



ICAO

الهيئة العامة للطيران المدني
GENERAL CIVIL AVIATION AUTHORITY



MIDANPIRG 21 and RASG-MID 11

ABU DHABI, UAE | MARCH 4-8, 2024





Air Navigation and Aviation Safety Global Developments

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&

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Plan Overview

Traffic Overview

Aviation and Environment

Priority Focused Areas

Global Events

Upcoming ICAO provisions

Summary

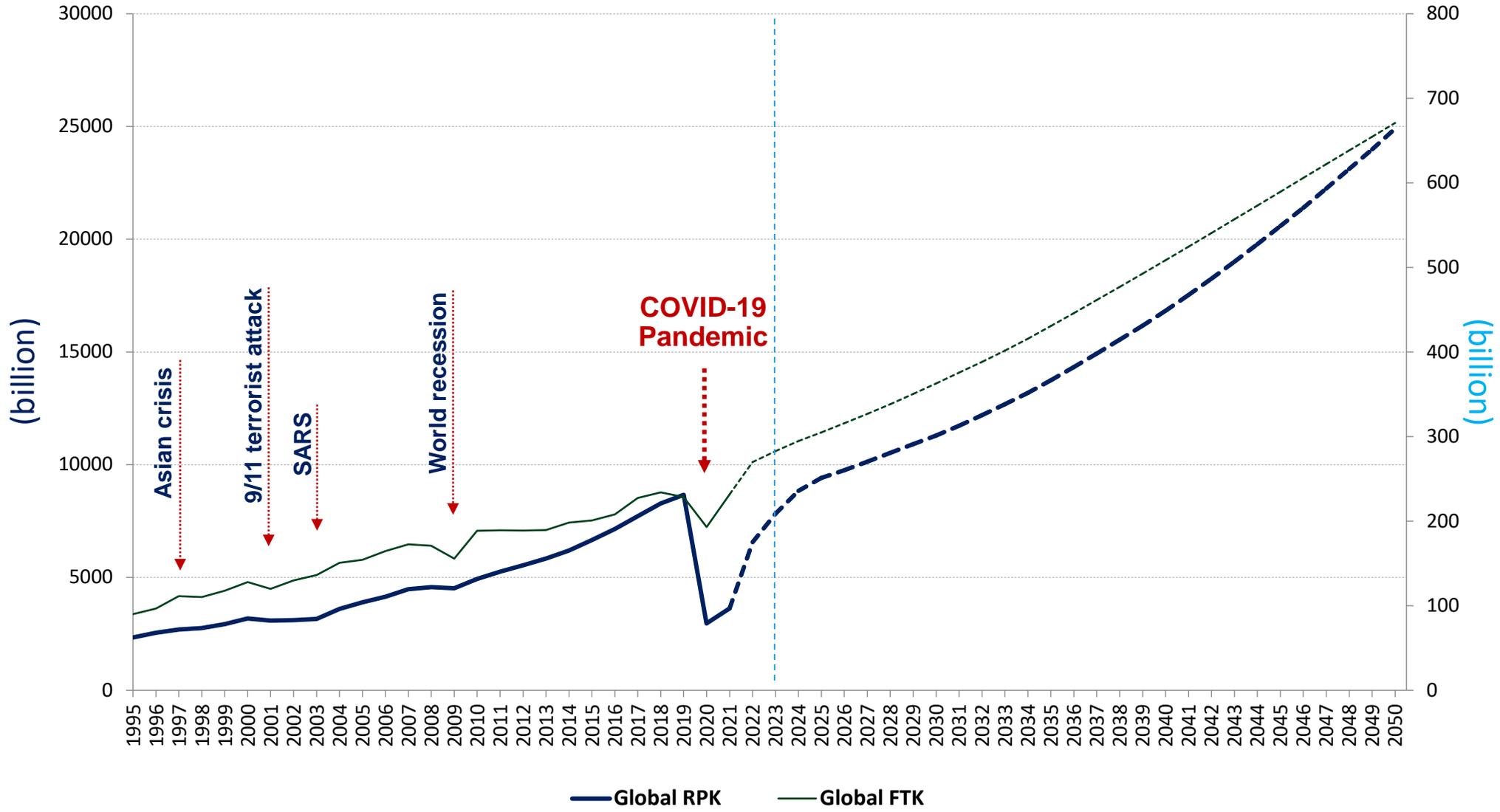
Safety Matters

Action by Meeting

Global traffic: The Pandemic and Recovery



Revenue Passenger-Kilometres
(billion)

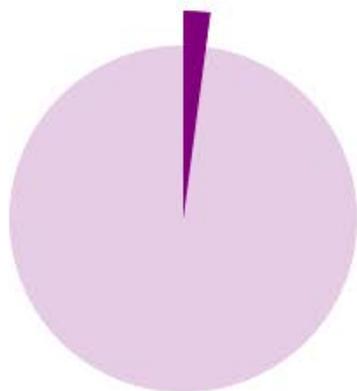


Freight Tonne-Kilometres
(billion)

Global RPK Global FTK

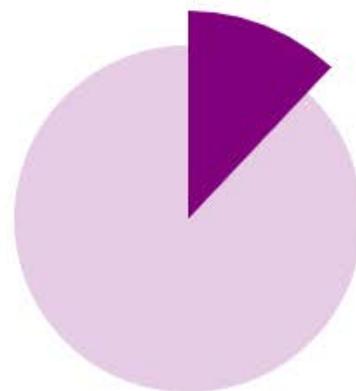
Aviation and Environment

(Source: Air Transport Action Group Facts and Figures)



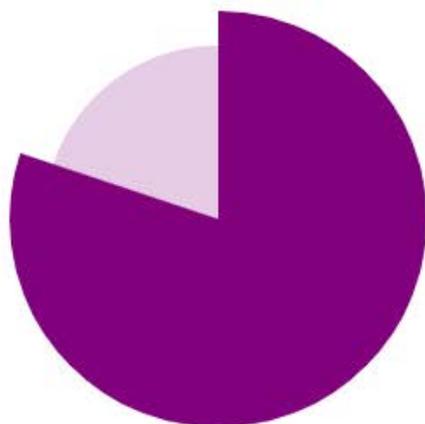
2.1%

The global aviation industry produces around 2.1% of all human-induced CO₂ emissions. ⓘ



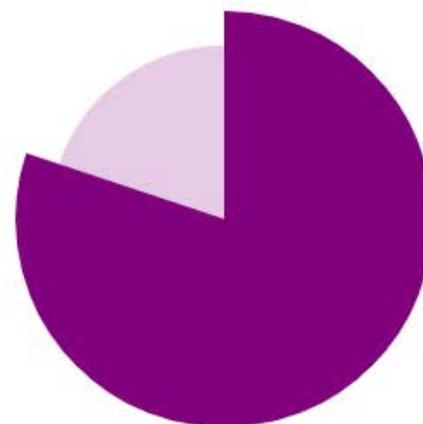
12%

Aviation is responsible for 12% of CO₂ emissions from all transport sources, compared to 74% from road transport.



80%

Jet aircraft in service today are well over 80% more fuel efficient per seat kilometre than the first jets in the 1950s. ⓘ



80%

Around 80% of aviation CO₂ emissions are emitted from flights of over 1,500 kilometres, for which there is no practical alternative mode of transport. ⓘ



ICAO LTAG

LONG TERM GLOBAL ASPIRATIONAL GOAL FOR INTERNATIONAL AVIATION

NET-ZERO 2050

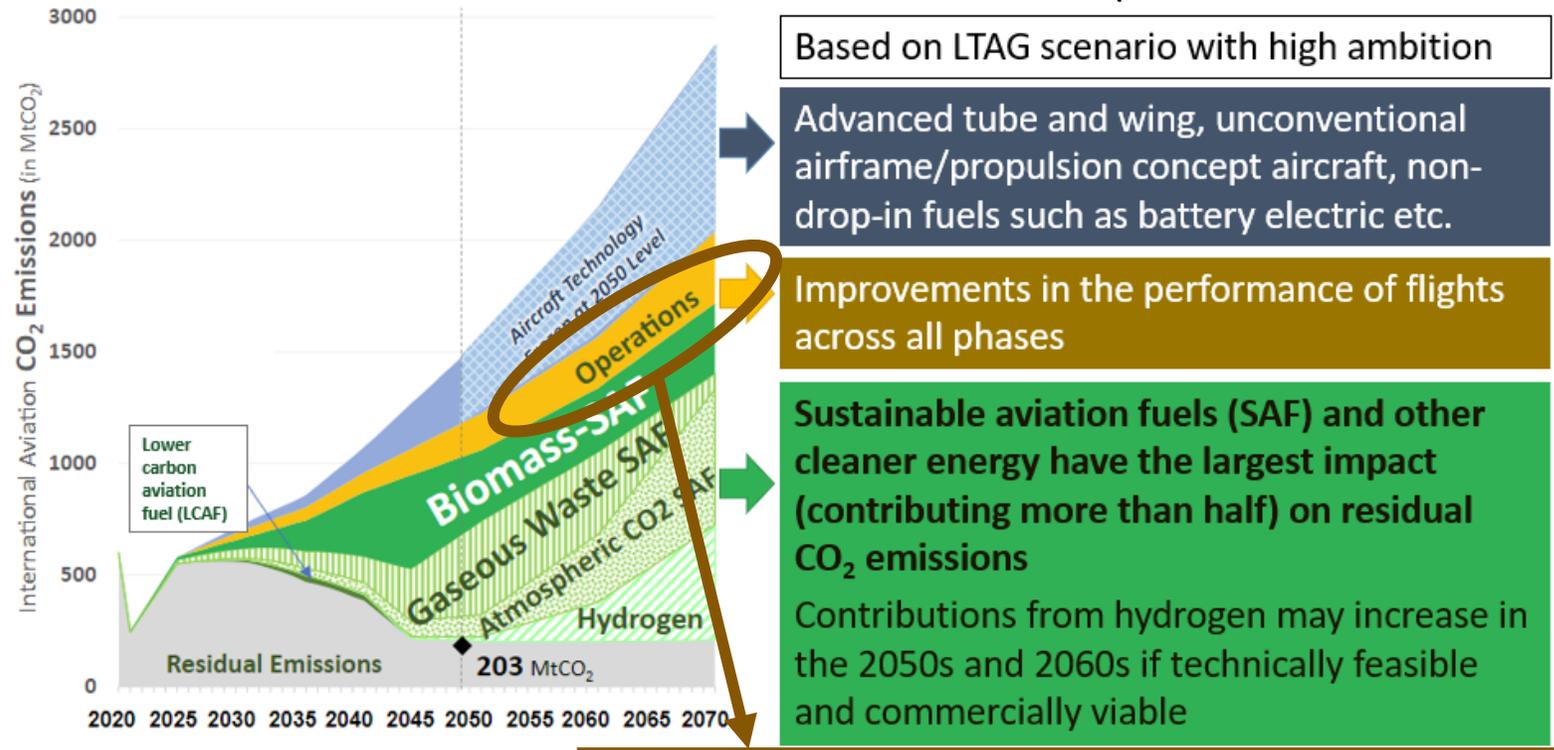


Assembly Resolution A41-21

- In support of Paris Agreement's temperature goal
- LTAG supported by wide range of stakeholders

LTAG - Technology, Operations, and Fuel

“When visualizing the ICAO basket of measures to reduce CO2 emissions, **Air Traffic Management (ATM) and operations are often overlooked** as one of the main measures to support the decarbonization process. However, despite being depicted as a small wedge, **ATM and operations offer the highest potential** for reducing CO2 and related **emissions in the short to medium term.**” (ICAO 2022 Environmental Report)



Can be implemented relatively quickly and widely

Doc 10184

Assembly Resolutions in Force
(as of 7 October 2022)



Published by authority of the Secretary General

INTERNATIONAL CIVIL AVIATION ORGANIZATION

Assembly Resolution A41-21 Consolidated statement of continuing ICAO policies and practices related to environmental protection — Climate change

Recognizing that **air traffic management (ATM) measures** under the ICAO Global Air Navigation Plan **contribute to enhanced operational efficiency and the reduction of aircraft CO₂ emissions**;

...

25. *Requests* States to:

a) work together with manufacturers, air navigation services providers (ANSPs), aircraft operators and airport operators to accelerate the development and **implementation of fuel-efficient routings and air navigation procedures** and ground operations to reduce aviation emissions, and work with ICAO to bring the environmental benefits to all regions and States, taking into account the Aviation System Block Upgrades (ASBUs);

b) reduce legal, security, economic and other institutional barriers to **enable implementation of the new air traffic management operating concepts** for the environmentally efficient use of airspace;

...

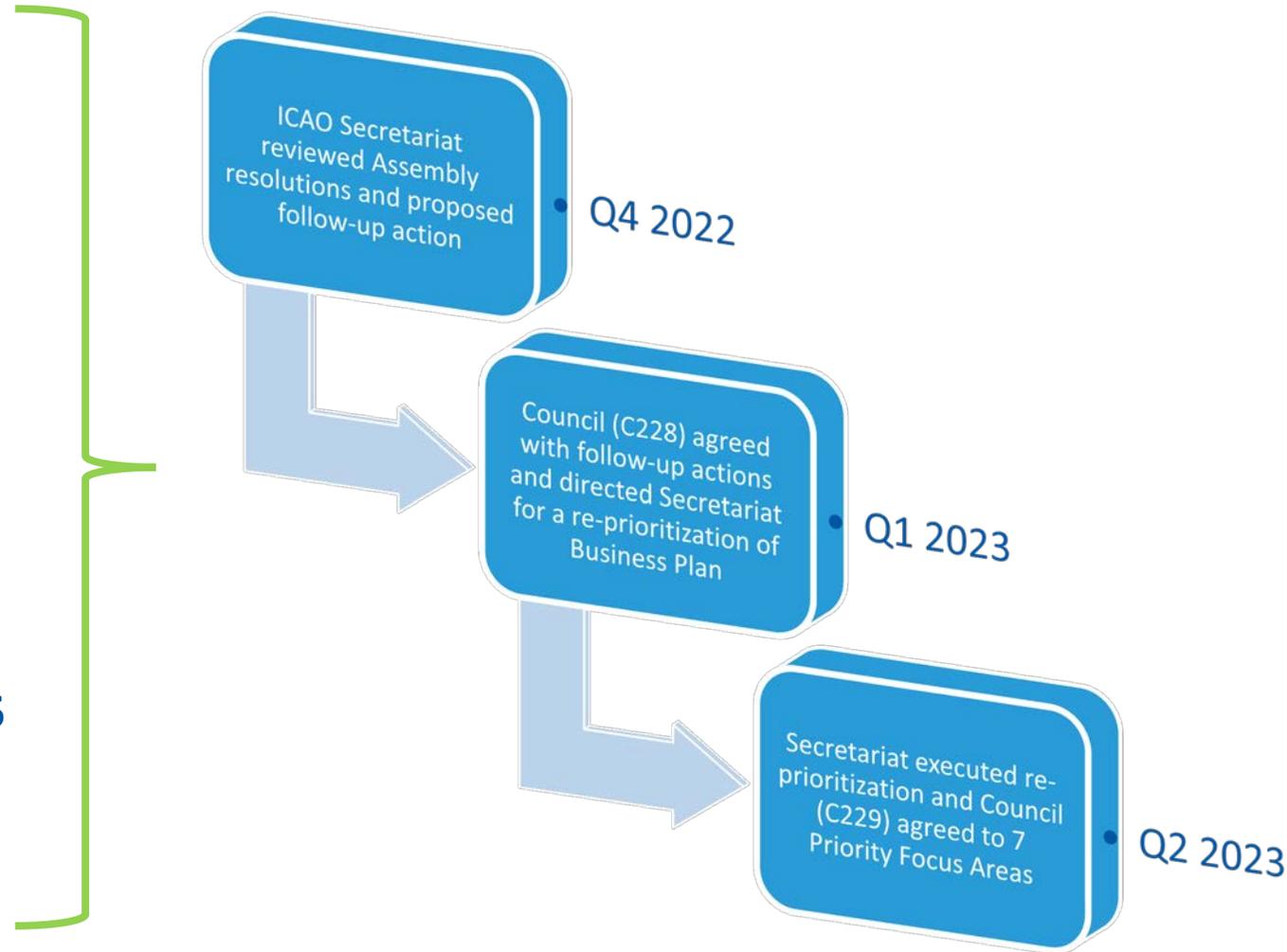
26. *Requests* the Council to:

a) maintain and update guidance on operational measures to reduce international aviation emissions, and place emphasis on increasing fuel efficiency in all aspects of the ICAO's Global Air Navigation Plan (GANP); **encourage States and stakeholders to develop air traffic management that optimizes environmental benefits**;

Organization-Wide Prioritization

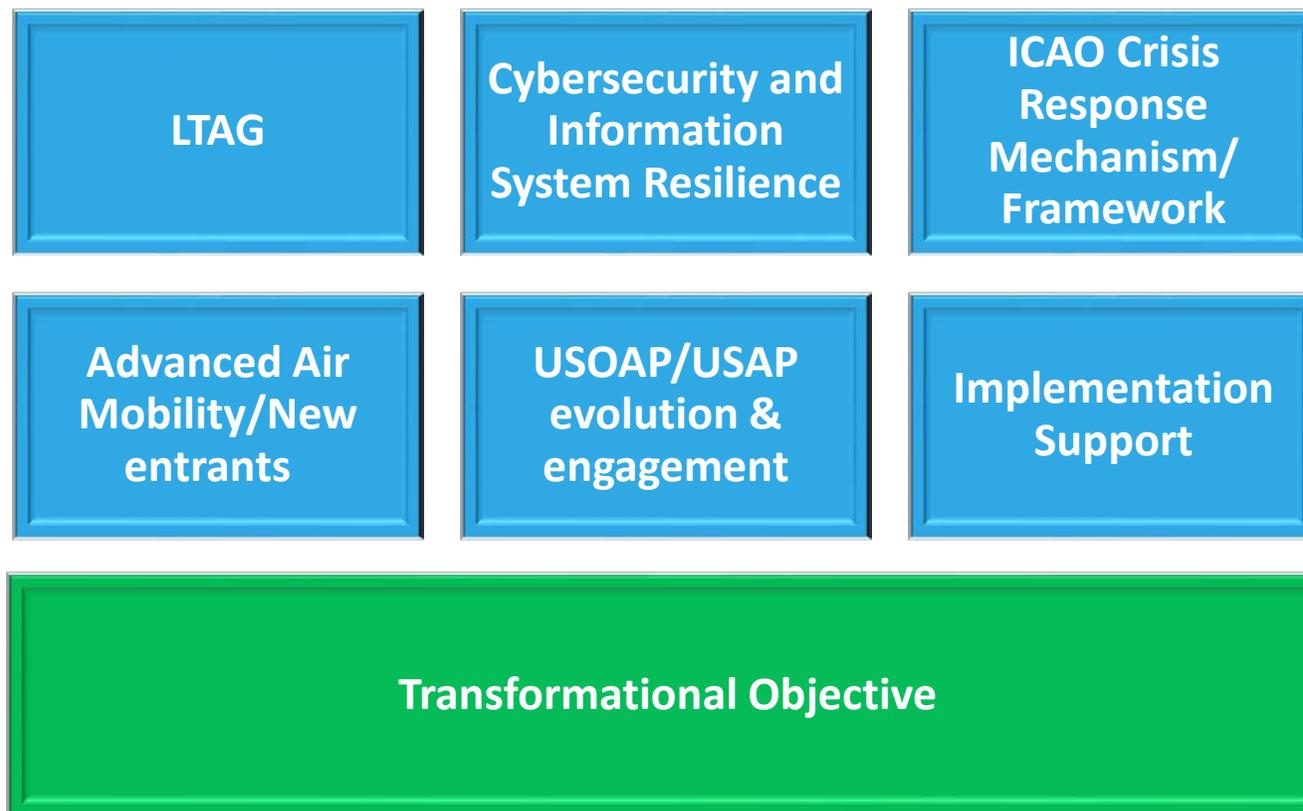


Results-based ICAO Business Plan 2023-2025



Global Priorities - Priority Focus Areas

ICAO Business Plan 2023-2025



Performance Improvement Offers



Better safety measures



Aircraft operating cost saving



Passenger travel time saving



Fuel saving



Examples of ATM Benefits



Better safety measures

Enhanced ATS surveillance system tools provided earlier detection of unexpected deviations, enhanced weather avoidance, and emergency response capability. [Source: NAVCANADA]



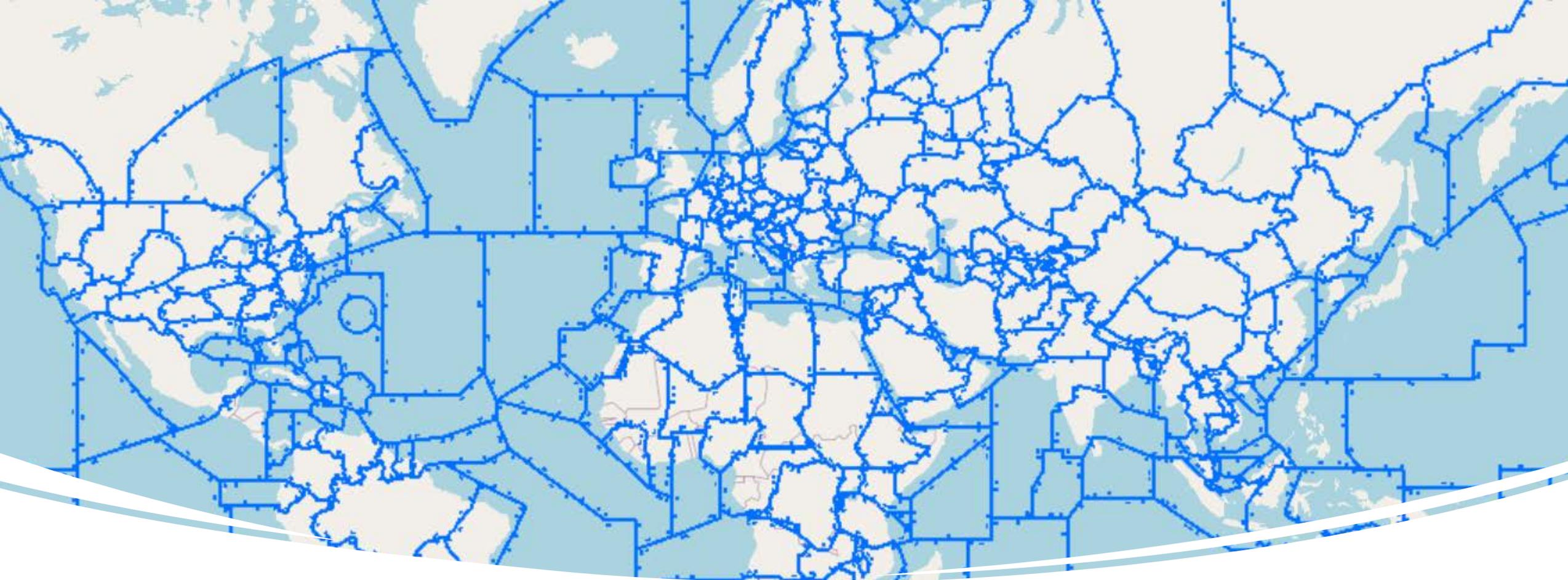
Fuel-saving

With reduced separation in oceanic airspace, flights were 20% more likely to receive the requested trajectory. That represents approximately **1,760,000 kg of fuel saved**, which converts to a reduction of approximately **5.5 million kg of CO2** [Source: NAVCANADA]



Fuel-saving

With the use of Established on RNP (EoR) for one month, shorter tracks and continuous descents resulted in 80-90% less level flights. These benefits add up to **the equivalent of almost 10,000 cars being removed** from the roads.



ICAO Questions to Ourselves

- Are these benefits accrued around the world ? If not, why ?
- Is there anything that ICAO can do more to assist ?
- What can you - States and industry – do more ?

Heads-Up to Future ICAO Decision-Making Events



AIR NAVIGATION WORLD 2023

Shaping the Skies of Tomorrow

28 - 31 August 2023 | Montréal, Canada

Performance-Based Aerodrome Operating Minima

Evolution of Aerodromes for Future Needs

Improving Safety of Helicopter Operations

Cross-Border Transferability of Aircraft

Future Meteorological Information and Services

NOTAM Replacement

Aviation Medicine

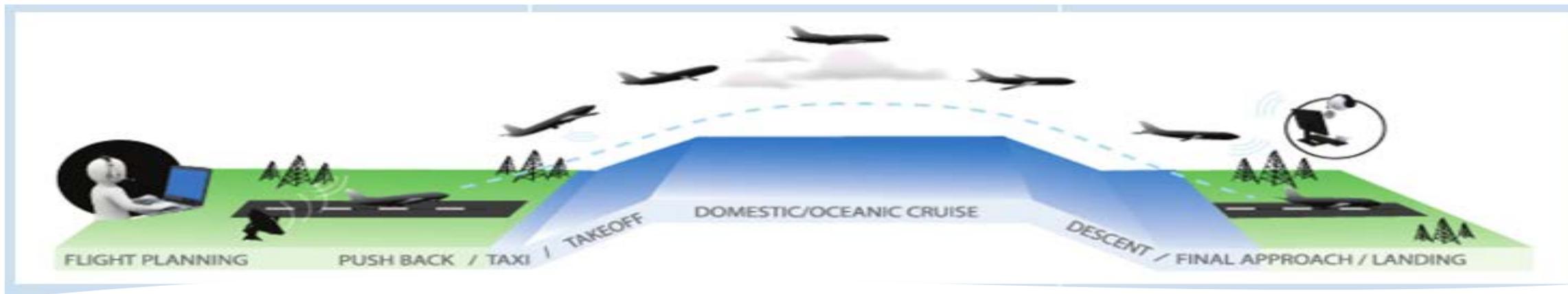
Electronic Certificates (Personnel Licences)

Future of Pilot Training

Higher Airspace Operations (HAO)

Future of the Air Navigation System

Modern Approaches to Aviation Safety



- SID and CCO
- Reduced divergence departures procedures
- Reduced longitudinal and lateral separations in the oceanic and remote areas
- STAR and CDO
- PBN instrument approaches
- Parallel approach procedures
- Enhanced wake turbulence separation minima

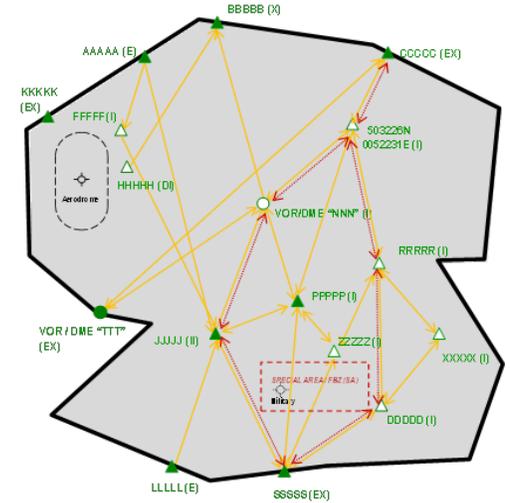
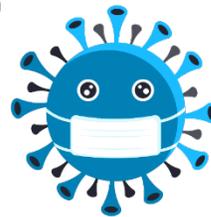
Performance Improvement Options

Performance Improvement Options (More)

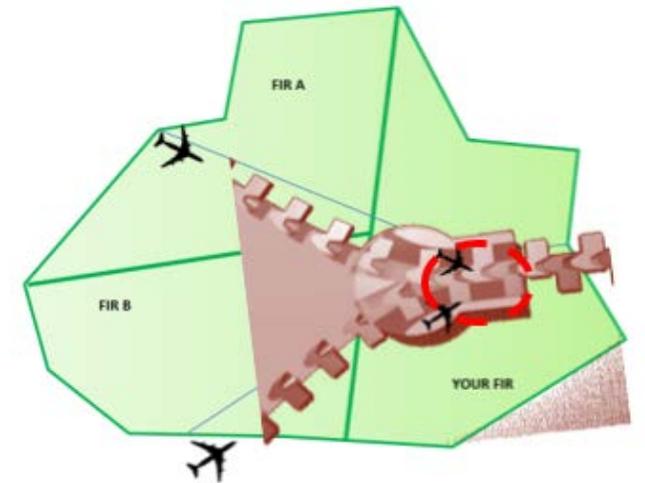


Data Link

How to prepare for/respond to crises and contingencies



Free route airspace



Global ATFM



FF-ICE

Global Events in 2024





INNOVATION

FAIR

12

MARCH
2024

14



ICAO Global Implementation Support Symposium 2024

30 April - 2 May 2024 | Punta Cana, Dominican Republic

Optimizing Aviation Capacity: Strategies for Implementation Success



AAM 2024

ICAO'S FIRST ADVANCED
AIR MOBILITY SYMPOSIUM

9 — 12 September 2024
ICAO Headquarters, Montréal, Canada

AN-CONF/14

14th Air Navigation Conference

26 August to 6 September 2024 | Montréal, Canada

26 August to 6 September 2024 | Montréal, Canada

Theme: Performance Improvement Driving Sustainability

- 1. Prioritization and long-term strategic planning**
- 2. Timely and safe use of new technologies**
 - 2.1: Evolving aircraft technologies contributing to LTAG
 - 2.2: Addressing safety risks related to evolving aviation technologies
 - 2.3: 2026-2028 Edition of the Global Aviation Safety Plan (GASP)
- 2. Air Navigation System Performance Improvement**
 - 3.1 Proposals to improve the efficiency of Air Navigation Services contributing to LTAG
 - 3.2 Phasing out legacy systems
 - 3.3 Eighth Edition of the Global Air Navigation Plan (GANP)
- 4. Hyper-connectivity of air navigation system**
 - 4.1 Connected aircraft concept and associated challenges
 - 4.2 Cybersecurity and information system resilience



AN-Conf/14

Montréal, 26 August – 6 September 2024

1. GUIDING PRINCIPLES FOR THE PREPARATION AND CONDUCT OF THE CONFERENCE

1.1 At the seventh meeting of its 223rd Session, on 15 June 2023, the Air Navigation Commission agreed that the preparation and conduct of the Conference be guided by a set of principles. In this regard, the guiding principles for the preparation and conduct of AN-Conf/14 were communicated via State letter ST 15/1-23/12 dated 10 July 2023 and reproduced below.

- a) Items should be precisely defined and be included only if they cannot be resolved or progressed by other means, such as via ICAO expert groups or through planning and implementation regional groups (PIRGs).
- b) Items related to the existing work programme of ICAO may be included if they identify opportunities to make significant changes in direction, such as a reprioritization or a change in the scale or the scope of work, or they have reached the necessary maturity for soliciting global direction.
- c) Items that have limited applicability, that relate to new complex procedures or that address the provision of new equipment, will only be considered if they have matured to the extent that the necessity for worldwide agreement is apparent.
- d) Items addressing inconsistencies in ICAO documents will only be considered if there are substantive implications.
- e) Exchange-of-views items should be included only in those circumstances when a broad discussion is needed on the applicability to civil aviation of new concepts or techniques.



Upcoming ICAO Provisions



aircraft address assignment as a part of the registration process	RPAS inflight handing over control	remove the prohibition to duplicate information in the AIPs	space weather information service	updates to WAFS forecasts	GADSS data and information	Use of RNAV on conventional routes and procedures	Global Aeronautical Distress and Safety System (GADSS)
Time-based separation (TBS) minima for wake turbulence	Enhanced provisions related to safety performance management	relocate paragliding and hang gliding activities from NOTAM code	Enhanced provisions related to safety intelligence.	Publication of Final Reports	CHARTING NAVIGATION SPECIFICATIONS AND ACCURACIES	Investigations involving unmanned aircraft	freees aircraft from the requirement to operate on specified tracks or ATS route
Increasing State allocation of aircraft addresses	clarify the intent of the instances where the term "altitude" is used	The in-flight weather contingencies procedure	Remote air traffic services - minor editorial	Restructured Annex 3 and the new PANS-MET	RAPS ELTs	Deletion of unused registers F1 and F2	C2 Link resilience
RPAS Take-off and landing	Enhanced provisions related to State safety programmes (SSPs)	quality assurance material in PANS-OPS, Volume II	AIRCRAFT WITH FOLDING WING TIPS.	clarify the existing definition for "meteorological authority"	IFP FOR HELICOPTER PBN OPERATIONS	Enhanced provisions related to safety management systems (SMS)	Deployable drift measurement devices
FF-ICE	RAPS Detect and Avoid	SAR point of contact responsiveness	first edition of PANS-IM	Global deficiencies in SAR	how to identify multi-part NOTAM	Consultation period of Final Reports	lower threshold MCTOM value for FDAP
Release of investigative information	dissemination of WAFS forecasts and VONA in IWXXM format	Quantitative volcanic ash information and IAVW updates	C2 Link switchovers	UAS Categories	CBTA methodology for AIM	Overlap between AOC and ROC processes	RPAS changed responsibilities for States



SARPS and PANS are coming online next year

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If you are looking at growing your RPAS operations....

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If you need to address adverse weather conditions

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Some new solutions are however foundational

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Operational Improvements

Integrate Safety and Trend Analysis and Reporting System (iSTARS 4.0)



iSTARS 4.0

- Web-based Modern Analytical Platform.
- Simple and convenient interface to safety and efficiency datasets.
- Web applications to carry out safety, efficiency, and risk analyses.
- Provides global and regional unique views.
- Customized regional analysis, targets and views.
- Better insights into aviation activities supporting decision-making based on national and regional data.



iSTARS

Quick and convenient interface to a collection of web applications to make safety, efficiency and risk analyses.



Regional iSTARS^{4.0} Portal

Unique gateway for all ICAO regions.



Workshops

We can help you build business intelligence platforms.

<https://istars.icao.int>



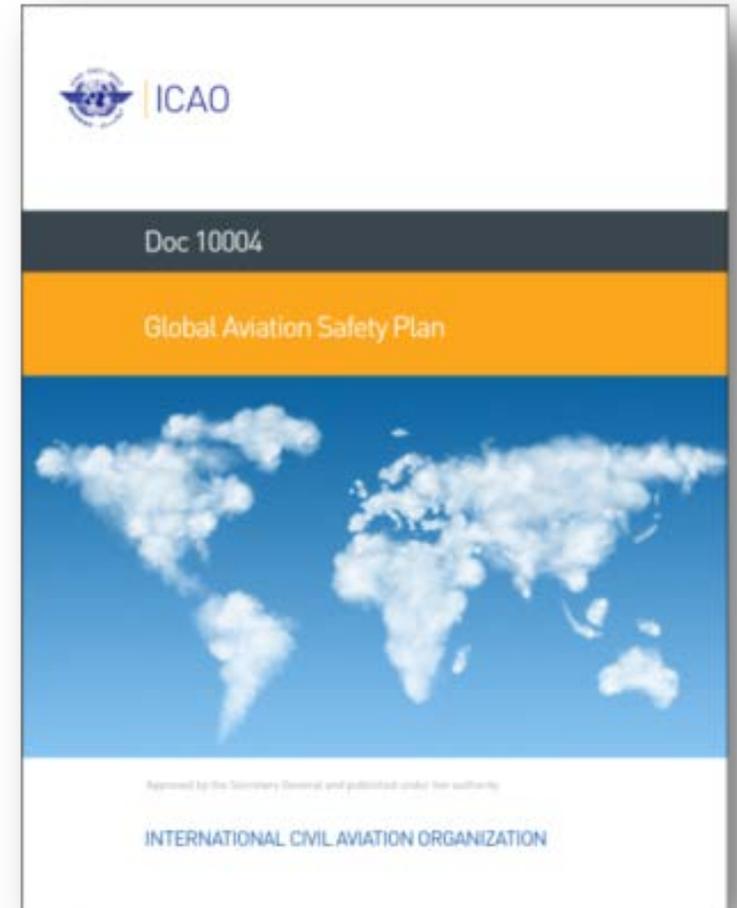
Consider the below in your planning at national and regional levels:

1. Traffic recovery and growth
2. Impact of Aviation on the Environment
3. ICAO reprioritization activities and Priority Focus Areas
4. ANW2023 and AN-Conf/14
5. Upcoming SARPs and PANS amendments
6. Take advantage of available ICAO procedures
7. iSTARS 4.0

2026-2028 edition of GASP & AN-Conf/14

Work Towards 2026-2028 GASP

- Revision underway by GASP-SG
 - 2026-2028 marks new GASP cycle = major revision
- 5 G-HRCs remain unchanged
 - Additional categories of occurrences added
- Most GASP goals remain unchanged
 - Several new targets added (previous ones deleted)
- Focus global safety issues
 - With specific targets
- Presentation of proposals to AN-Conf/14
 - WP to include GASP Questionnaire



NASP

Development & Implementation

NASP Development Progress

- Home
- Secure Portal
- NASP Community
- Events and Workshops
- GASP History
- Library**
- Links
- Contact Us

Global Aviation Safety Plan

✓	📄	Name	...
		Argentina NASP	...
		Armenia NASP	...
		Australia NASP 2021-2023	...
		Austria NASP 2021	...
		Bangladesh NASP 2021-2023	...
		Belarus NASP 2021-2023	...
		Belgium NASP - BPAS 2022-2	...
		Benin NASP	...
		Brazil NASP 2019-2022	...
		Chile NASP	...
		China NASP 2021-2025	...
		Colombia NASP-PCSO	...
		Costa Rica NASP 2022-2024	...
		Côte d'Ivoire NASP	...
		Cuba NASP	...

79 States officially published NASPs so far

So far only 4 States from MID Region

www.icao.int/nasplibrary



NASP

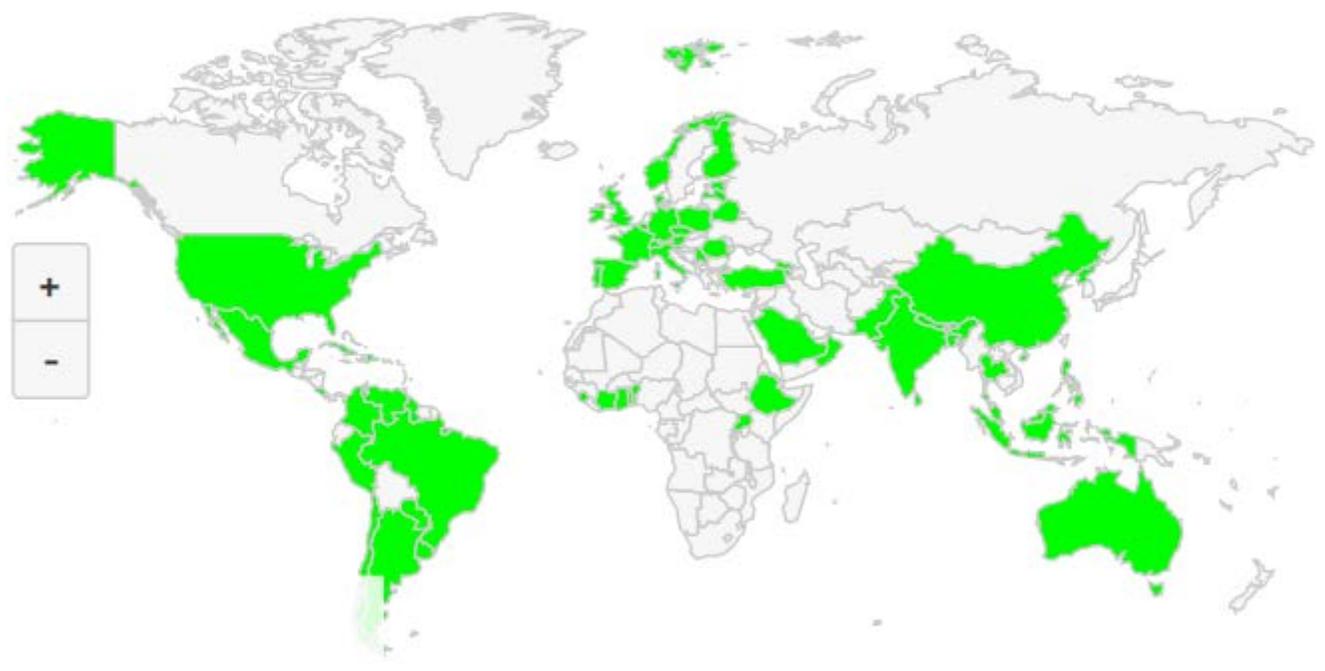
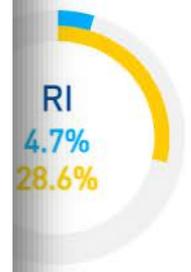
GOAL

Accidents
↓

Percentage
C
1.
14

Year-to-Date

132
+28



+
-

● Target Reached

<https://soa.icao.int/gasp>



Safety Management

Safety Management Guidance Material

- 5th edition of Safety Management Manual (Doc 9859)
 - Q4 of 2024 (advance unedited version)
 - in line with effective date of Annex 19, Amdt 2
- 1st edition of Safety Intelligence Manual (Doc 10159)
 - Q2 of 2024 (advance unedited version)



Accident & Incident Investigations

Amdt to Annex 13

- Amendments to Annex 13
 - Investigations involving RPA
 - which RPA occurrences are mandated to be investigated
 - Release of information
 - for investigations that draw public attention
 - GADSS data and information
 - recordings from fixed recorders be made available without delay to AIAs
 - Consultation period of Final Reports
 - Shortened to 30 days (with possibility to extend to 60)
 - Publication of Final Reports
 - electronic copies to ICAO for e-Library (vs. hard copies)
- Applicable in 2024 & 2026 (for RPA)



USOAP CMA

Integration of SSPIA into Traditional USOAP CMA Activities

- Project to integrate SSPIA into traditional USOAP CMA activities
- USOAP is reorganizing SSP PQs
 - to fit in current audit PQs structure/topics
- Performance-related aspects will be assessed within PQs
 - New methodology will be “satisfactory” or “not-satisfactory” for consistency
- New PQs will be published in 2024 to start new methodology in 2025
- States will be given min 6 months to prepare
 - before receiving new type of USOAP activity

Action by the meeting:

The Meeting is invited to:

- a) consider the update provided in the presentation during the deliberation under the relevant agenda items and take action as appropriate;
- b) Encourage States to participate in the global events in particular the AN-Conf/14; and
- c) urge States to publish their NASP and provide it, for posting on NASP Library to MID Regional Office with copy to gasp@icao.int;



Thank You