



ICAO

UNITING AVIATION

NO COUNTRY LEFT BEHIND



Global Aviation Safety and Air Navigation Update

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Global Aviation Safety
and Air Navigation Update

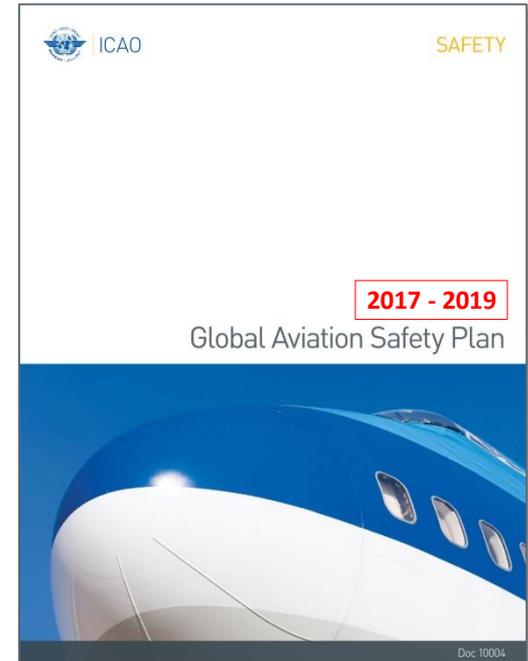
GLOBAL PLANS





Endorsed: Global Aviation Safety Plan (GASP)

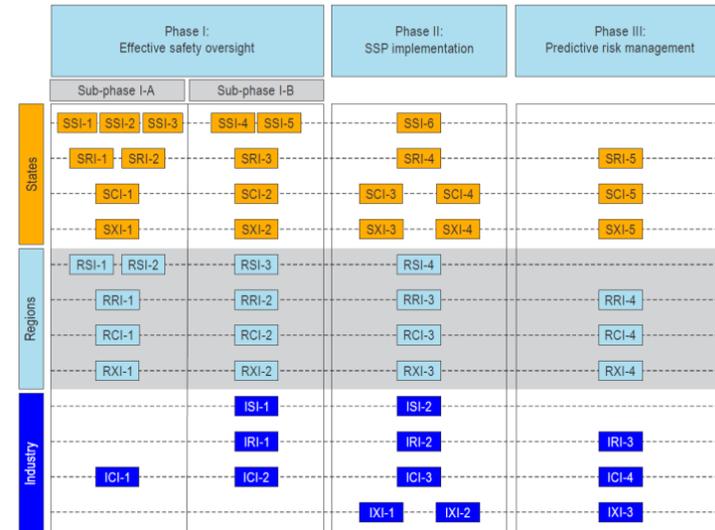
- **2017-2019 Edition**
 - **Maintains** the framework, objectives and safety performance enablers of the 2014-2016 edition
 - New **global aviation safety roadmap** ensures that safety initiatives deliver the intended benefits associated with the GASP objectives through enhanced coordination
 - Reducing inconsistencies and duplication of efforts
- **Cooperative, collaborative, and coordinated approach**
 - Together with all stakeholders and under the leadership of ICAO, the GASP offers a long-term vision in developing a harmonized safety strategy.





New GASP 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





Safety Performance Indicators

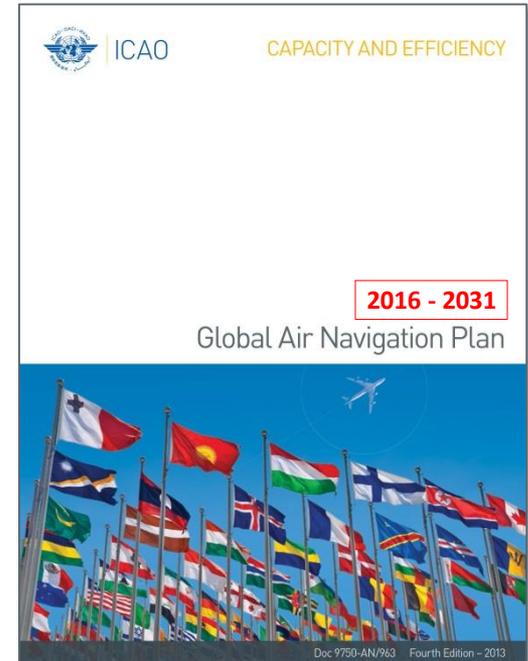
- New appendix in the GASP
- Provides guidance regarding safety and level of activity indicators
- First step towards the development and implementation of harmonized global indicators
 - Can be adapted at the regional, sub-regional, and national levels

#	Indicators and metrics	Type	Usage
1.	Effective implementation of State safety oversight system <i>Metrics:</i> <ul style="list-style-type: none"> • USOAP EI Scores overall • USOAP EI Scores by technical area • USOAP EI Scores by critical element 	Predictive	Target
2.	Progress in SSP Implementation <i>Metrics:</i> <ul style="list-style-type: none"> • Percentage of completed gap analysis questions • Percentage of implemented gap analysis questions overall • Percentage of implemented gap analysis questions by element 	Predictive	Target
3.	Progress in SMS implementation <i>Metrics:</i> <ul style="list-style-type: none"> • Percentage of completed gap analysis questions by operator • Percentage of implemented gap analysis questions overall by operator • Percentage of implemented gap analysis questions by element and by operator 	Predictive	Target
4.	Frequency and severity of accidents and incidents <i>Metrics:</i> <ul style="list-style-type: none"> • Number and distribution of occurrences by severity level (accident, serious incidents, etc.) and the ICAO Accident/Incident Data Reporting System (ADREP) occurrence category • Number and distribution of fatalities by ADREP occurrence category • Occurrence per number of departures (rate) <p><i>Note — Occurrences should be limited to specific categories of aircraft and operations, such as aircraft above 5 700 kg operating scheduled commercial flights.</i></p>	Reactive/ proactive	Target



Endorsed: Global Air Navigation Plan (GANP)

- **5th Edition of the GANP (2016-2031)**
 - Includes the 2016 edition of the Aviation System Block Upgrades (ASBU) document
 - Include key performance indicators for capacity, efficiency and predictability
 - Stability
- **Included improvements:**
 - Six-year cycle for the Blocks to align with Assembly cycles
 - Update of the ASBU framework and all technical roadmaps
 - Concept of performance-based approach as foundation for implementation strategies
 - Notion of minimum path
 - ATM logical architecture
 - Creation of GANP webpage

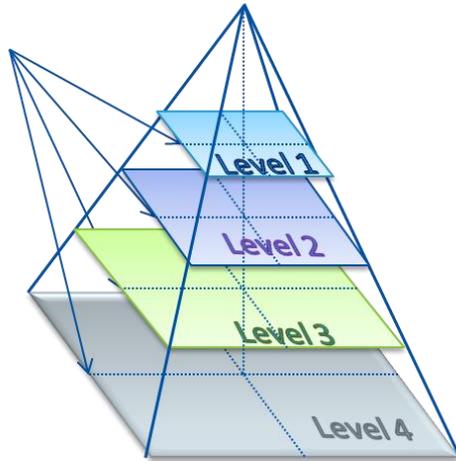




2019 Update of the GANP

Multilayer Structure

LAYERS





Global Aviation Safety
and Air Navigation Update

GLOBAL STATUS





State

Chart 9: High-risk category accident overview

Table 1: Departures, accidents and fatalities by RASG region

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
EUR	8.1	24	3.0	1	150
MID	1.2	3	2.5	1	224
PA	13	34	2.6	1	2
WORLD	33	92	2.8	6	474

Regional accident rates remain low

No CFIT accident

No CFIT accidents in 2015

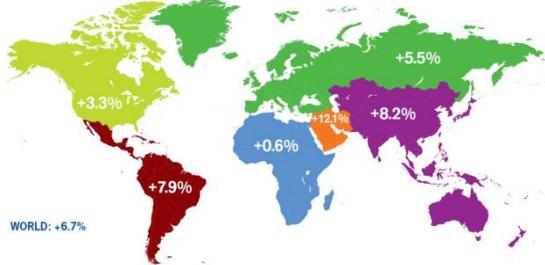
Regional accident rates remain low

PA	13	34	2.6	1	2
WORLD	33	92	2.8	6	474



State of Global Air Navigation

Figure 1: International scheduled passenger traffic (RPK) growth in 2015



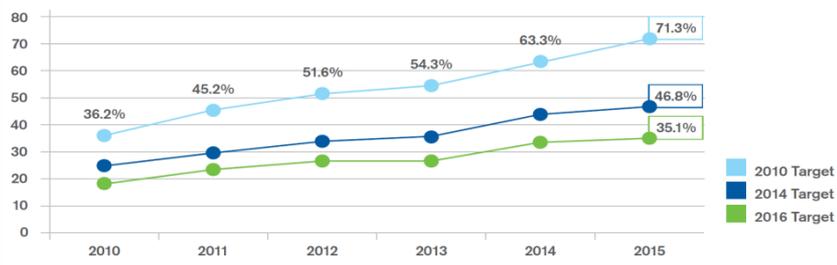
Traffic grew by 6.7% in 2015

Figure 3: Global Status of PBN Implementation Plans
(Based upon ICAO Regional Offices inputs)



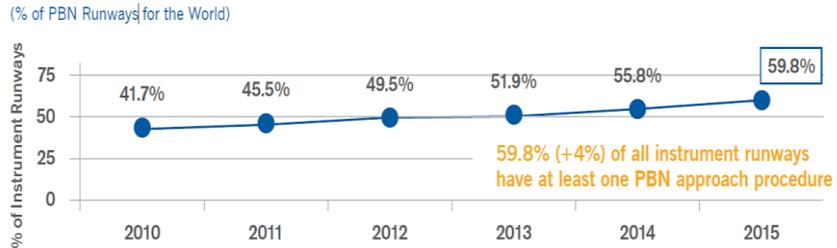
More focus on PBN Implementation Plans needed

Figure 2: Percentage of States Meeting the A37-11 Resolution Targets for Applicable Years



Only 35% of States are meeting the 2016 Target for A37-11

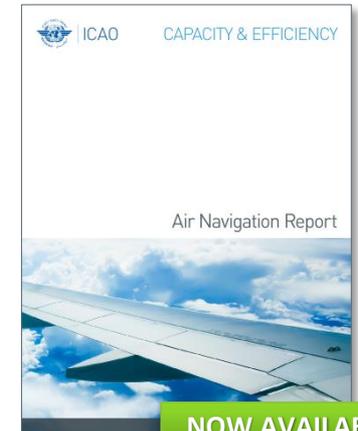
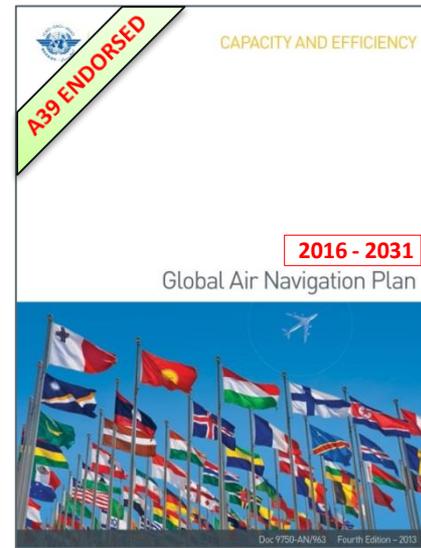
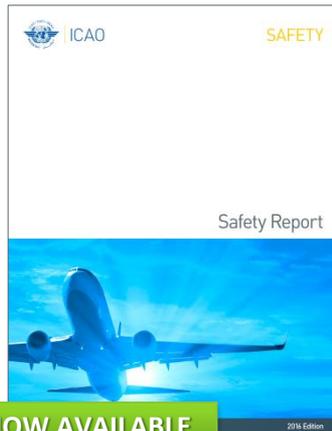
Figure 4: Global PBN Implementation growth 2010–2015
(% of PBN Runways for the World)



60% of all instrument runways have at least one PBN approach

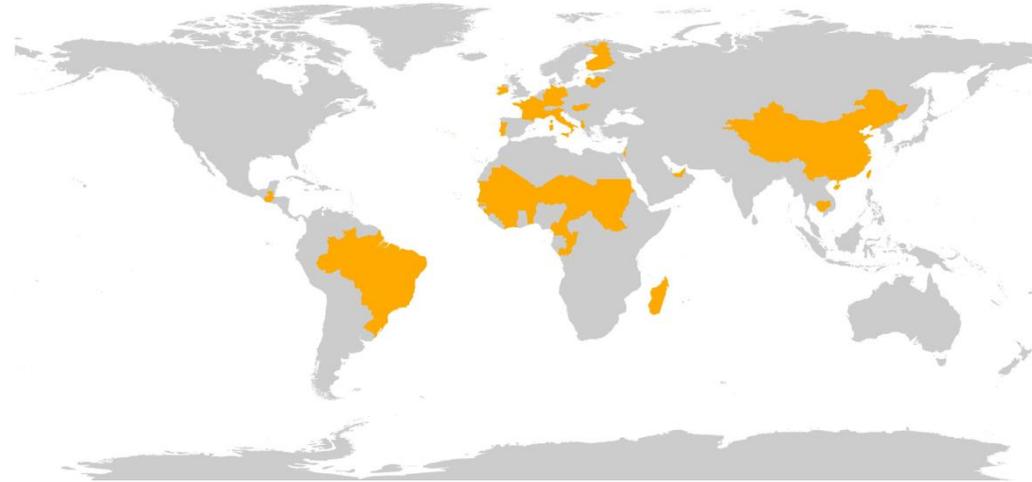
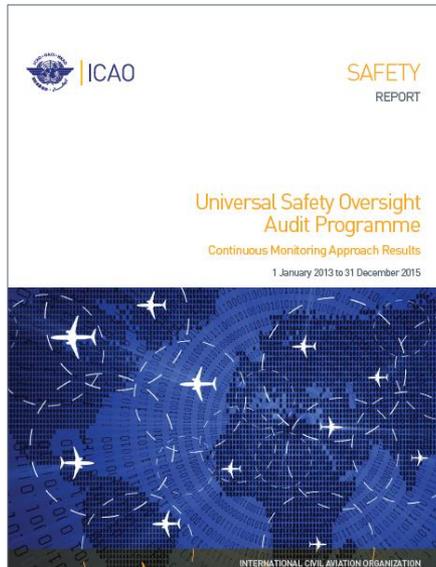


Reporting against the Current Global Plans

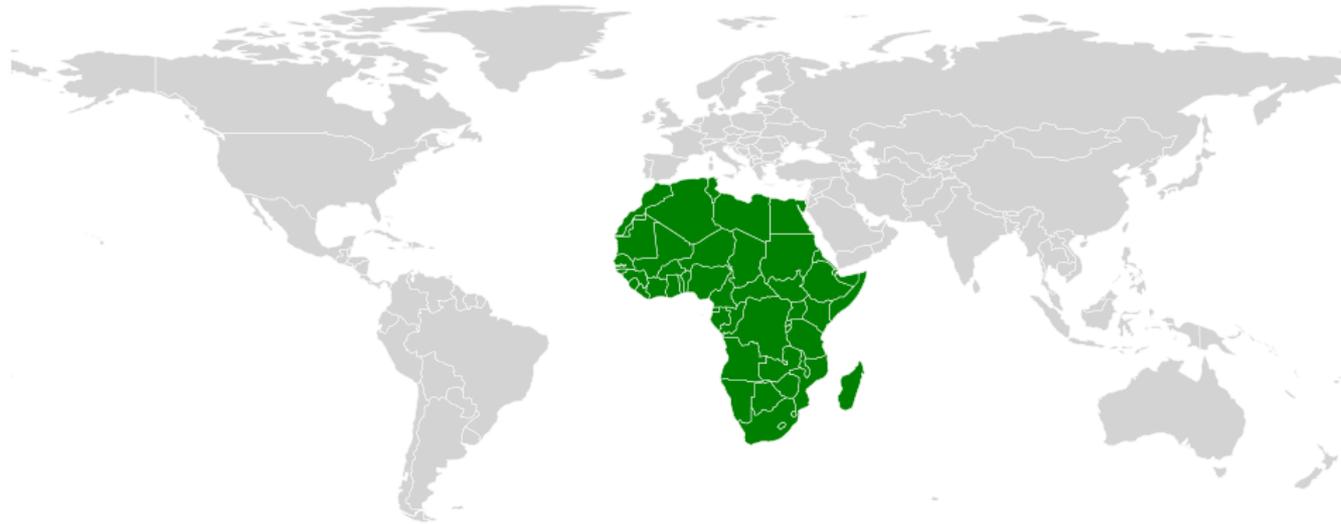




Universal Safety Oversight Audit Programme (USOAP)



USOAP CMA Off-site Validation from 1 January 2013 to 31 December 2015



Global Aviation Safety Update

REGIONAL STATUS (AFRICA)

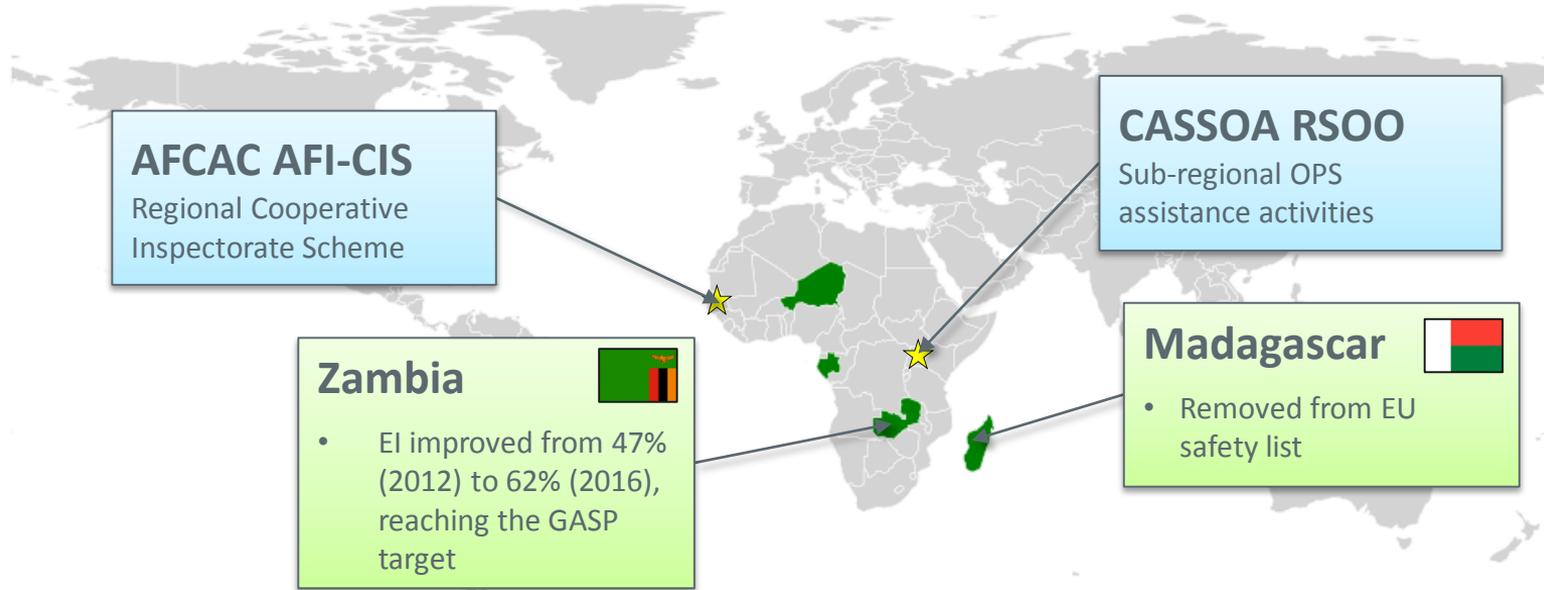


Source: **iSTARS 3.0** – MAP Builder (<https://portal.icao.int/space>)



Regional Success Stories

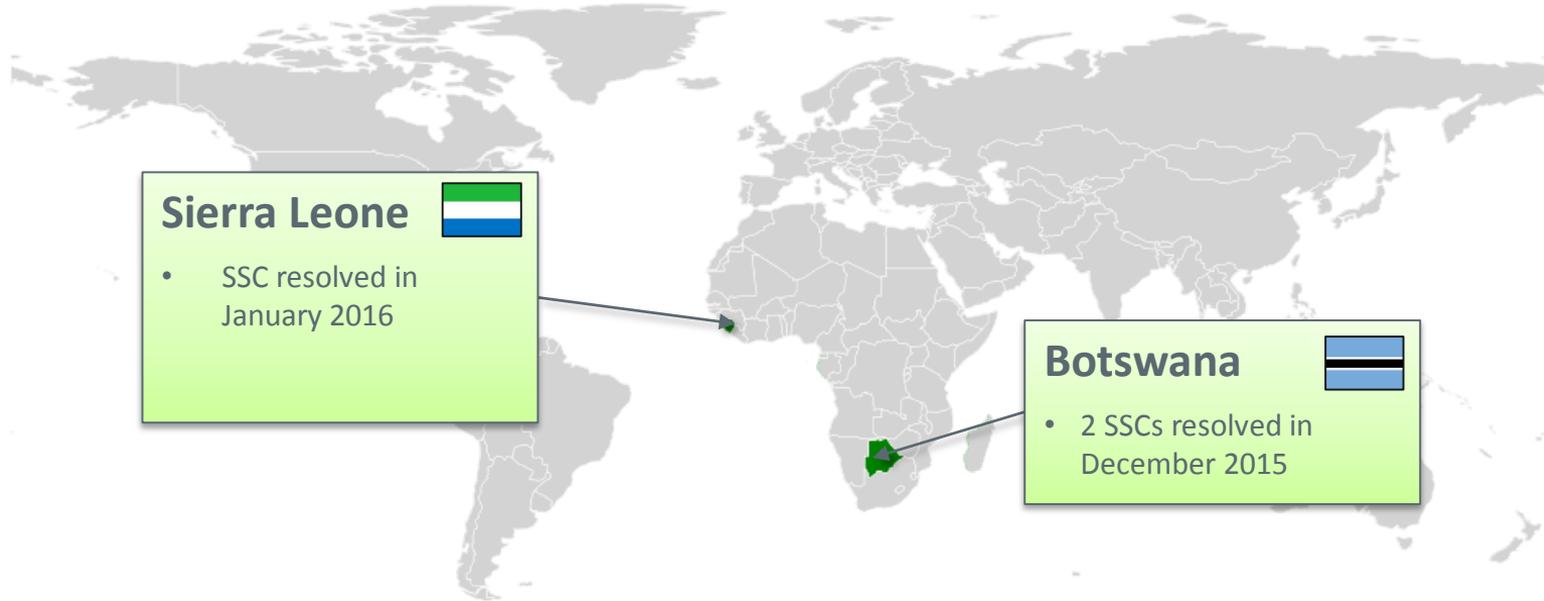
SAFE Funded Technical Assistance Projects in Africa





Regional Success Stories

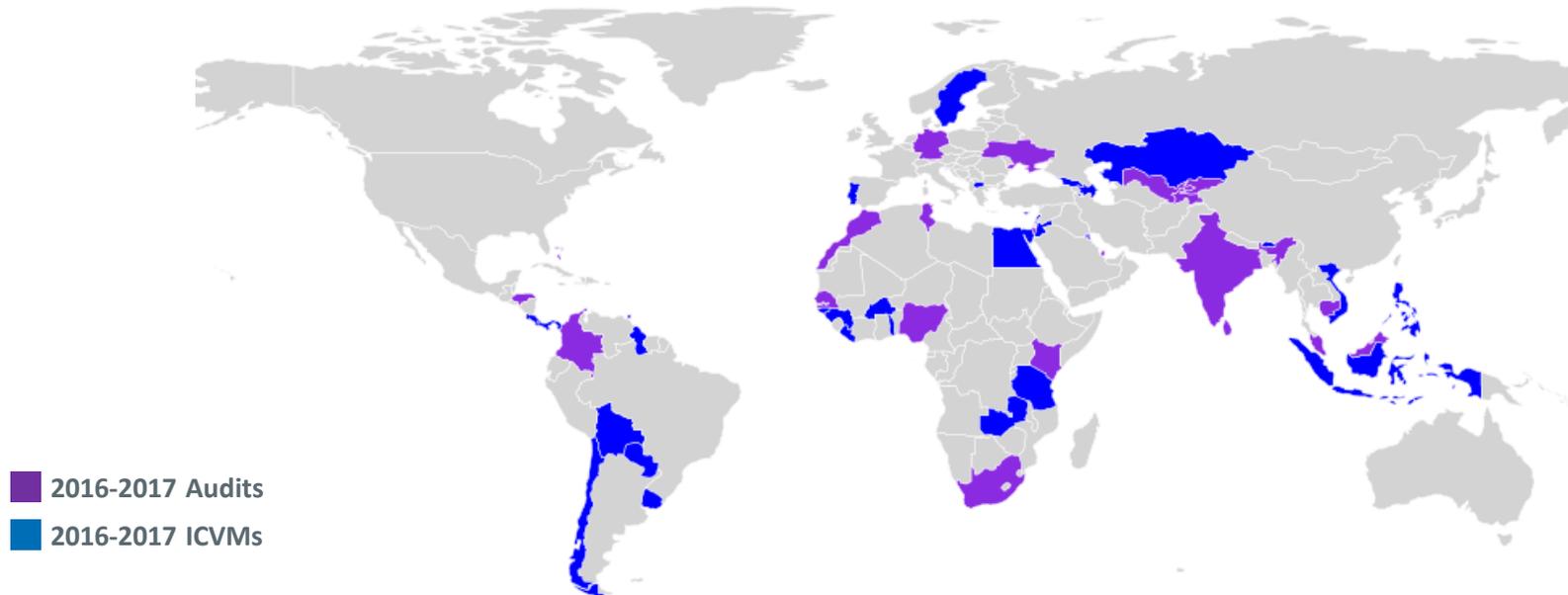
Resolution of Significant Safety Concerns since 2015





Scheduled ICAO Safety Audits and ICVMs (2016-2017)

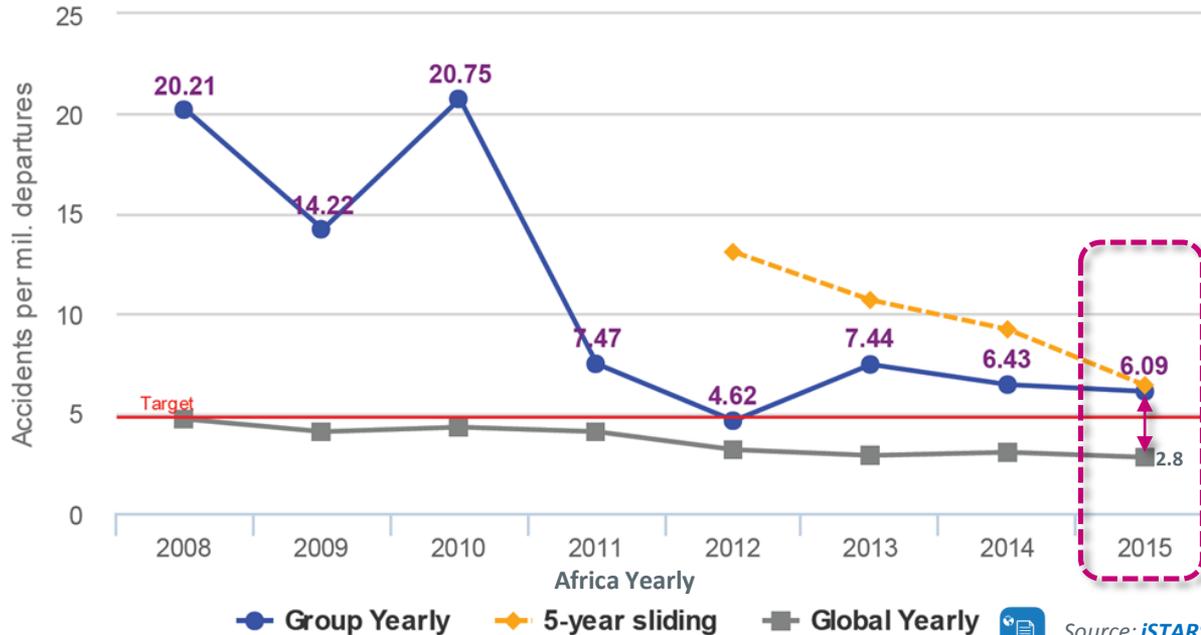
EB 2016/36





Global and African Accident Rates

Scheduled commercial above 5 700kg for 2008 - 2015



Average accident rate for Africa is **significantly higher** than the global average

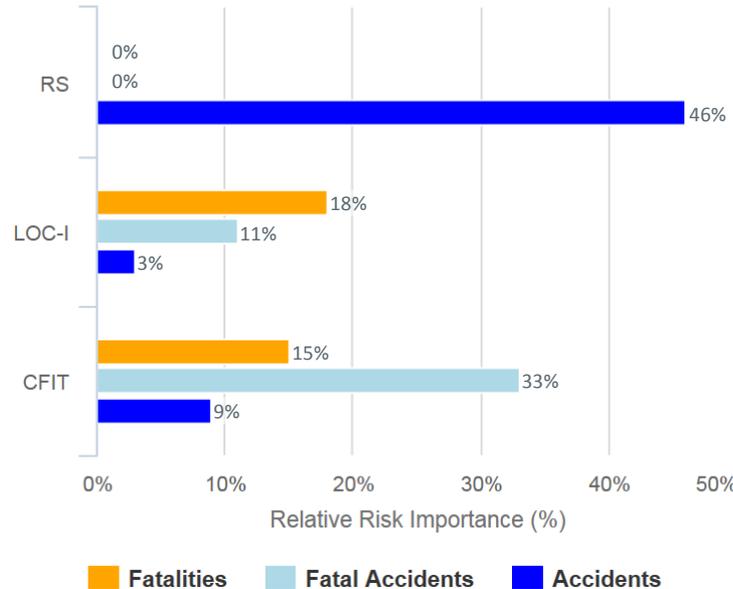
Source: *iSTARS 3.0 – Regional Safety Briefing* (<https://portal.icao.int/space>)



Risk Distribution for the Top 3 Safety Priorities

Scheduled commercial above 5 700kg for 2011 - 2015

AFRICA



Continue focus on the **Top 3 Safety Priorities** (RS, CFIT, LOCI)

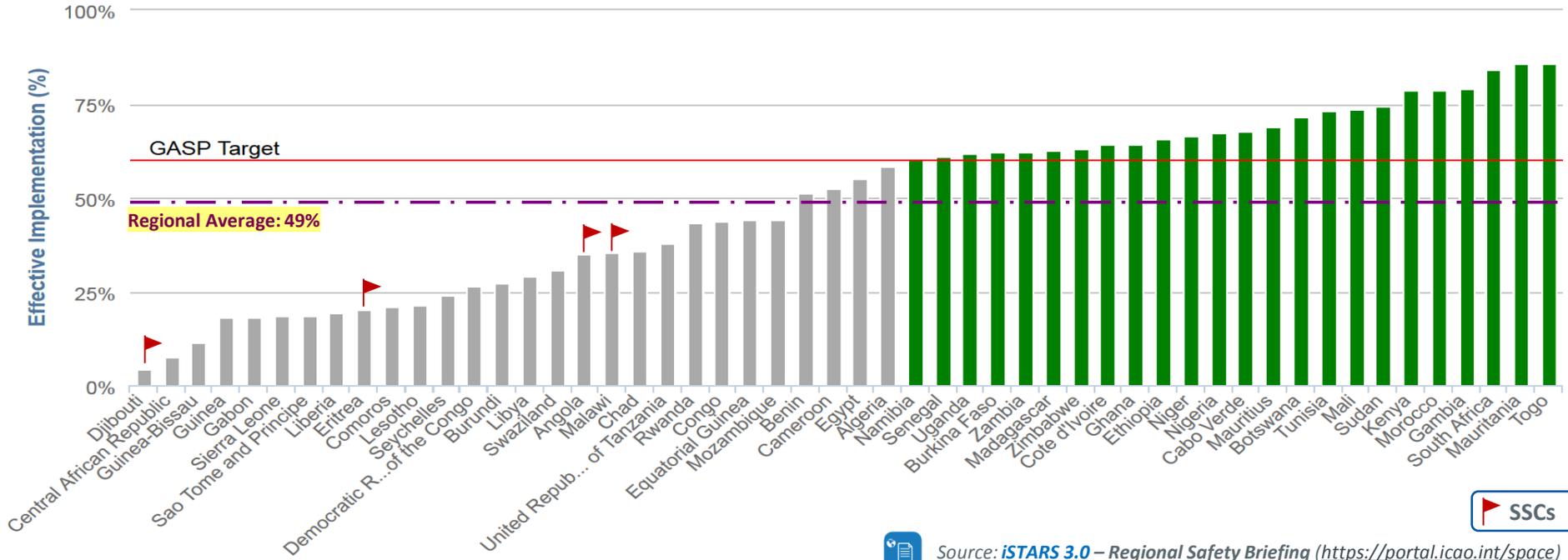


Source: *iSTARS 3.0 – ADREP et al.* (<https://portal.icao.int/space>)



ICAO Safety Audit Results for Africa

Effective implementation of safety oversight systems by State





Significant Safety Concerns (SSCs)

SSCs indicate that a State is not providing sufficient safety oversight to ensure the effective implementation of applicable ICAO Standards. SSCs may be issued in the area of operations, air navigation services, aerodromes, airworthiness or licensing.

Africa has 4 States with a total of 4 SSCs.

State	SSCs	SSC Areas				
		Airworthiness	Operations	Licensing	Aerodromes	Air Navigation
Angola	1		×			
Djibouti	1		×			
Eritrea	1		×			
Malawi	1		×			

Focus on the resolution of Significant Safety Concerns (SSCs) and ensure that *'No Country is Left Behind'*

2008

2008

2010

2009

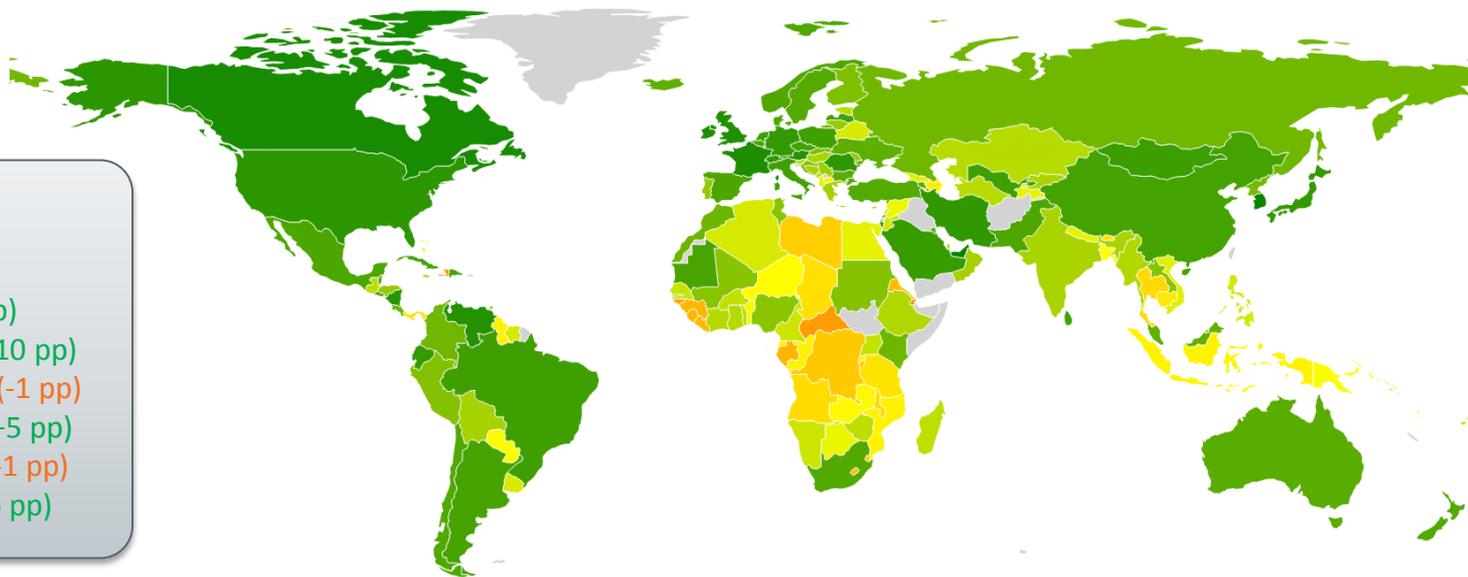


Source: *iSTARS 3.0 – Regional Safety Briefing* (<https://portal.icao.int/space>)



ICAO Safety Audit Results

Effective implementation of safety oversight systems by State



Regional Averages (EI%)

from Jan 2011 to Jul 2016

- **World:** 59% to 64% (+5 pp)
- **RASG-AFI:** 37% to 47% (+10 pp)
- **RASG-APAC:** 60% to 59% (-1 pp)
- **RASG-EUR:** 70% to 75% (+5 pp)
- **RASG-MID:** 67% to 66% (-1 pp)
- **RASG-PA:** 65% to 71% (+6 pp)

*pp = percentage points



Regional Safety Briefing

ICAO STATE SAFETY BRIEFING Page 01

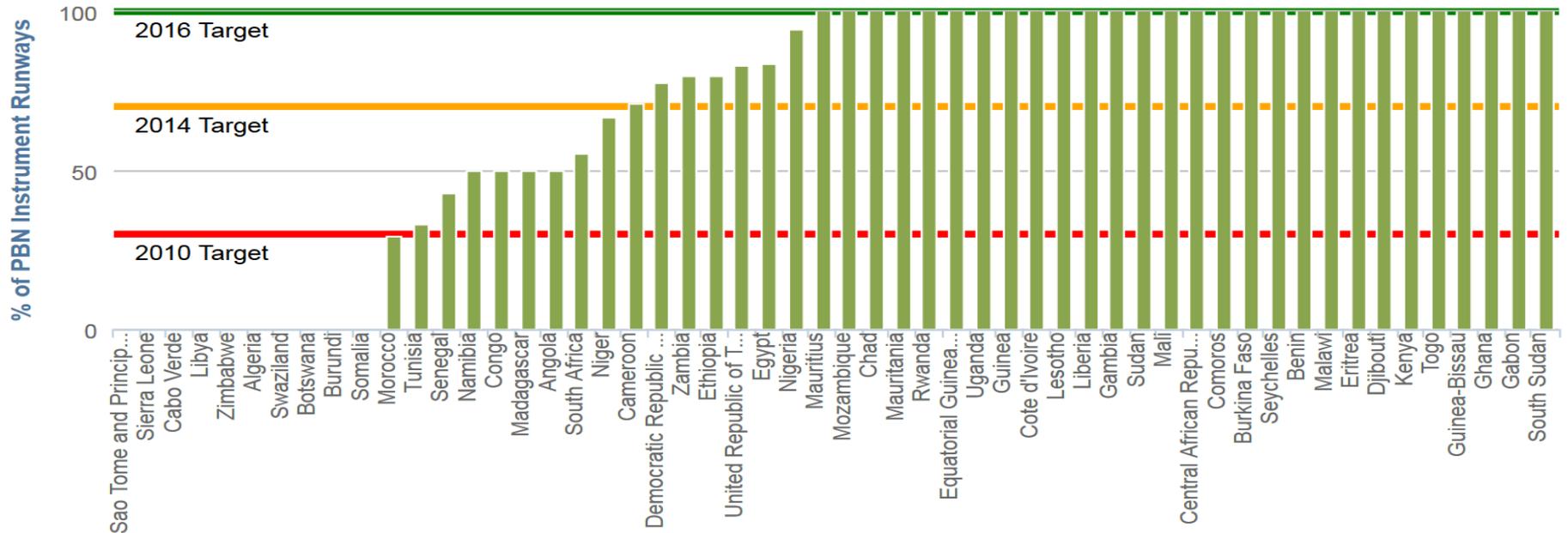
ICAO
Regional Safety Briefing
Africa
Automatically Generated by ICAO/RSB 2016-10-17

Indicator	Value
State Safety Oversight - Group Average	48.68%
State Safety Oversight - State Levels	46.15%
Significant Safety Concerns (SSCs)	4
Accident Rate	6.4
IOSA - Airlines	41
IOSA - State Levels	36.67%
EU Safety List	15
FAA IASA	1
PBN Implementation - Runways	62.13%
PBN Implementation - State Levels	52.83%

Indicator	Value
State Safety Oversight - Group Average <i>Average USOAP Overall EI (%)</i>	48.68%
State Safety Oversight - State Levels <i>Percentage of States with USOAP Overall EI above 60%</i>	46.15%
Significant Safety Concerns (SSCs) <i>Number of SSCs</i>	4
Accident Rate <i>Number of accidents per mil. departures over preceding 5 years</i>	6.4
IOSA - Airlines <i>Number of IOSA certified airlines in the region</i>	41
IOSA - State Levels <i>Percentage of States with IOSA certified airlines</i>	36.67%
EU Safety List <i>Number of States with restrictions</i>	15
FAA IASA <i>Number of States rated as Category 2</i>	1
PBN Implementation - Runways <i>Percentage of instrument runways with PBN approaches</i>	62.13%
PBN Implementation - State Levels <i>Percentage of States having PBN approaches on all instrument runways</i>	52.83%



States in Africa meeting the PBN Resolution Targets for Applicable Years



* This data is based on the International Aerodromes as listed in the Regional Air Navigation Plans

An aerial photograph showing the wing of a large aircraft in flight. The wing is white with dark panels on top and is angled downwards. Below the wing, a coastal city is visible, with buildings and a large body of water. The sky is clear and blue.

More work needs to be done...

Global and regional objectives are yet to be fully achieved

However, we are on the right direction

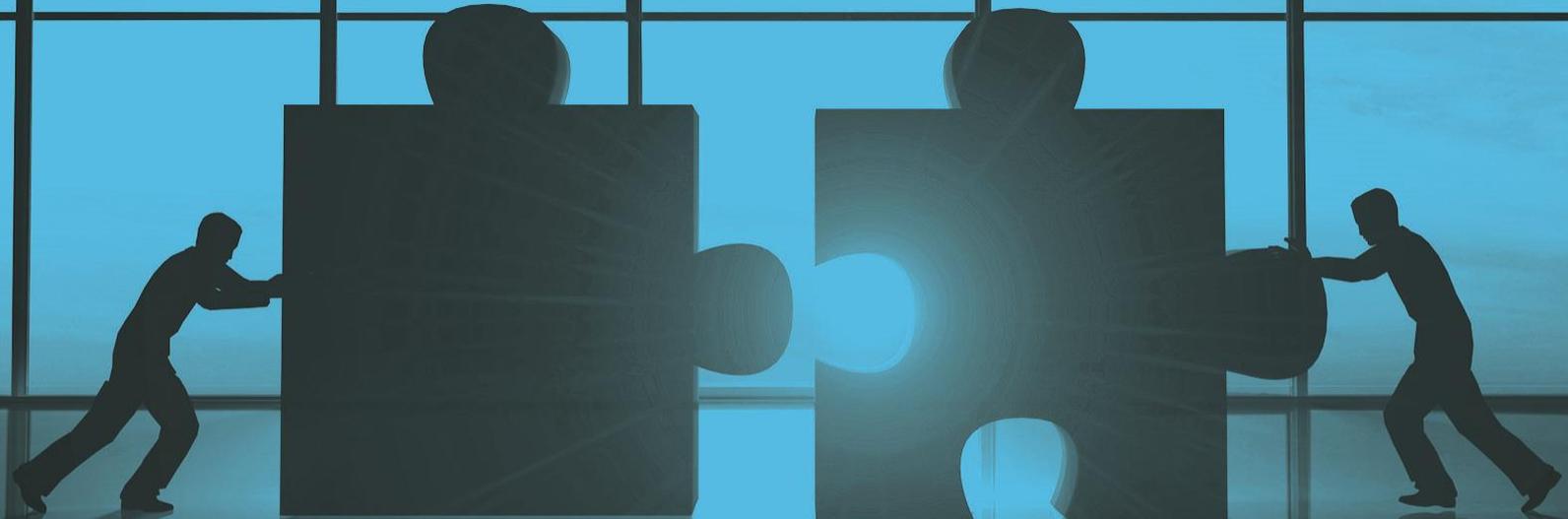
Through 'No Country Left Behind', Abuja Targets, AFI Plan, and other initiatives



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Aviation Tools to Support Implementation

A 'NO COUNTRY LEFT BEHIND' Initiative:

iMPLEMENT

Facilitating Data-Driven Decisions for Aviation



State Safety Briefing



Regional Safety Briefing



Aerodrome Briefing

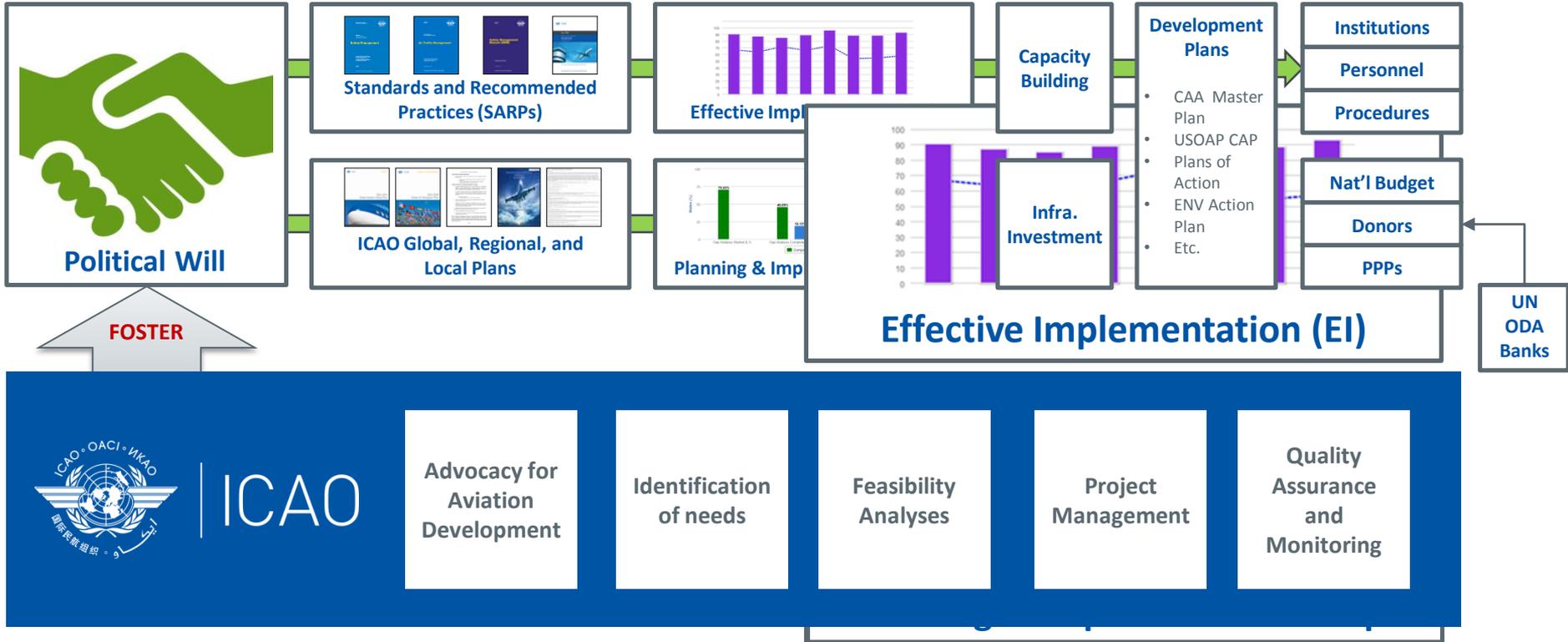


Solution Center



ICAO | iSTARS **iMPLEMENT**

State Safety Briefing	Solution Center	CAA HR Benchmark	Economic Dev. Indicators
Dashboards	Regional Safety Briefing	Approach Paths	Airport Briefing





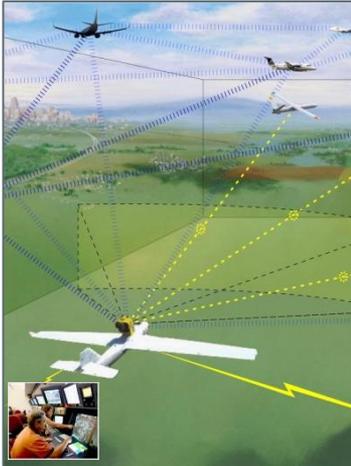
Balancing Safety with Aviation Growth

*Our collective responsibility is to support the aviation system to **safely** realize the forecasted growth*

- Ensure the availability of **enough CAA personnel** to match the expected growth
 - Train/hire/retain personnel for the CAAs
 - Establish a direct link between CAA's revenue and Industry's growth
- Create **regional mechanisms** to help the State/Industry cope with the growth
 - Pooling resources and taking advantage of PIRGs, RASGs, RSOOs and COSCAPs
- **Recognition** of industry's oversight programmes and tools or **delegation** of safety oversight responsibilities.



Current and Emerging Issues



RPAS



Cyber Safety



Space Transportation



THANK YOU!