



ICAO

UNITING AVIATION

Aviation Safety and Air Navigation Global Update

Stephen P. Creamer

Director

Air Navigation Bureau, ICAO

DGCA-MID /4, Doha, Qatar

27 – 29 April 2015



Status of Global and Regional **AVIATION SAFETY**





2014 – 2016 Global Aviation Safety Plan (GASP)

Objectives and Priorities

Near-term

2017

- All States establish **effective safety oversight systems**
- States with effective safety oversight (over 60% EI) **fully implement SSP**
- States / Stakeholders support RASGs with the **sharing of safety information**

Mid-term

2022

- All Member States **fully implement the ICAO SSP Framework**
- RASGs incorporate **regional monitoring and safety management** programmes

Long-term

2027

- Member States implement **safety capabilities** as necessary to support future Air Navigation Systems

PRIORITIES

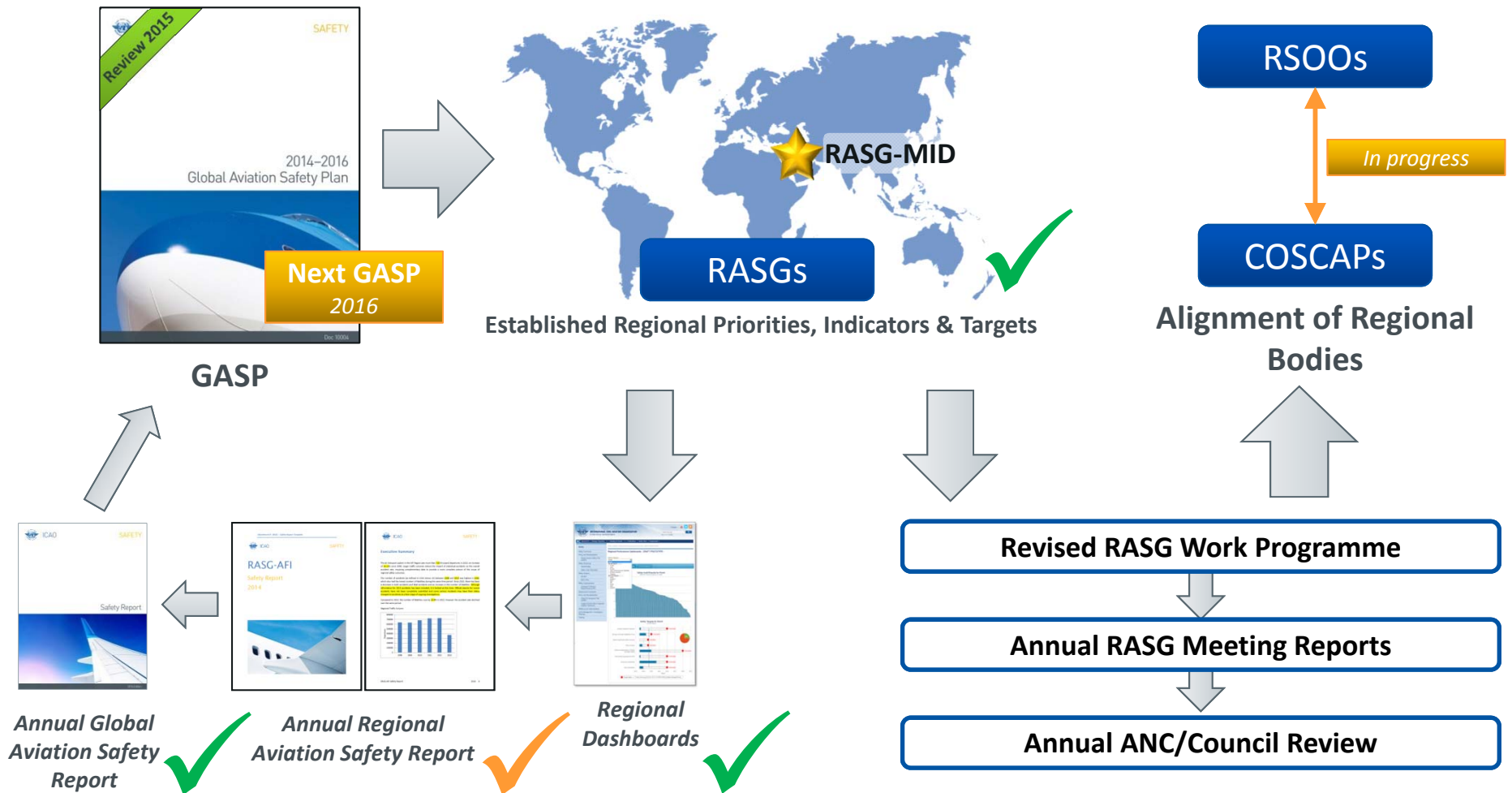
RUNWAY SAFETY

CONTROLLED FLIGHT INTO TERRAIN (CFIT)

LOSS OF CONTROL IN-FLIGHT (LOC-I)

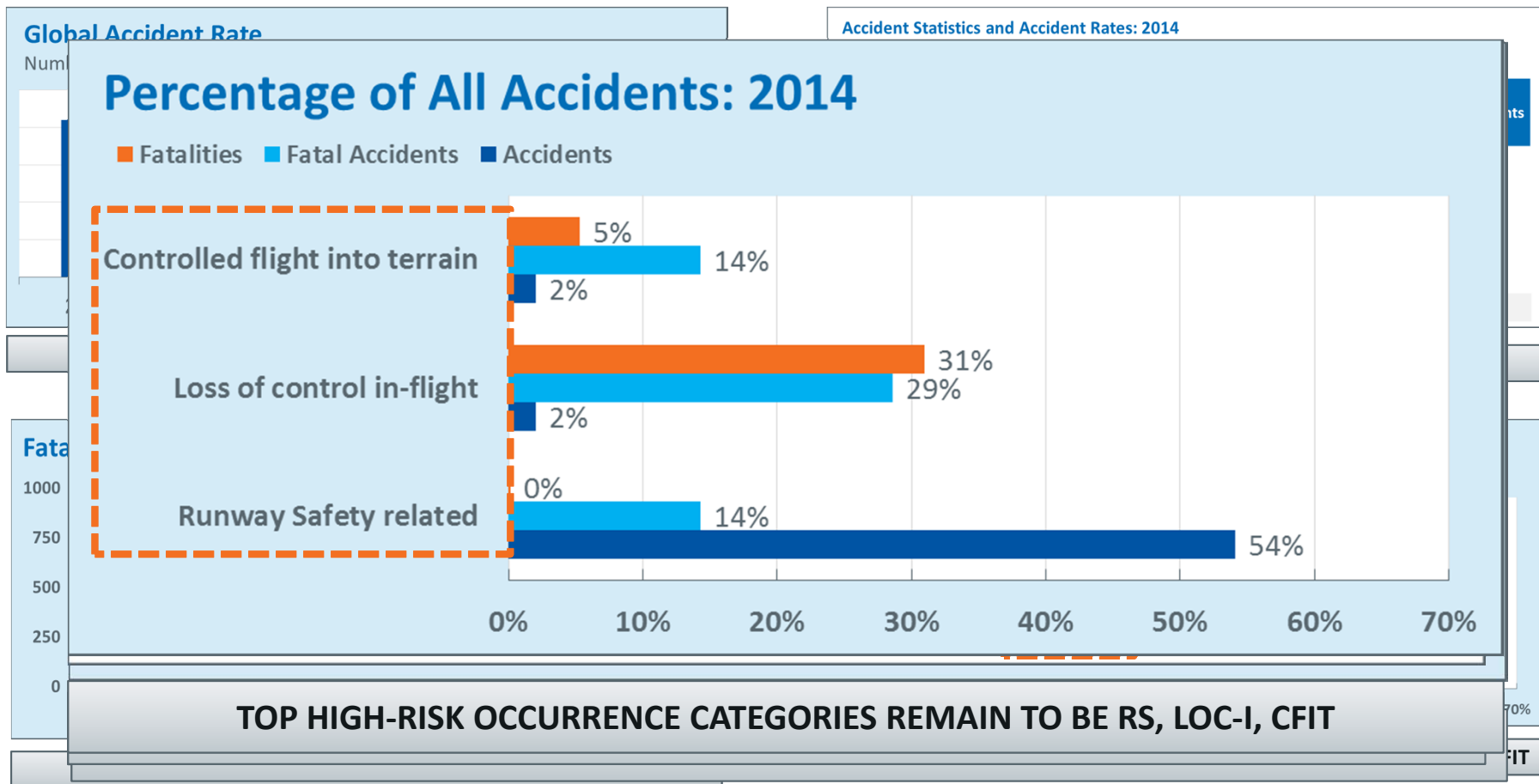


Regional Implementation – *Safety*





Preliminary Figures for the State of Global Aviation SAFETY

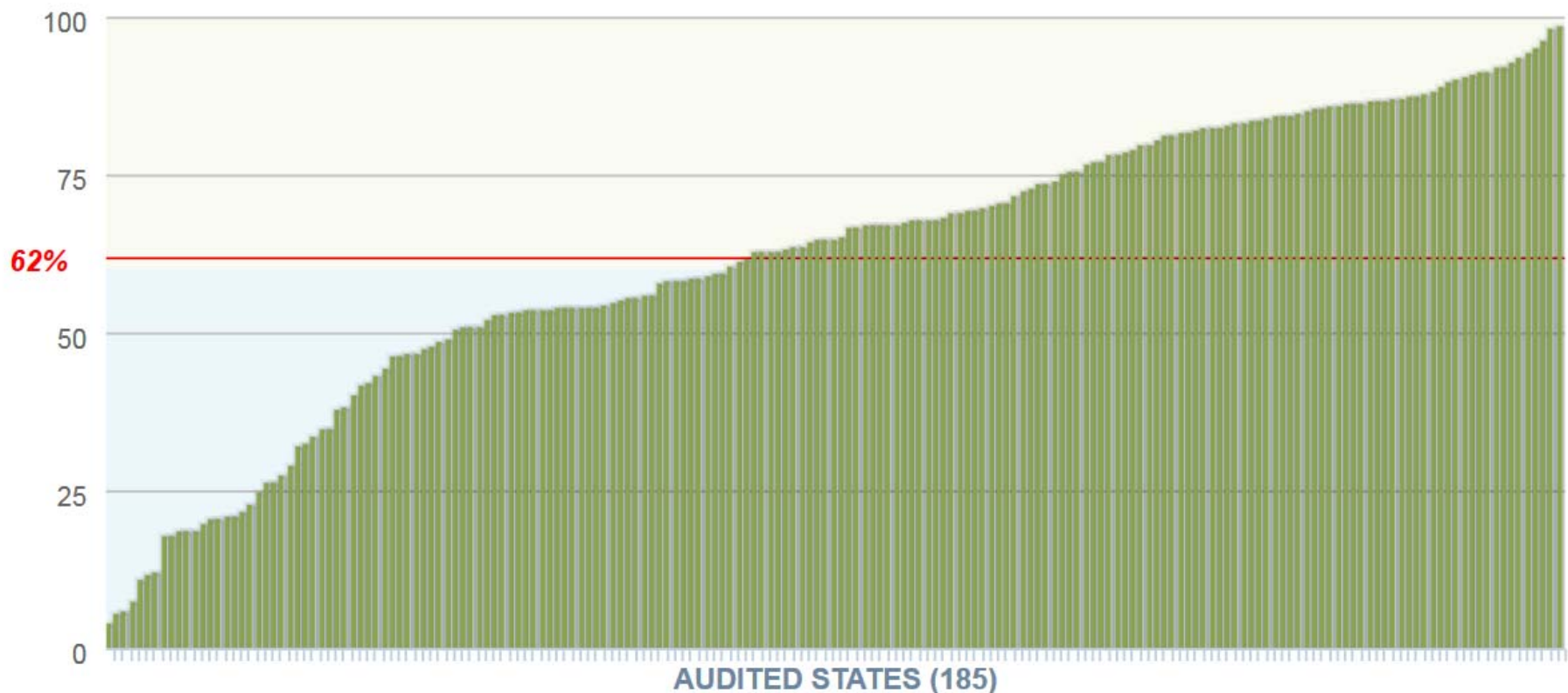




Current **GLOBAL** Implementation

ICAO Safety Audit Results for World-ICAO Member States

Effective Implementation of safety oversight systems by State



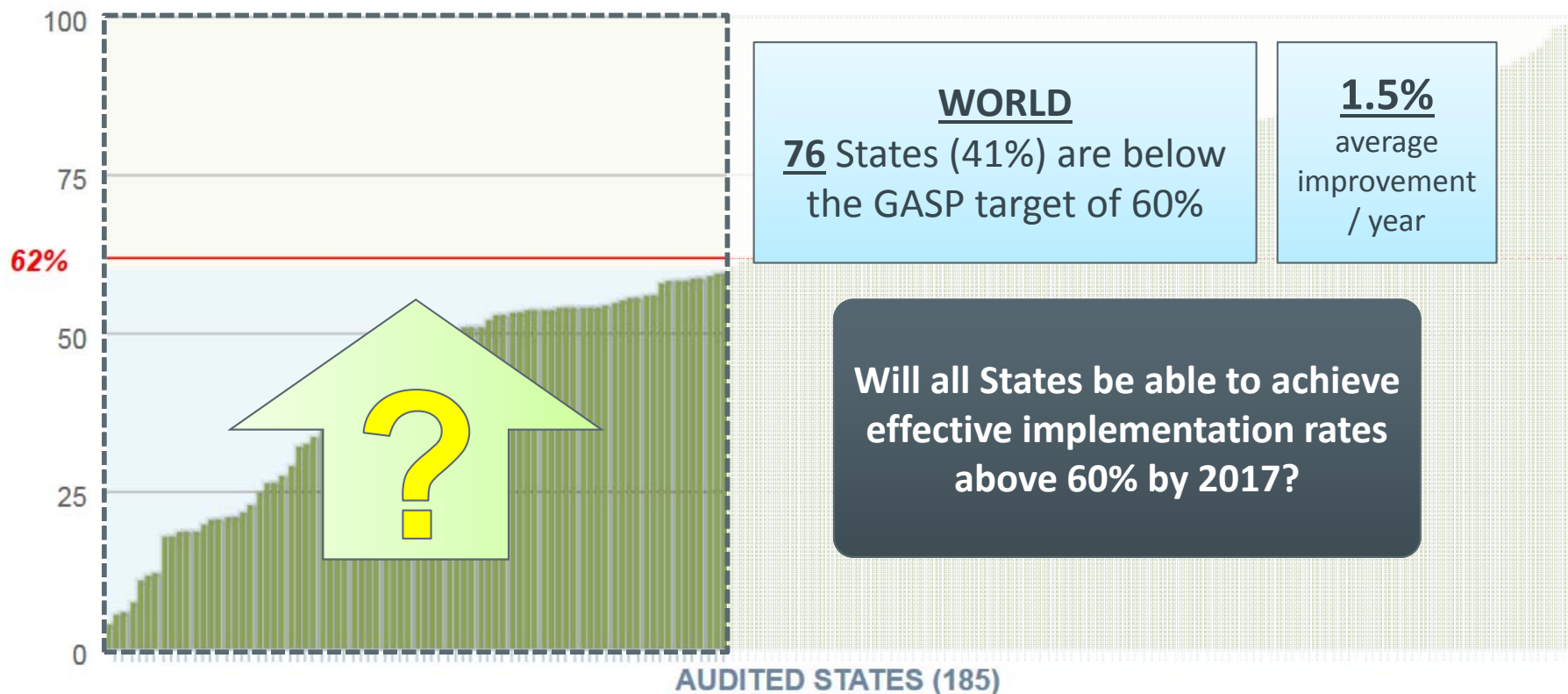
Source: [Regional Dashboards](http://www.icao.int/safety/pages/regional-targets.aspx) (www.icao.int/safety/pages/regional-targets.aspx)



Current **GLOBAL** Implementation

ICAO Safety Audit Results for World-ICAO Member States

Effective Implementation of safety oversight systems by State



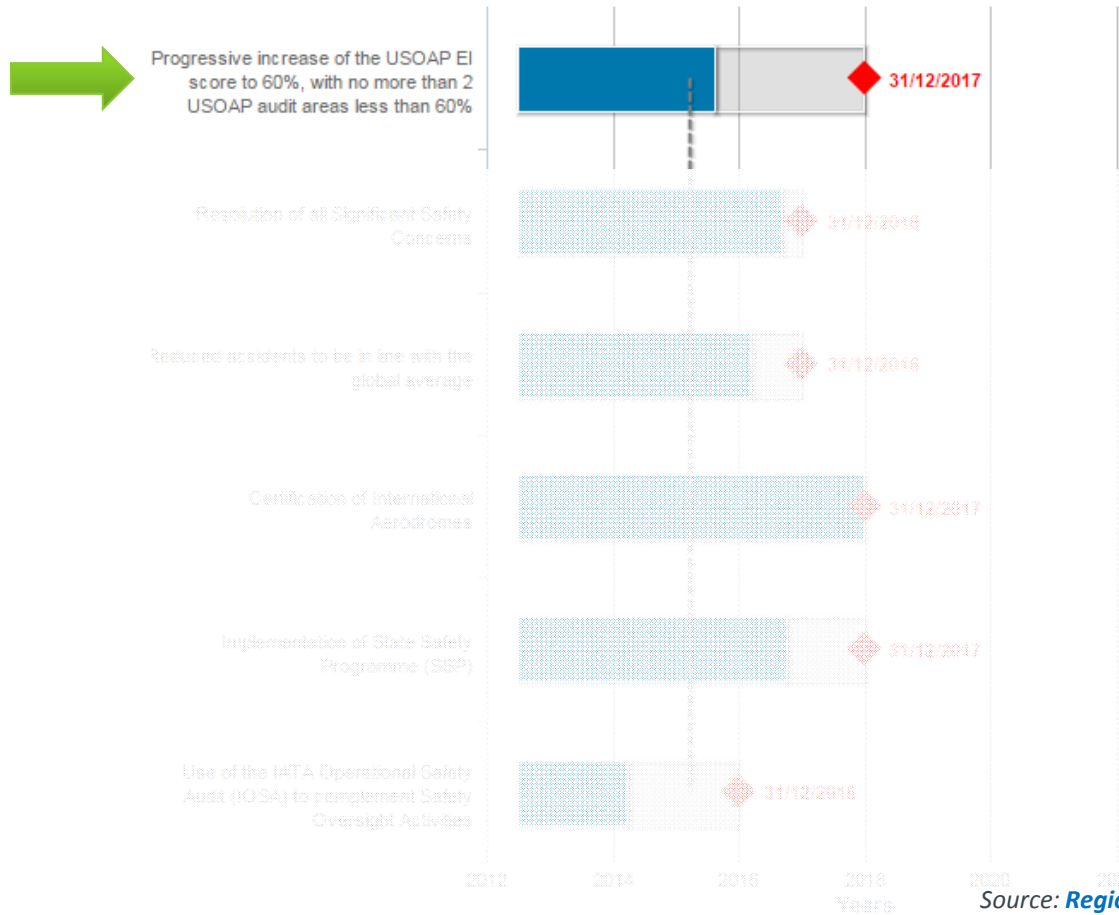
Source: [Regional Dashboards](http://www.icao.int/safety/pages/regional-targets.aspx) (www.icao.int/safety/pages/regional-targets.aspx)



Regional Progress Against MID Regional Safety Strategy

Status of Safety for RASG-MID

According to the MID Region Safety (RASG-MID) and Air Navigation Strategy (MIDANPIRG)

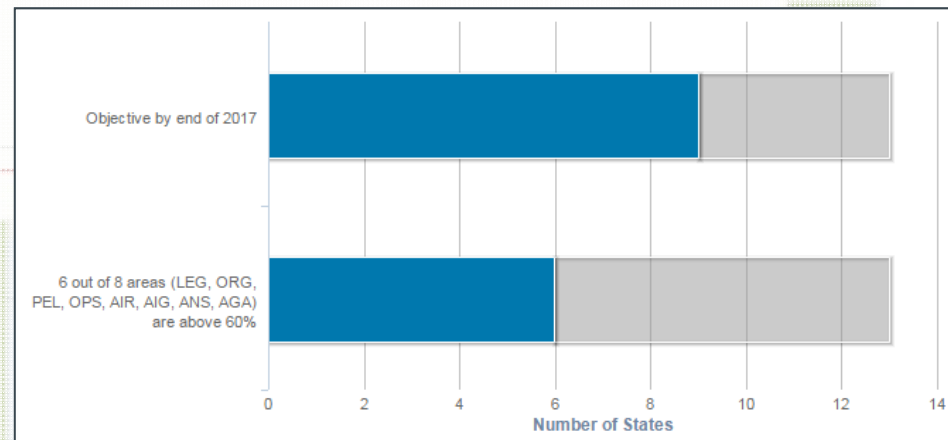
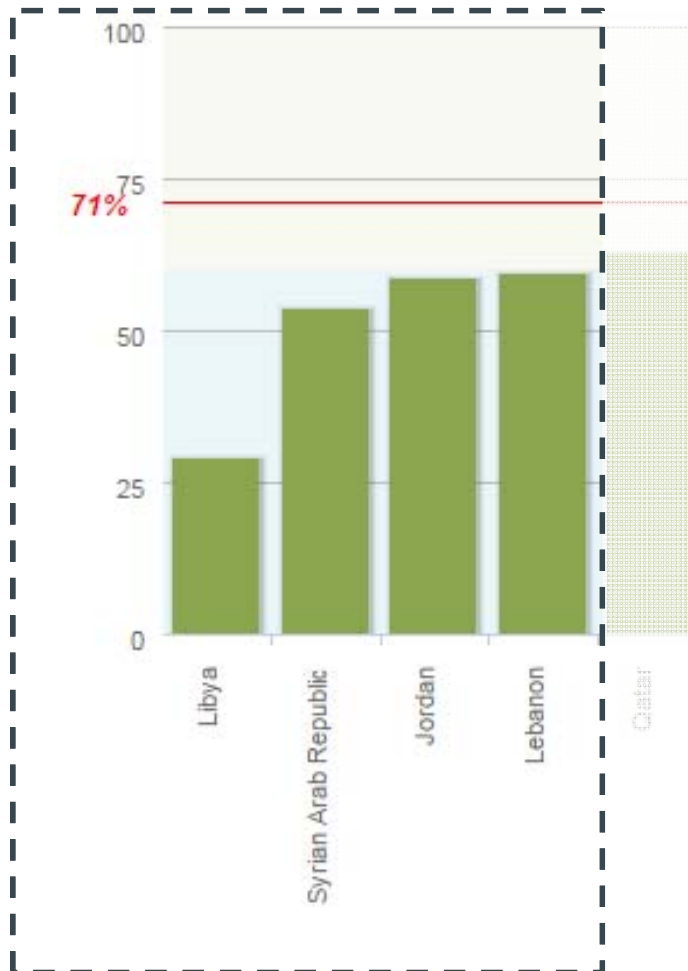


Progressive increase of the USOAP EI score to 60%, with no more than 2 USOAP audit areas less than 60%

Source: **Regional Dashboards** (www.icao.int/safety/pages/regional-targets.aspx)



Current **REGIONAL** Implementation



- 4 out of 13 audited States (31%) in the region are below the GASP target of 60%
- 7 out of 13 audited States (54%) in the region have 2 USOAP areas below 60%

RECOMMENDATION
Prioritize actions to support safety oversight improvements

AUDITED STATES (13)

Source: [Regional Dashboards \(www.icao.int/safety/pages/regional-targets.aspx\)](http://www.icao.int/safety/pages/regional-targets.aspx)



Regional Progress Against MID Regional Safety Strategy

Status of Safety for RASG-MID

According to the MID Region Safety (RASG-MID) and Air Navigation Strategy (MIDANPIR(3))



Progressive increase of the USOAP E1 score to 60%, with no more than 2 USOAP audit areas less than 60%

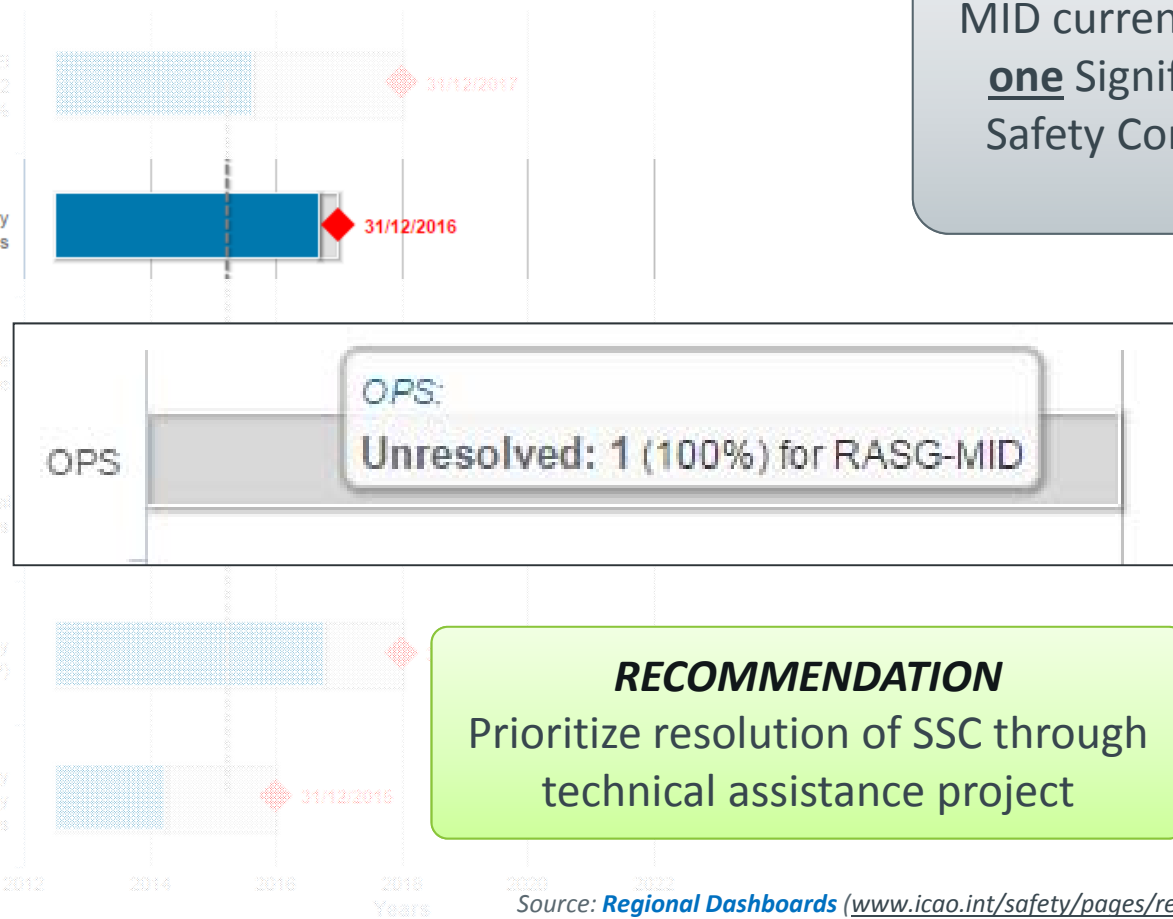
Resolution of all Significant Safety Concerns

Reduced accidents to be in line with the global average

Certification of International Aerodromes

Implementation of State Safety Programme (SSP)

Use of the IATA Operational Safety Audit (IOSA) to complement Safety Oversight Activities



MID currently has **one** Significant Safety Concern

RECOMMENDATION
Prioritize resolution of SSC through technical assistance project

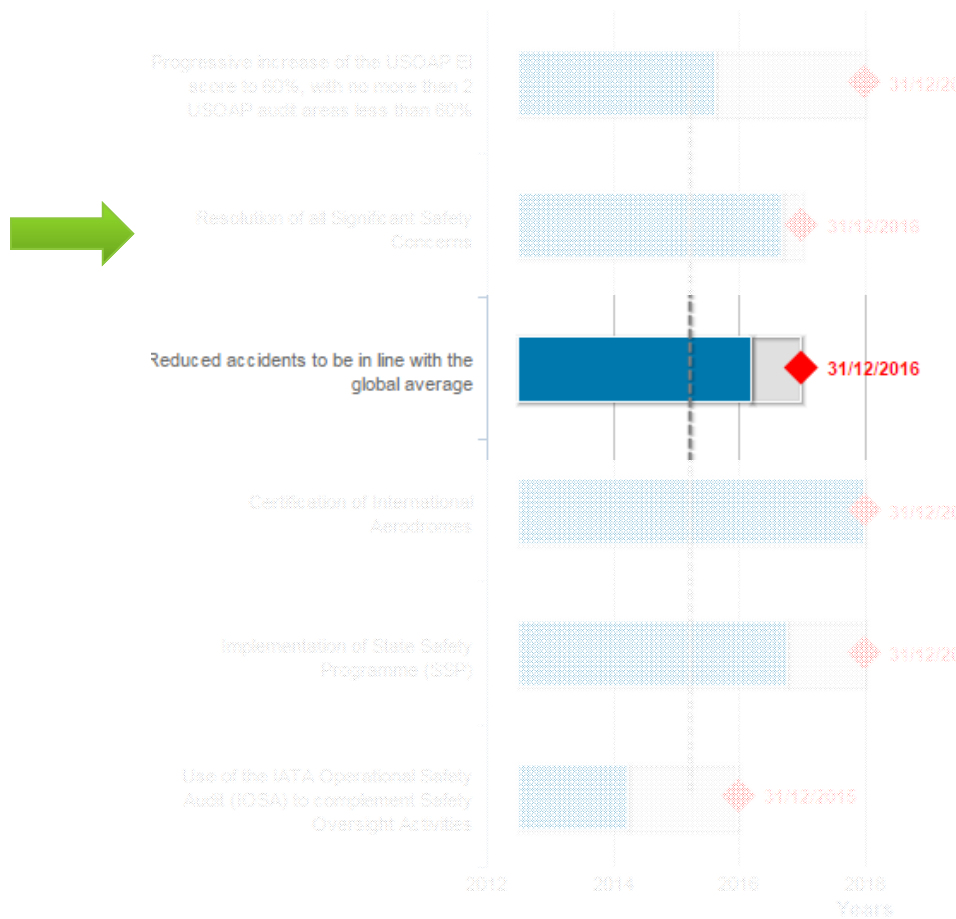
Source: **Regional Dashboards** (www.icao.int/safety/pages/regional-targets.aspx)



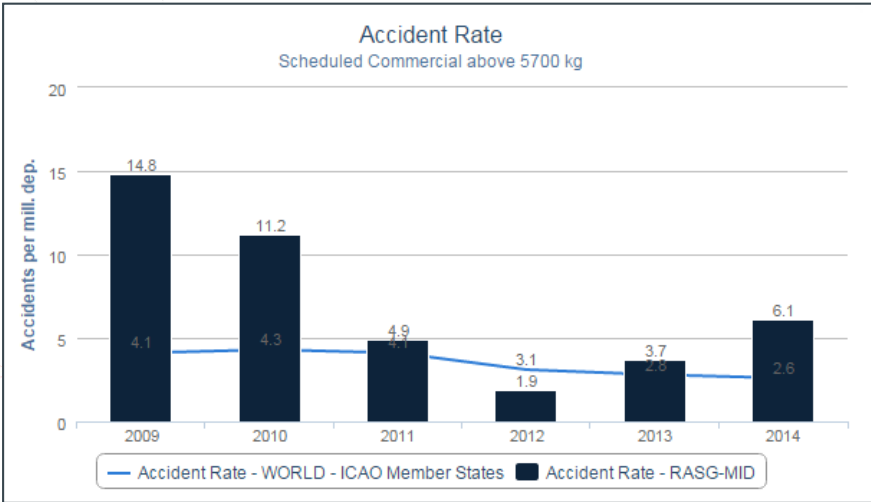
Regional Progress Against MID Regional Safety Strategy

Status of Safety for RASG-MID

According to the MID Region Safety (RASG-MID) and Air Navigation Strategy



MID accident rate is higher than the world average



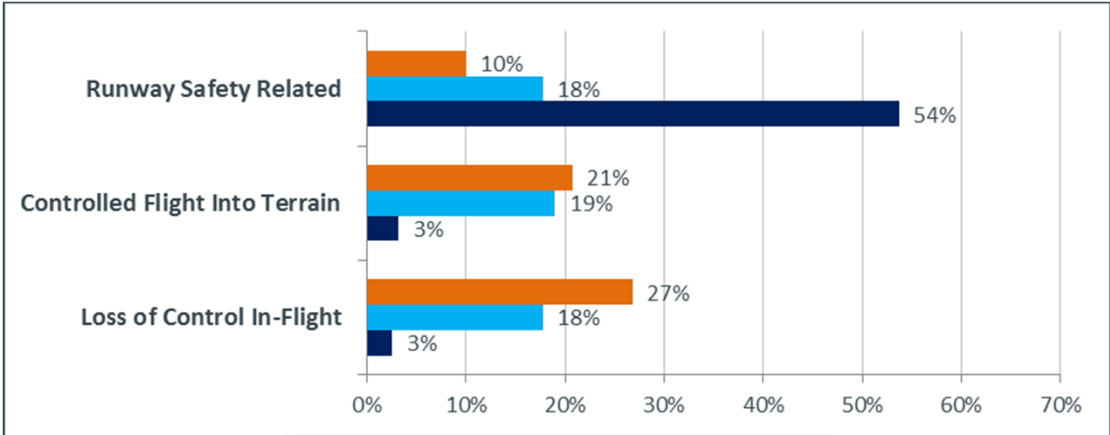
Source: **SPACE (iSTARS v2)** (<https://portal.icao.int/space>)



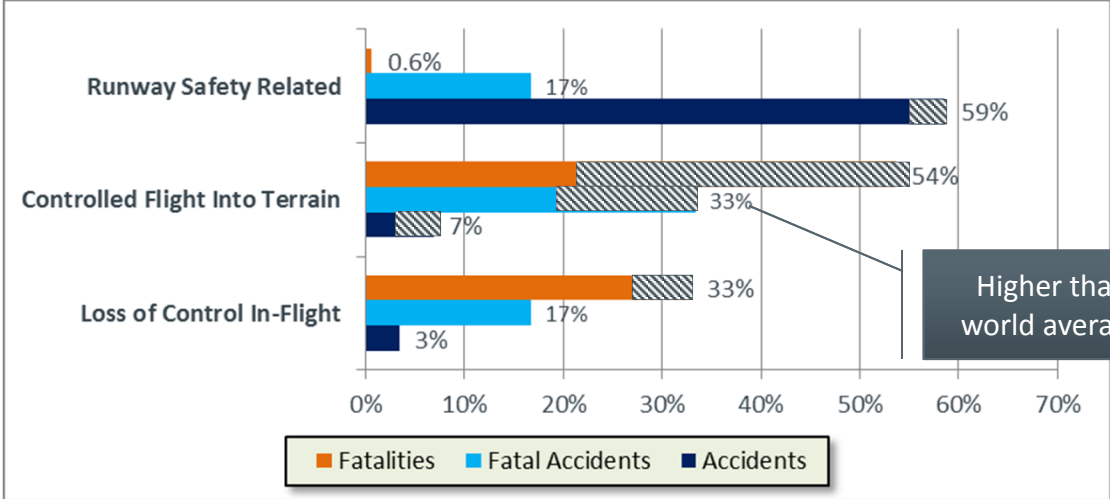
Risk Distribution for the Top 3 Safety Priorities

Scheduled commercial above 5 700kg for 2010 - 2014

WORLD



RASG-MID



RECOMMENDATION

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

Source: *SPACE (ISTARS v2)* (<https://portal.icao.int/space>)



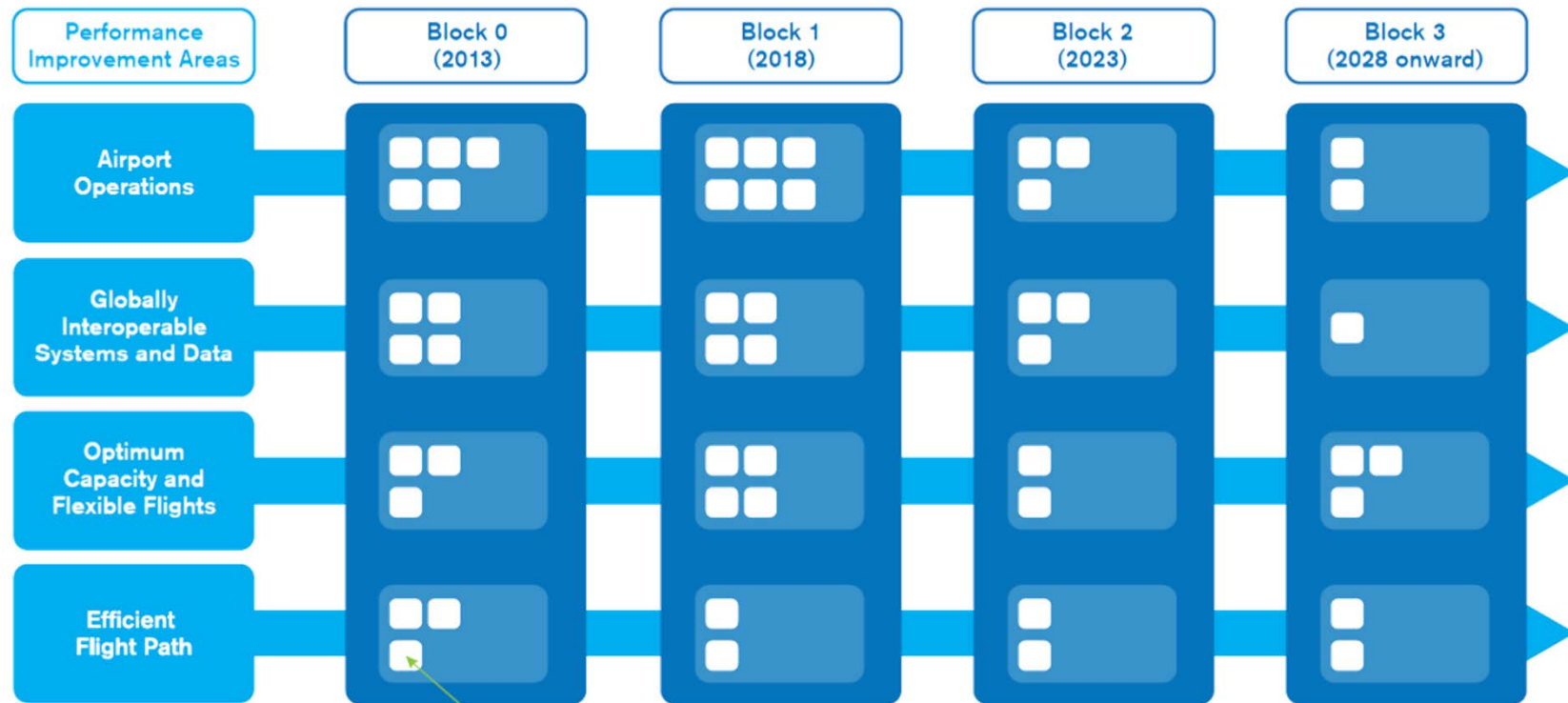
State of Global and Regional
AIR
NAVIGATION





Global Air Navigation Plan (GANP)

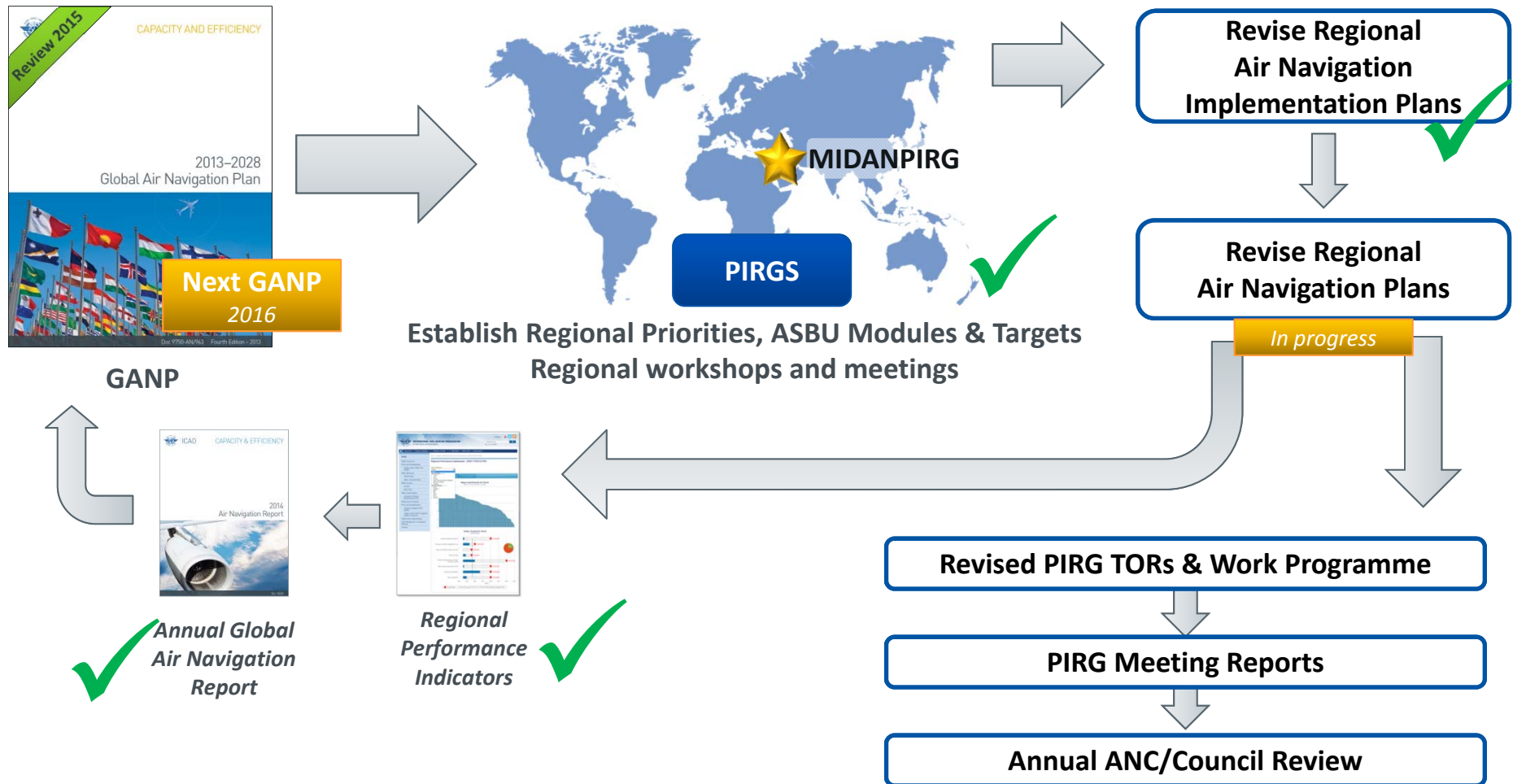
Objectives and Priorities



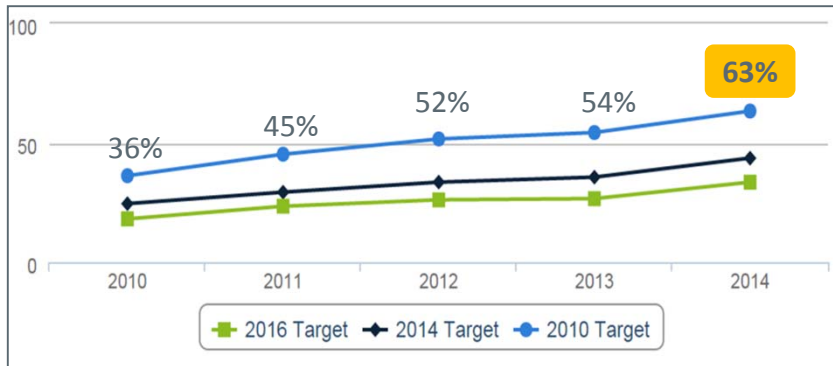
PRIORITIES	PERFORMANCE BASED NAVIGATION (PBN)
	CONTINUOUS DESCENT AND CLIMB OPERATIONS (CDO/CCO)
	COLLABORATIVE DECISION-MAKING (CDM & A-CDM) & ATFM



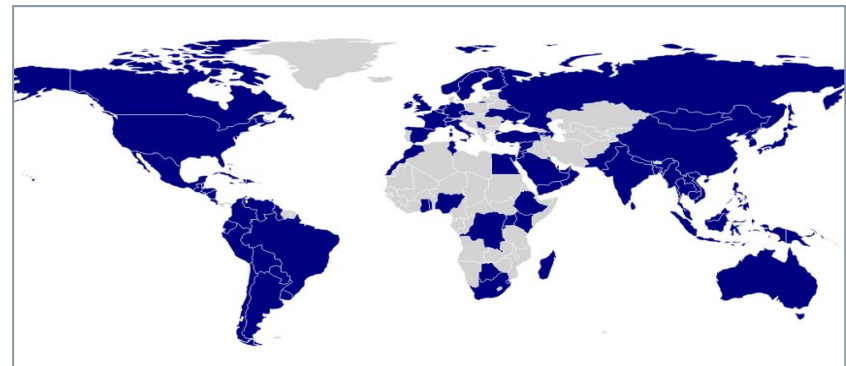
Regional Implementation – Air Navigation



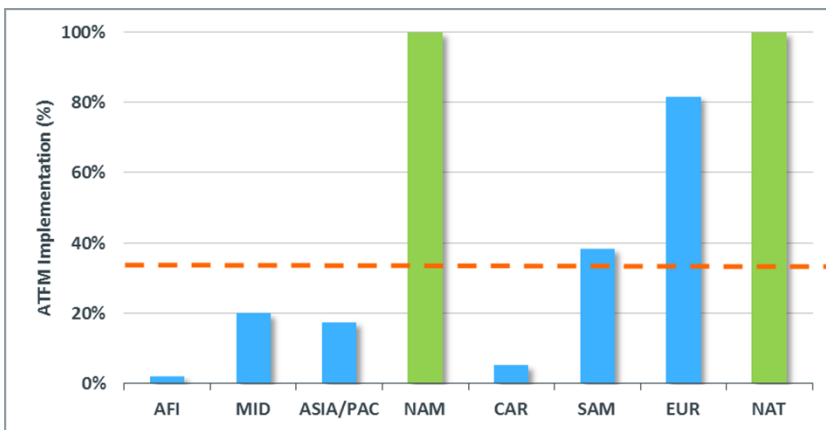
Preliminary Figures for the State of Global AIR NAVIGATION



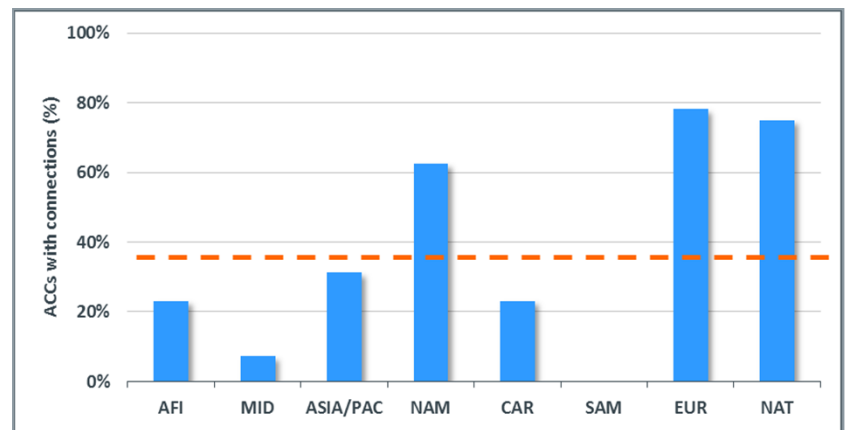
PROGRESS HAS BEEN MADE TOWARDS PBN RESOLUTION TARGETS



ONLY 55% OF STATES HAVE A PBN IMPLEMENTATION PLAN



ATFM IS CURRENTLY BEING USED IN AREAS OF TRAFFIC CONGESTION



AIDC/OLDI GLOBAL IMPLEMENTATION IS AT 35.7%



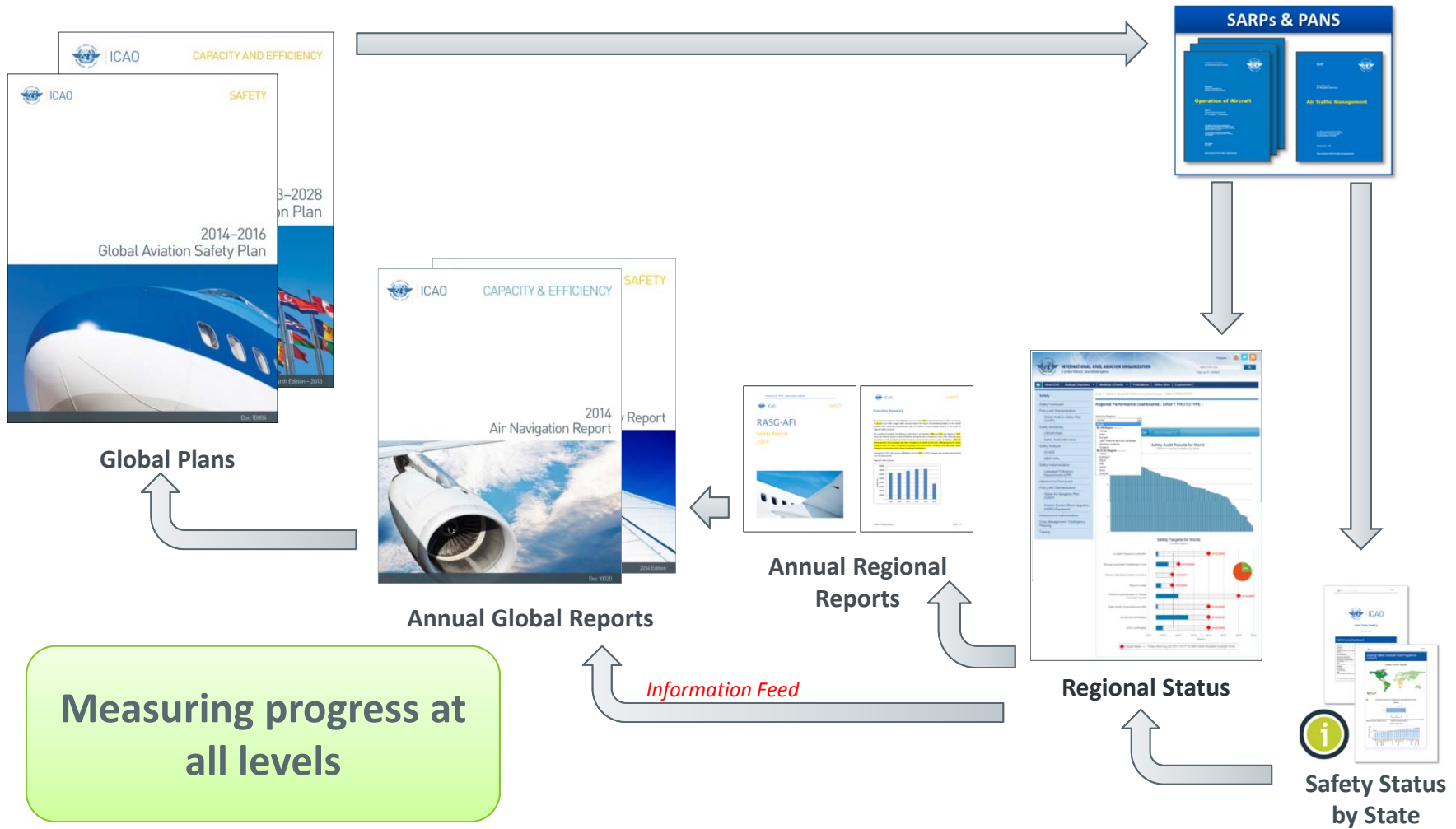
Moving forward

NEXT STEPS





Global, Regional and State Nested Reporting





Regional Priorities and Targets



Common set of Indicators as a baseline



REGIONAL OFFICE	SAFETY	AIR NAVIGATION
ESAF	Aviation Safety Targets for Africa (Abuja Ministerial – July 2012)	ANS Performance Indicators for Africa (APIRG/19 – October 2013)
WACAF		
MID	MID Region Safety Strategy (DGCA-MID/2 May 2013)	MID Region Air Navigation Strategy (MSG/4 – November 2014)
APAC	RASG-APAC Priorities and Targets (RASG-APAC/4 – November 2014)	APANPIRG Priorities and Targets (APANPIRG/25 – September 2014)
NACC	Port-of-Spain Declaration (NACC/DCA/5 – April 2014)	Port-of-Spain Declaration (NACC/DCA/5 – April 2014)
SAM	Bogota Declaration (RAAC/13 - December 2013)	Bogota Declaration (RAAC/13 - December 2013)
EUR/NAT	Priority Safety Targets for the EUR Region (RASG-EUR/03 - February 2014)	EUR ASBU Implementation Plan (EANPG/55 - November 2013)
	NAT Safety KPIs (NAT-SPG/50 – June 2014)	NAT Service Development Roadmap (NAT-SPG/49 – June 2013)

Using readily available data



2nd High-level Safety Conference
2 – 5 February 2015, ICAO Headquarters, Montréal

Recommendation 2/1 b) 3)
Implementing SSP

ICAO should improve and harmonize the defined SPIs taking into account those currently in use



Proposed Safety Performance Indicators

(HLSC/15-IP/1 Appendix)



MID Region Safety Strategy

- ★ Effective Implementation of Safety Oversight System **Theme 5**
- ★ Progress in SSP Implementation **Theme 7**
- ★ Progress in SMS Implementation **Theme 7**
- ★ Frequency and Severity of Accidents and Incidents **Theme 1-4**
 - Certification of Aerodromes **Theme 6**
 - Significant Safety Concerns **Theme 5**
 - Presence of notable hazardous conditions
- ★ Fleet Modernization
 - Effectiveness of Foreign Operator Safety Assessment Programmes
- ★ Industry Certification **Theme 5**
 - Extent of Environmental Hazards

★ Proposed Core Safety Performance Indicators



Measuring Global Air Navigation

Proposed Core Key Performance Indicators

Capacity throughput KPIs

- Peak Arrival Capacity
- Peak Arrival Throughput

Customer-focused KPIs : On-Time Punctuality / Schedule Delay

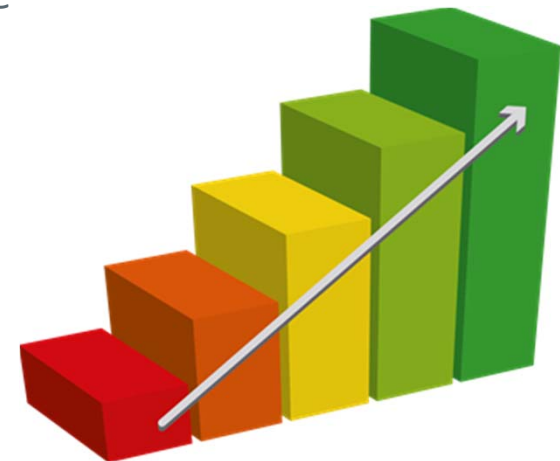
- Actual off-block time against scheduled departure time
- Actual on-block time against scheduled arrival time

Flight efficiency KPIs

- Taxi-Out Additional Time
- Taxi-In Additional Time

Delay KPIs (if ATFM exists)

- En-Route ATFM Delay
- Airport/Terminal ATFM Delay





Regional Support Mechanism Strategies

- **Objectives and Work Programmes**

- Aligned and complementary



- **RASGs**

- Data driven approach by region
- Regional priorities and targets aligned with the GASP
- Focus mitigation measures on risk areas
- All aviation stakeholders
 - States, international organizations and industry

- **RSOOs and COSCAPs – Increasing roles**

- Support improvement of State's EI levels





Regional Safety Oversight Organizations (RSOO)

- **Regional solutions** tailored to national challenges
- **Faster improvement** of safety oversight capabilities
- **Increased effectiveness** and efficiency by sharing experience and resources
- Achieve **higher compliance** quicker and with less resources
- Greater **international representation** and recognition for member States
- Readiness to deploy and **implement assistance**
- Advice based on **other member's experience**
- **Supported by ICAO Assembly Resolution and HLSC Recommendation**





Summary Recommendations for MID States

- Prioritize **resolution of SSC**
- **State Plans of Action (PoA)** for priority States based on safety risk (EIs < 40)
- Prioritize actions to **support safety oversight improvements** (EIs < 60)
- **Implement SSP** and use **iSTARS/SPACE Gap Analysis tool** to keep ICAO informed of progress (EIs > 60%)
- **Alignment** of RO, RASG, COSCAP, partner organizations, etc. regional actions for priority States and implementing regional safety targets
- States to **request Technical Assistance** from ICAO if required
- Agree on establishment of MENA **RSOO**
- States to **request ICVM and/or off-site validation** once ready to improve EI score by validation of actions
- States to measure and report against **regional targets** and **safety and air navigation performance indicators**





ICAO | UNITING AVIATION

HLSC2015

Second High-level Safety Conference





Some of the Major Outcomes during the HLSC

- **Global Tracking**

- Member States endorsed the **GADSS Concept of Operations**
- Plans for adoption of a new **15 minute aircraft tracking standard** was also endorsed
 - **Performance-based**, allowing airlines the choice of several available and planned technologies and procedures
 - Proposal was sent to Member States on 25 February
 - Expected to be adopted by ICAO Council this fall
 - **Applicability date of 2016**
- ICAO is working with industry on an **implementation initiative**
 - To assist States, ANSPs, and airlines in the implementation of the standard and respond to abnormal flight behavior in an **integrated and multidisciplinary manner**



Some of the Major Outcomes during the HLSC

- **Conflict Zones**

- HLSC supported ICAO's **comprehensive risk mitigation work programme**
- **Including:**
 - **Online repository** hosted by ICAO, which will serve as a single public source for up-to-date risk assessments from States and International Organizations
 - **Harmonization of terminology** used for risk assessments
 - **Comprehensive review** of existing requirements and message formats
 - **Industry-led initiatives** to share operational information and be more transparent with passengers on conflict zone risk methodologies being applied



Conflict Zone Information Repository (CZIR) *Public interface*

INTERNATIONAL CIVIL AVIATION ORGANIZATION
A United Nations Specialized Agency

Search this site...

Sign up for updates

Home | About ICAO | Strategic Objectives | Meetings & Events | Publications | Training | Online Store | Employment

ICAO > Conflict Zone Information Repository > Conflict Zone Information Repository

Conflict Zone Information Repository

Select a state to view all posts affecting its territory:

Select a State...

Click on a row below to display more information on the conflict zone post.

Reporting State	Information Source Type	Information Title	Valid From	Valid To
Andorra	NOTAM	Risk to Civil Aviation	2015-03-02	2015-03-28
Albania	NOTAM	QNH reporting	2015-03-23	2015-03-24
Afghanistan	NOTAM	MISSILES FIRED FROM SOUTH WEST OF TRANA AIRPORT	2015-03-26	2015-03-28

Help | **Contact Us** | **Regional Office Websites**

Terms & Conditions | Site Index | Links | FAQ | Web Support

Headquarters | Regional Offices

Asia and Pacific (APAC) Office, Bangkok
Eastern and Southern African (ESAF) Office, Nairobi
European and North Atlantic (EUR/NAT) Office, Paris
Middle East (MID) Office, Cairo
North American, Central American and Caribbean (NACC) Office, Mexico City
South American (SAM) Office, Lima
Western and Central African (WACAF) Office, Dakar

© International Civil Aviation Organization - ICAO



Some of the Major Outcomes during the HLSC

- **Effective and Efficient Regional Collaboration**
 - HLSC agreed on the importance of **regional collaboration** to improve safety
 - Recommended that aviation safety partners, including donor States, international organizations, industry and financial institutions, collaborate with ICAO to assist States to improve aviation safety
 - ICAO to lead the **alignment and coordination of regional initiatives** to improve safety, implement the GASP objectives, and achieve the regional safety targets.
 - Recommended that States, International Organizations and industry **increase their participation in and contributions** to the ICAO and partner regional safety mechanisms, including support to the activities of the RASGs with resources.
 - ICAO develop a **resource mobilization strategy and implementation plan** to increase resources, assistance activities and implementation assistance capacity.
 - ICAO to participate in the development of the **UN Sustainable Development Goals**.
 - States, international and regional organizations and industry **increase contributions to the ICAO Voluntary Funds** including the **Safety Fund (SAFE)** and Human Resources Development Fund (HRDF).



Ongoing Focus by ICAO

- The integration of **remotely piloted aircraft systems (RPAS)** into civilian airspace
- Continued adoption of proactive **safety management** approaches in States
- Provisions on the **sharing and protection of safety information**
- Full and expedited implementation of **Performance-based Navigation (PBN)** regulatory oversight
- Sustain the **Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA)** programme to assist States prepare for and respond rapidly to any new public health event
- The need for all ICAO States to be sufficiently assisted so as to reach **global minimum levels of effective safety oversight**





GLOBAL EVENTS





ICAO



UNOOSA

SPACE2015

ICAO / UNOOSA Aerospace Symposium (18 – 20 March 2015)



- **Symposium Outcomes:**

- General consensus that commercial space transportation **will happen**
 - Initially from remote locations with segregated traffic, evolving to full integration
- For the moment, **no international regulation** is required
- **Strategy:** Preparation and education of all stakeholders
- **How to engage on the subject with ICAO / UNOOSA**
 - **Be at the table** - join the ICAO / UNOOSA Space Learning Group at www.icao.int/aeroSPACE
 - **Share** your experience and concerns related to integration of airspace
 - Commitment is not resource intensive – high value for low cost
- **Second ICAO / UNOOSA Aerospace Symposium** is scheduled for next year in 2016, hosted by the United Arab Emirates



RPAS Symposium

23 – 25 March 2015



- **Comprehensive Picture:**

- RPAS and UAS are **everywhere**
- RPAS **must fit** into the aerospace system
- Existing frameworks provide **foundation**
- States need guidance for **national regulations**
- Harmonization of national regulations to support **international operations**
- **Regulations** are ahead of SARPs

- **Conclusions**

- Government / Industry **collaboration** (civil and military)
- **Terms and Definitions** (RPAS Manual, Annex 2 and Annex 7)
- **Operational procedures** (civil and military)
- **Spectrum** utilization
- **Safety oversight** methodology
- **Safety management** at all levels (Feedback loops)

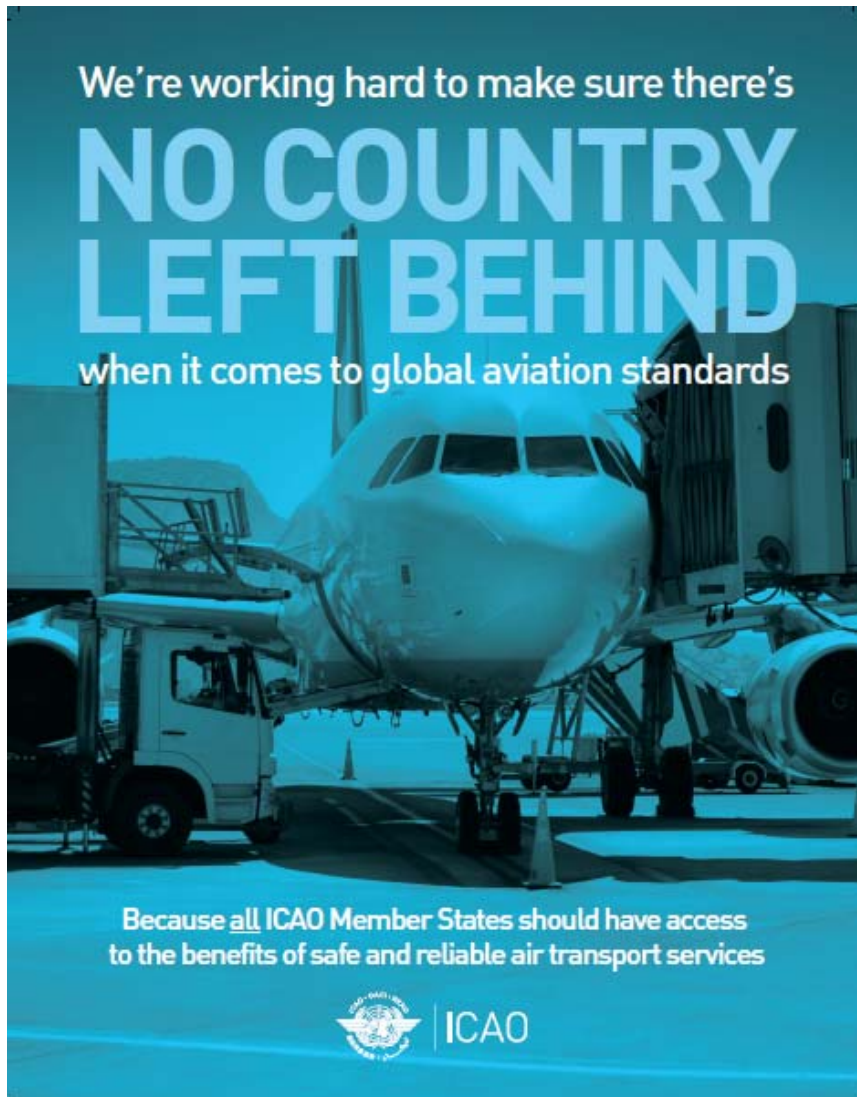


Block Upgrade Demonstration Showcase and Symposium (BUDSS)
19 – 21 May 2015, ICAO Headquarters, Montréal, Canada

*From Global Plan to **Local Benefits***

- **Intent:** To demonstrate ‘end-to-end’ capabilities to States, especially those without legacy systems to modify
 - Seeing is believing
- A unique and **highly interactive** event - Technology ‘speed dating’
 - Turning theory into operations
- High **quality of time and attention** with the attendees needing upgrades
 - Provide attendees with confidence of purchase decisions
- International and overarching **framework** of a global investment plan
 - Demonstrate the **integration** of modules into performance improvements

www.icao.int/Meetings/BUDSS



ICAO Campaign

NO COUNTRY
LEFT BEHIND



- **No Country Left Behind (NCLB) Campaign**

- Highlights ICAO's efforts to assist States in **implementing** ICAO SARPs.
- Help ensure that SARP implementation is **more harmonized globally**
- Promotes the resolution of Significant Safety Concerns (SSCs) as well as other safety, security and emissions-related objectives.
- More information can be found at:
www.icao.int/about-icao-NCLB



Global Aviation Development Implementation Symposium (GADIS)
24 – 26 November 2015, ICAO Headquarters, Montréal, Canada

- **Theme:** *No Country Left Behind*
- **Unique symposium focused on implementation, allowing:**
 - States to highlight their priority needs
 - ICAO to showcase available assistance and success stories
- **Participants:**
 - States, industry, international and regional organizations, and financial institutions
- **Objectives:**
 - Support ICAO Resource Mobilization Strategy
 - Secure collaborative support from donors and partners on voluntary contributions and ICAO coordination role

More info. will be available soon at: www.icao.int/Meetings/GADIS



ICAO | UNITING AVIATION



ICAO

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

South American
(SAM) Office
Lima

ICAO
Headquarters
Montréal

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) Sub-office
Beijing

Asia and Pacific
(APAC) Office
Bangkok



THANK YOU



BACKUP



- **Background**

- A result of the first-ever ICAO Council off-site strategy session in 2014
 - Outlined that there was still a **large discrepancy** with the level of State implementation of ICAO SARPs
 - Determined that **ICAO should focus its activities** on States with higher safety risk or security threats and review what else can be done to better encourage assistance to developing nations
 - Resolved that ICAO should provide more direct assistance by playing an **active coordination role between States**, as well as generate the political will needed to pool resources, participate in regional efforts, earmark voluntary funds and build capacity.



- **Other Related Resources**

- Current status of State Safety through the **Safety Audits**
<http://www.icao.int/safety/Pages/USOAP-Results.aspx>
- Targets and Outcomes through the **Regional Dashboards**
<http://www.icao.int/safety/Pages/Regional-Targets.aspx>
- **Implementation Kits (iKITs)**
<http://www.icao.int/safety/Implementation/Pages/iKITs.aspx>