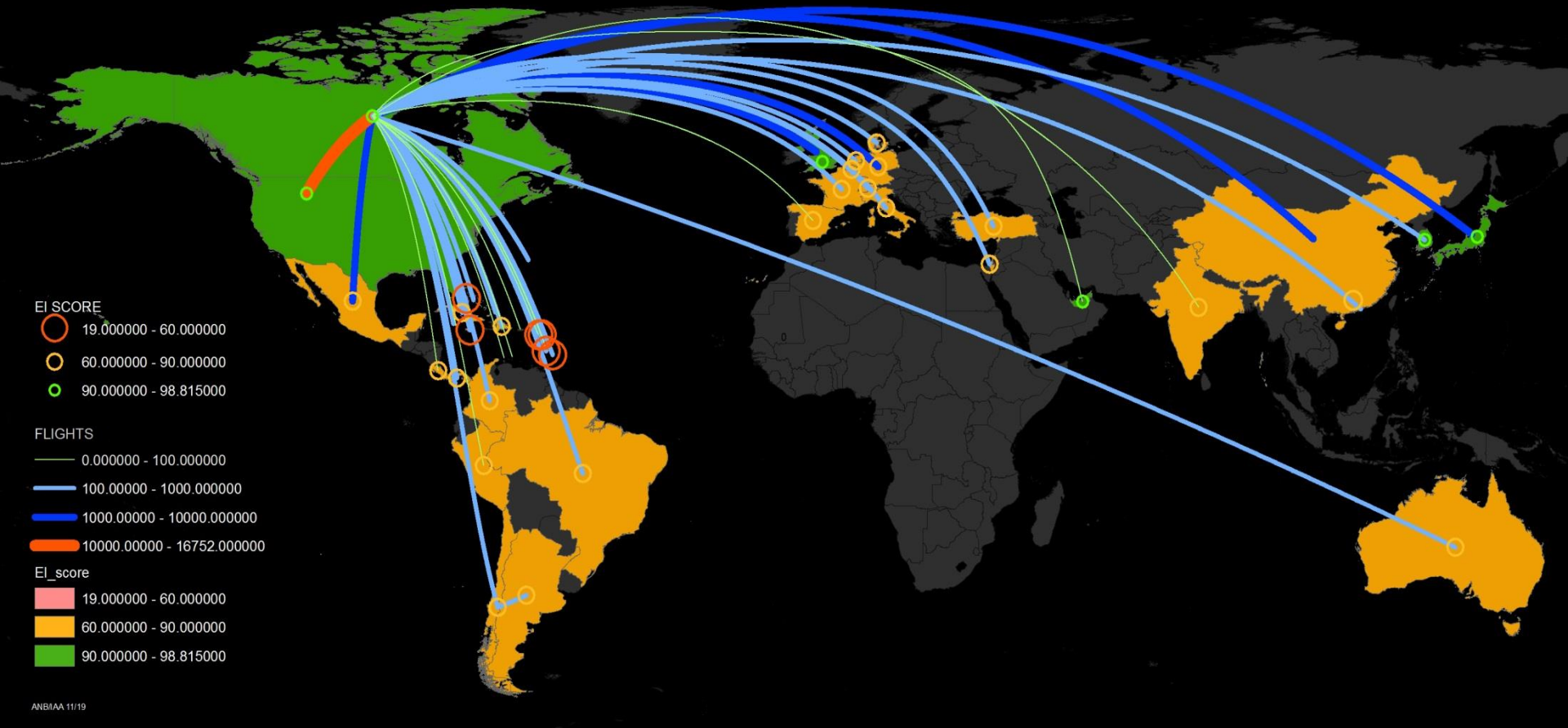
Support Functions
LEG/ORG/AIG
Priority 2



Safety Margin

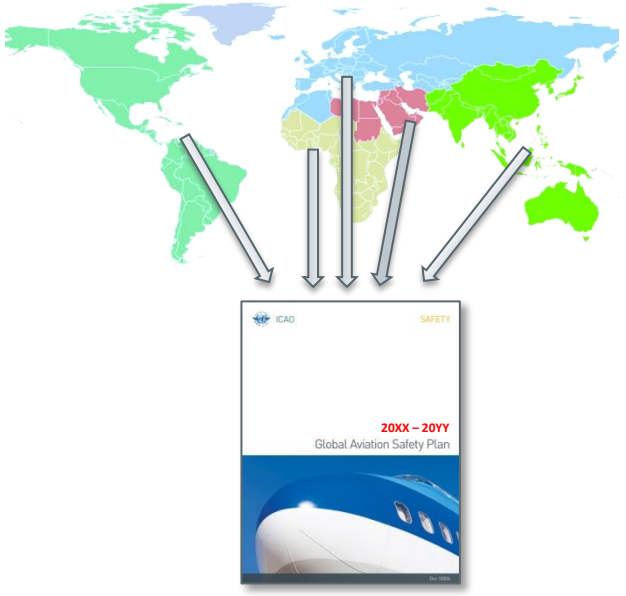
Risk-based prioritization model based on a State's Traffic and the level of Effective Implementation (EI) in the related technical areas at risk (Operations, Air Navigation, Support Functions)

Evolution of Analysis and Recognized Safety Oversight Providers



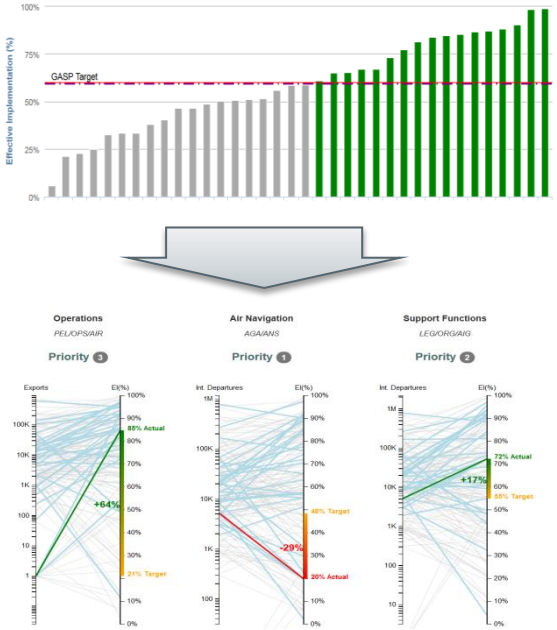
Evolution of RASGs

- 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



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- RASGs to assist States **in identifying hazards and defining their own specific targets**
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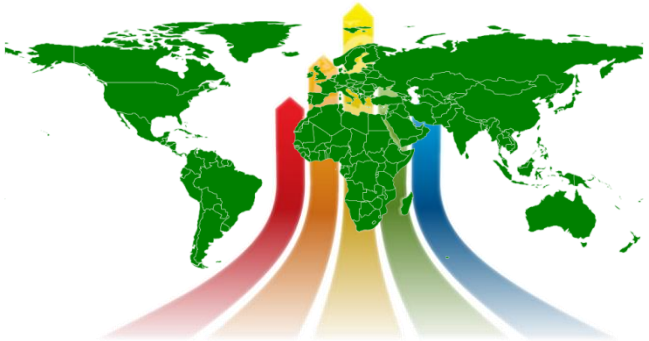
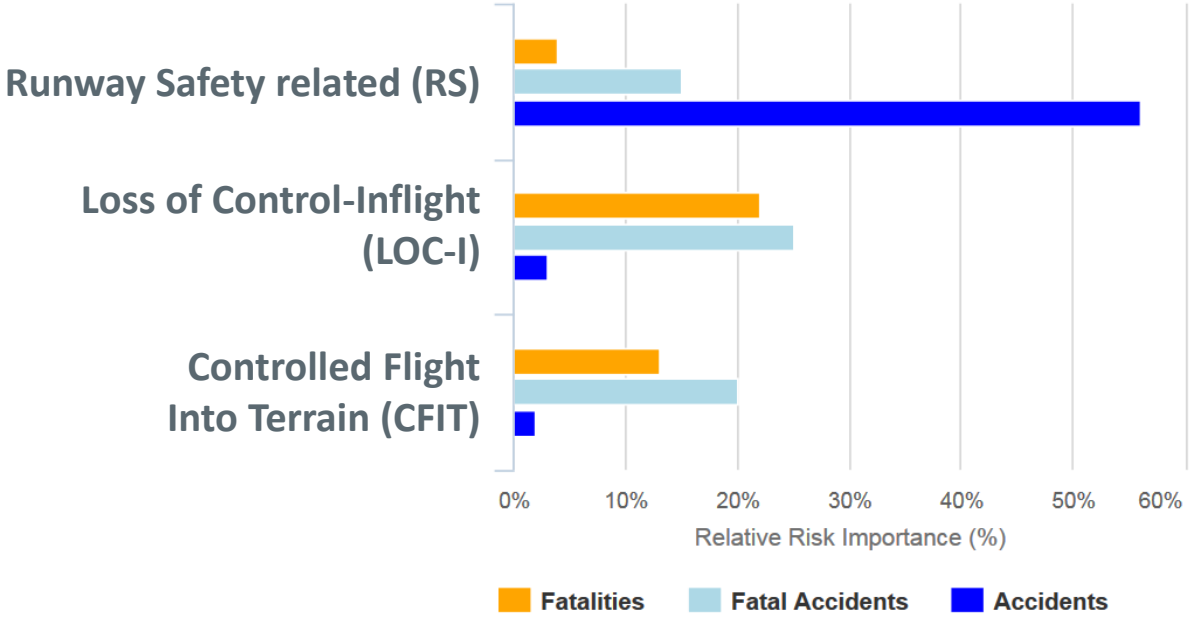
  - Mapping the risk
- RASGs to **harmonize and avoid overlaps**
  - Between States
  - Between RASGs

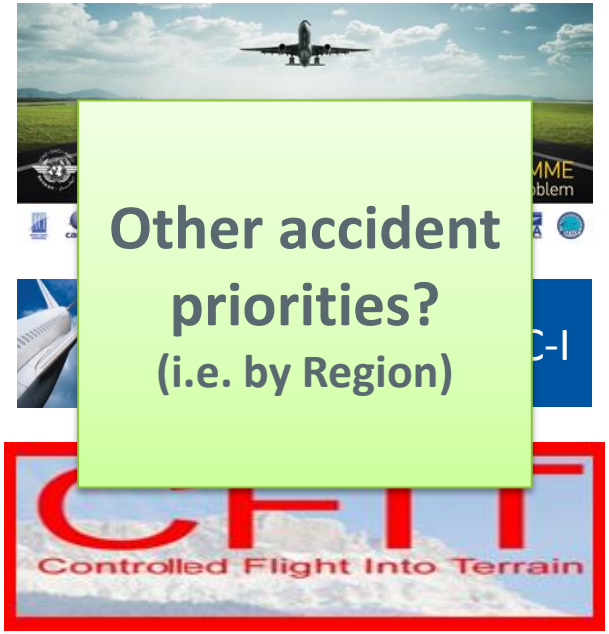


Risks/barriers to achieve our goal

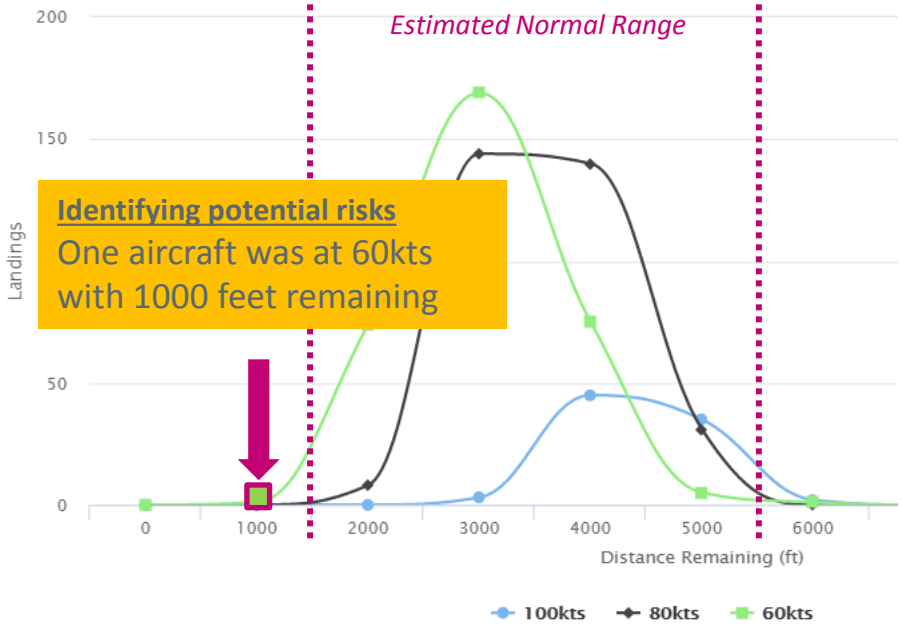
- Effective Implementation of SARPs
- ICAO's Safety priorities: Operational Risks
- Current and emerging issues

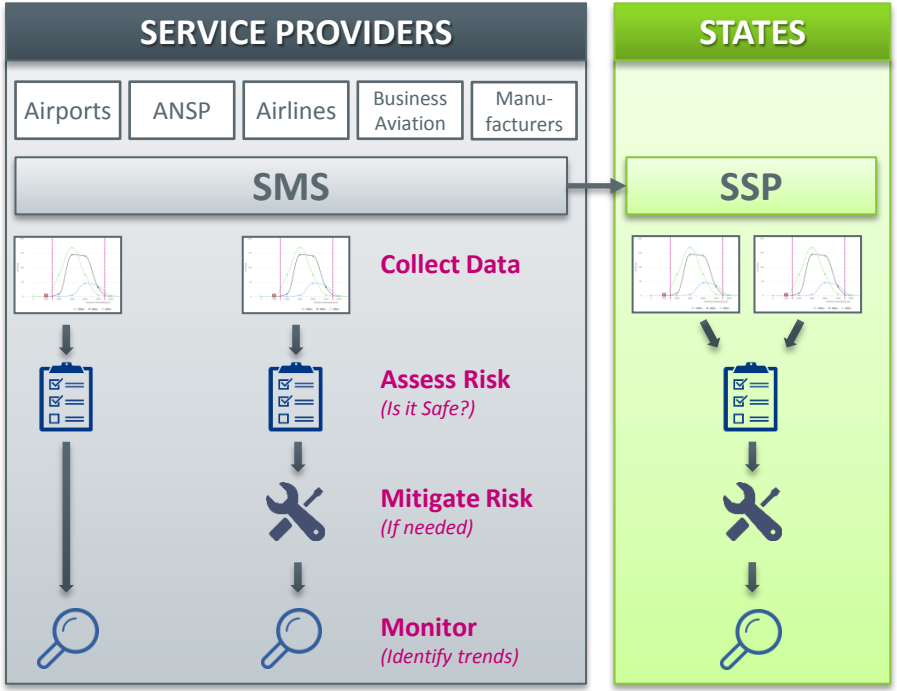
Safety Priorities: Operational Risks



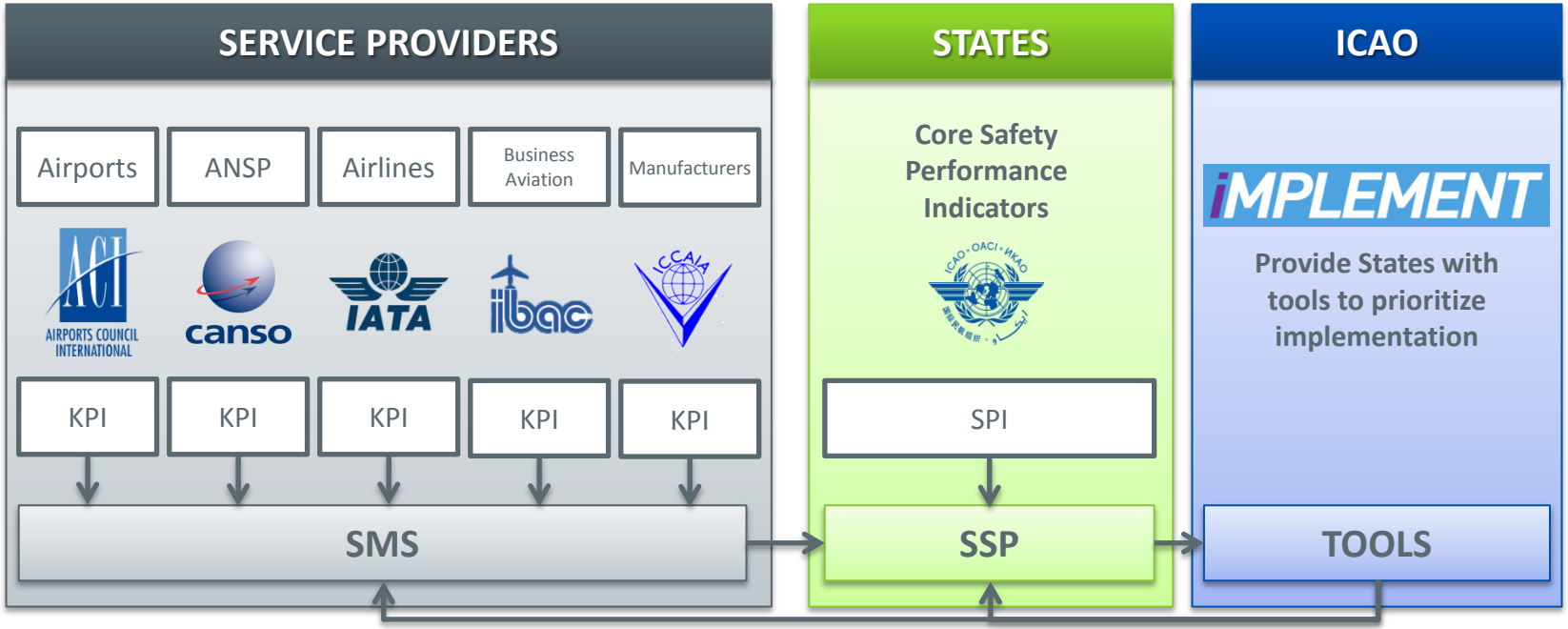


Real-Time Monitoring Aviation's Health





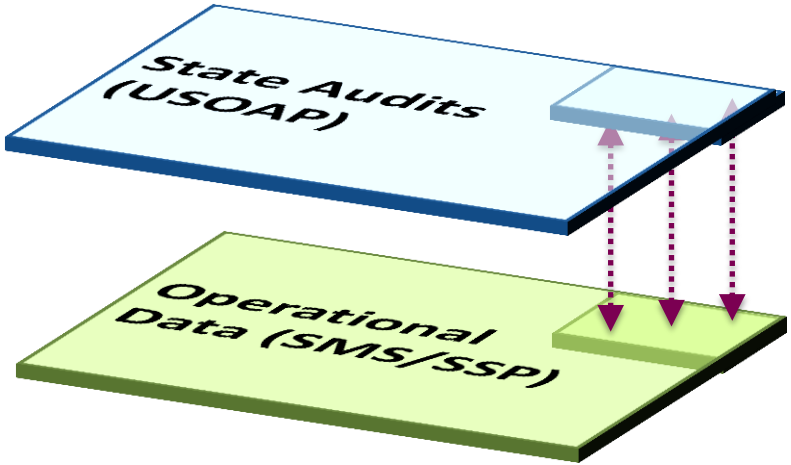
Information Sharing and Exchange



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



Analysis to manage the hazards

ICAO iSTARS 3.0

integrated Safety Trend Analysis and Reporting System

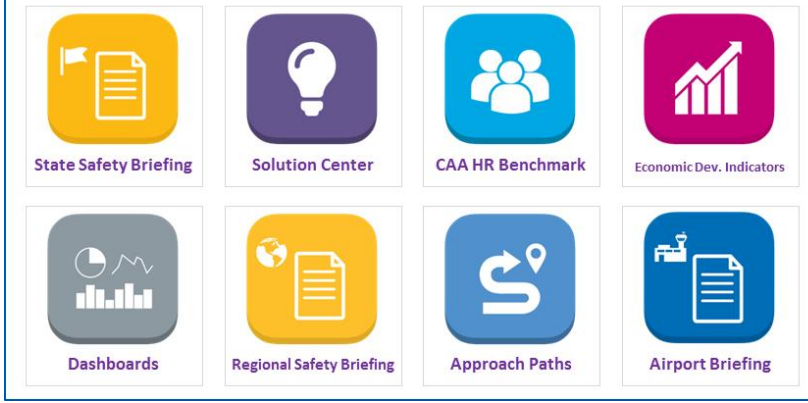
OVER 30

Applications for safety analysis and Information

MORE THAN 3000+

Registered users

www.icao.int/safety/ISTARS



Risks/barriers to achieve our goal

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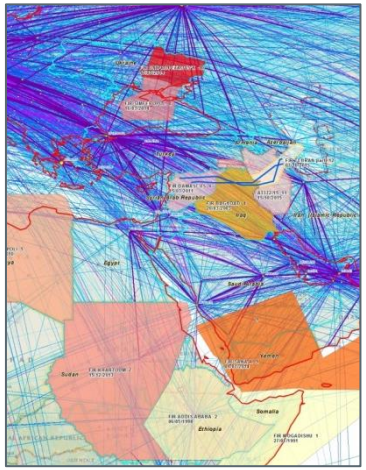
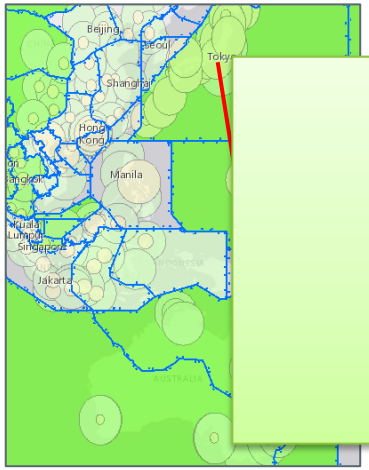
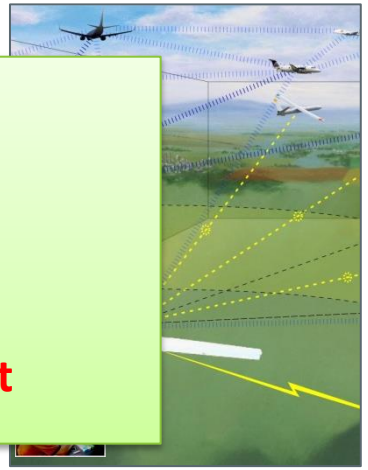
Current and Emerging Issues







What next?

Mental Health

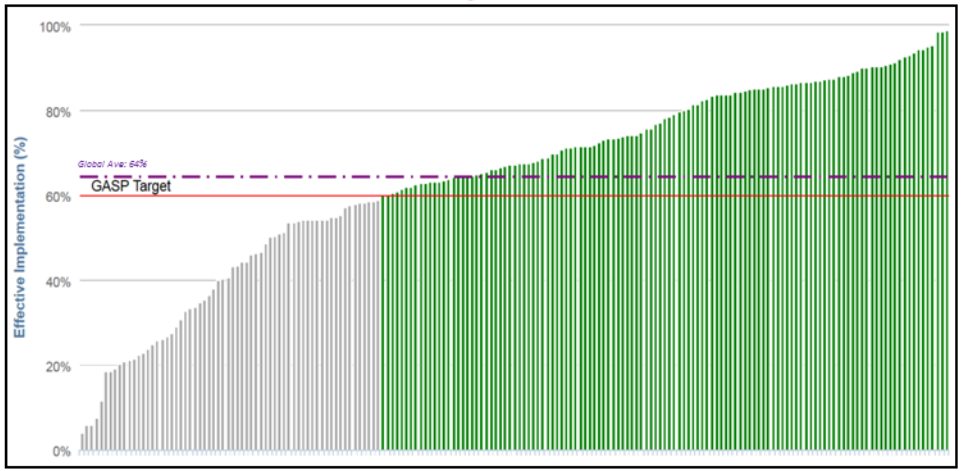
GPS interruption

Cargo Safety

Supersonic aircraft

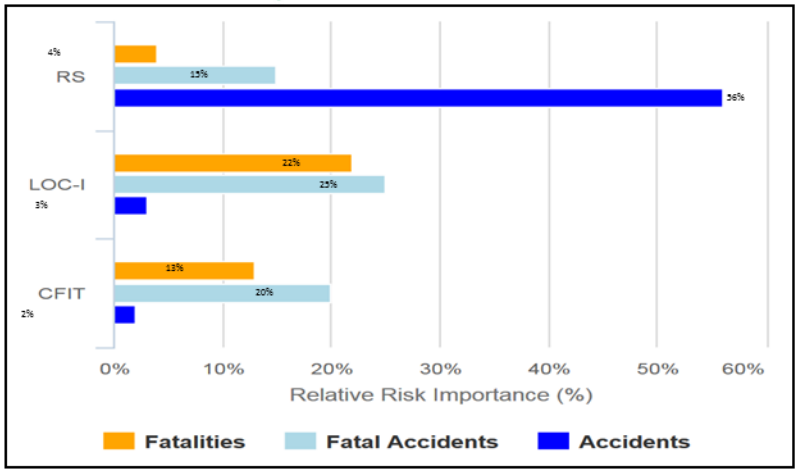
Conflict Zones | Global Tracking | Cyber Safety | RPAS | Space Transportation

Effective Implementation



USOAP Audit Results

Operational Risks



Scheduled Commercial flights on airplanes above 5.7t 2012-2016

TARGET 4.1	TARGET 2.1	TARGET 2.2	TARGET 6.1	TARGET 3.1	TARGET 3.2
ICAO **Recognized** functions	Implement **Safety Oversight**	Positive **Safety Margin**	Appropriate **Infra-structure**	Sustainable **SSP**	Effective **SSP**
2020	2022	2022	2022	2023	2025

TARGET 1.1	TARGET 5.2	TARGET 4.2	TARGET 4.3	TARGET 5.1
Reduced **Accident rate**	Harmonized KPIs in **SMS**	Safety risk information to **RASG**	**RASG** Risk mgmt. activities	**INDUSTRY** assessment programmes
Yearly	2020	2022	2022	2022

Effective Implementation

Operational Risks

TARGET 4.1	TARGET 2.1	TARGET 2.2	TARGET 6.1	TARGET 3.1	TARGET 3.2	TARGET 1.1	TARGET 5.2	TARGET 4.2	TARGET 4.3	TARGET 5.1
States that need support in areas with safety margins below zero, to use a RSOO's or another State's ICAO functions	All States to fully implement the core elements of a safety oversight system	All States to reach a positive safety margin, in all categories	All States to implement the air navigation and airport core infrastructure	All States to implement the foundation of a State safety programme (SSP)	All States to implement an Effective SSP, as appropriate to their aviation system complexity	Maintain a decreasing trend of global accident rate	All service providers to use globally harmonized SPIs, as part of their safety management systems (SMS)	All States to contribute information on safety risks, including SSP safety performance indicators (SPIs), to their respective Regional (RASGs)	All States with a positive safety margin, and an Effective SSP, to actively engage in RASGs' management	Increase the number of service providers participating in the corresponding, ICAO-recognized industry programmes
ICAO **Recognized** functions	Implement **Safety Oversight**	Positive **Safety Margin**	Appropriate **Infra-structure**	Sustainable **SSP**	Effective **SSP**	Reduced **Accident rate**	Harmonized KPIs in **SMS**	Safety risk information to **RASG**	**RASG** Risk mgmt. activities	**INDUSTRY** assessment programmes
2020	2022	2022	2022	2023	2025	Yearly	2020	2022	2022	2022

Our Aspirational **Safety** Goal

SAFE TRAVELS !!!

Passengers First !!!

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!