



**INTERNATIONAL
CIVIL AVIATION
ORGANIZATION**



61st Conference of Directors General of Civil Aviation
Asia and Pacific Region

ICAO update on Aviation Safety, Air Navigation and Oversight

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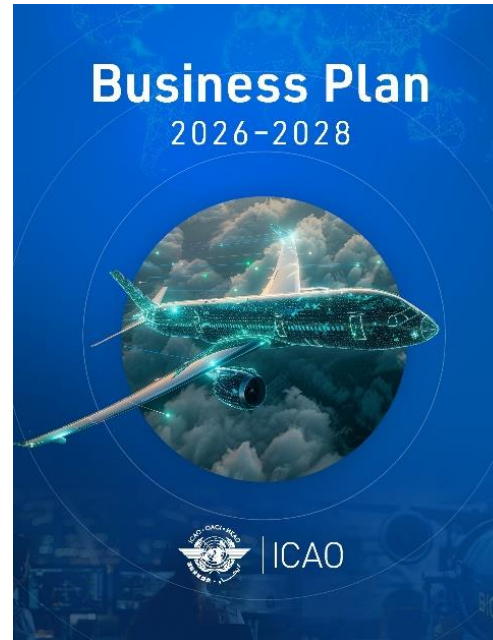
Overview

01 Strategic Planning

02 Programme Initiatives

03 Upcoming Events

Strategic Planning



Aspirations

- Zero Fatalities
- Net-Zero Carbon Emissions
- Connected Transport System

Strategic Goals

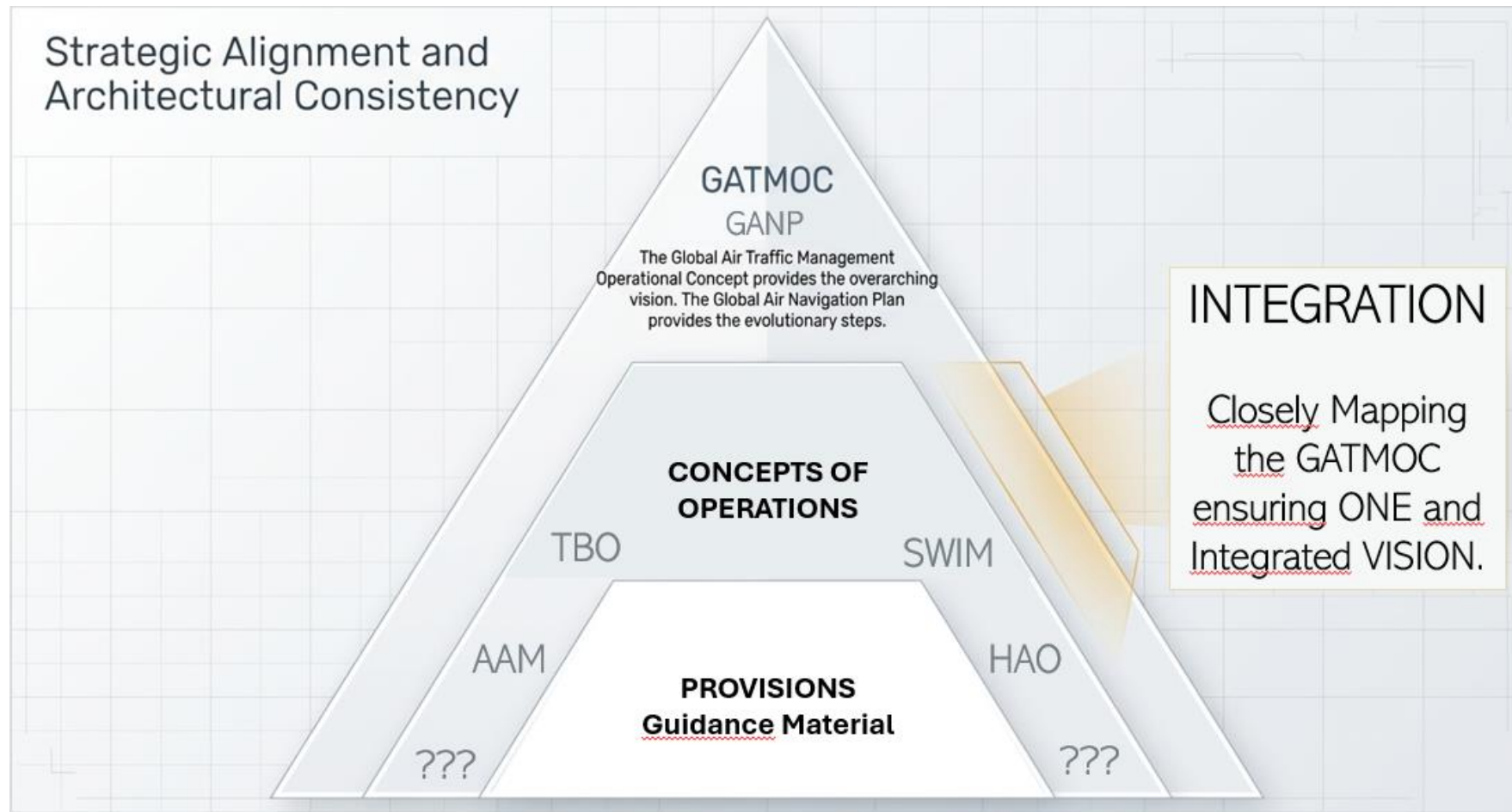
- Every flight is Safe and Secure
- Aviation Delivers Seamless, Accessible, and Reliable Mobility for All

Programmes

1. Active and Emerging Safety Risks
2. USOAP
3. CAPSCA
4. AAM / New Entrants
5. Air Navigation Performance Improvement
6. Crisis Preparedness and Response
7. Regional Safety Cooperation
8. Implementation Support

Global Air Traffic Management Operational Concept (Doc 9854)

Integrated Vision and Concept



03 Programmes





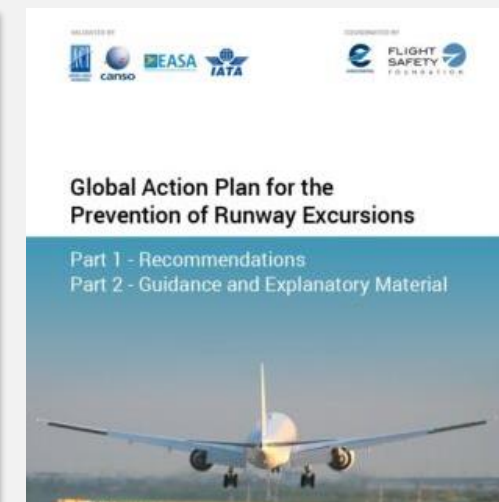
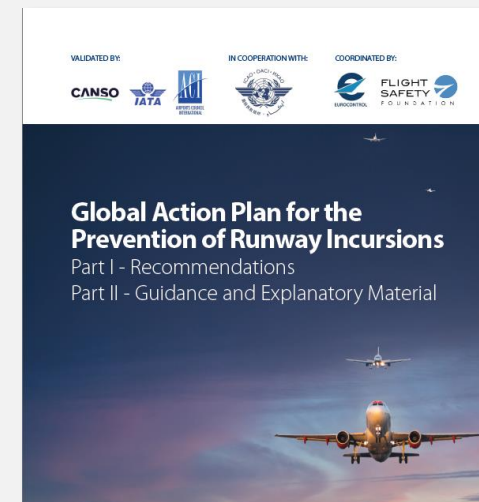
Active and Emerging Aviation Safety Risks

1. Radio Frequency Interference

- Safety critical CNS systems need to be free from harmful interference:
 - Robust standards for resilient CNS systems
 - Frequency Management
 - Aeronautical Spectrum Defense
- GNSS Vulnerability
 - GNSS signals are susceptible to interference, both intentional and unintentional, which can compromise system reliability and accuracy
 - **Jamming** is intentional broadcasting of radio signals to disrupt the GNSS services, posing a significant threat to navigation and timing applications.
 - **Spoofing** is the broadcast of GNSS-like signals that cause avionics to calculate erroneous positions and provide false guidance. This sophisticated form of interference can be particularly dangerous as it may go undetected by the receiver.

2. Runway Safety

- Global runway safety action plan (GRSAP) is the main guiding document, complemented by two industry plans
 - Global Action Plan for the Prevention of Runway Incursions (GAPPRI)
 - Global Action Plan for the Prevention of Runway Excursion (GAPPRE)
- GRSAP describes contributing factors and recommended actions on Runway Excursion and Runway Incursion (which are G-HRCs)
 - Other risk categories considered include:
 - Abnormal Runway Contact (ARC)
 - Collision With Obstacle(s) During Takeoff and Landing (CTOL)
 - Ground Collision (GCOL)
 - Loss of Control on the Ground (LOC-G)
 - Undershoot/Overshoot (USOS)



ICAO GRSAP complemented by GAPPRI and GAPPRE

3. Lithium Batteries

Rising fire risks in aircraft

- Increasing incidents of **fires in the cabin involving lithium batteries**

Diverse safety measures

- States and airlines imposed varied restrictions to mitigate risks

Need for global harmonization to address growing risk

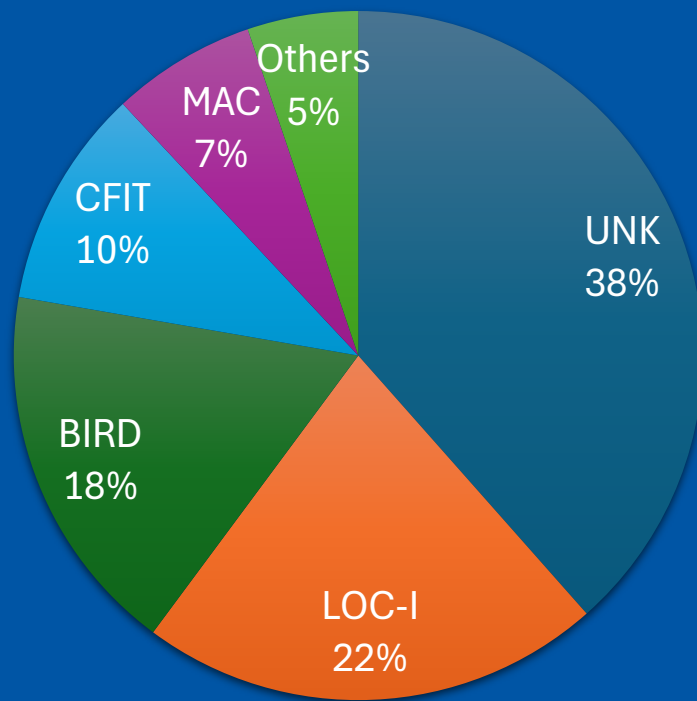
- Addendum to Technical Instructions approved by Council on 27 March 2026 aimed at globally harmonized preventive measures to reduce both likelihood and impact of onboard events

Power banks: incident data from UL Thermal Runaway Incident Programme (TRIP)

- Thermal events trending upward
- Number one cause of thermal incidents on aircraft in 2025, surpassing all other device types

4. Accident Investigation

Total fatalities by occurrence category (2021-2025)



Expected Improvements

- Strengthened independence and capability of accident investigation authorities
- Improved timeliness, availability and accessibility of final accident reports
- Enhanced quality, credibility and effectiveness of accident investigations
- Improved sharing of safety lessons and investigation findings

5. Safety Management

Why Integrated Risk Management (IRM) is Needed



Aviation risks are increasingly interconnected across domains (Safety, Security, Environment, Facilitation, Economics)



Managing risks in isolation can transfer or amplify risk elsewhere



Real-world events (e.g., cyberattacks, GNSS interference, pandemics) simultaneously impact multiple domains



Fragmented terminology and approaches hinder coordination and decision-making



IRM enables a unified, enterprise-wide view of risk





Universal Safety Oversight Audit Programme (USOAP)

USOAP

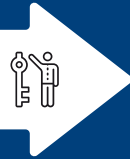
Evolution Plan for 2026-2027-2028

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USOAP-AG stream

Use new indicators to prioritize audits in 2027 and in future risk-informed audit scoping model



Study Group

Group to make recommendations on evolution of the USOAP CMA to improve Programme – data-driven, outcome-focused



Program Sustainability

Assess Programme Operating Model and propose long-term plan that will ensure Programme sustainability



Data Analysis and Program Insights

Develop analytics function to support continuous monitoring, support to Member States, program improvements, and standards development



Integration, Alignment & Coordination

Better integrate RSOO/RAIO Assessment Program (RRAP) processes within organization. Coordinate with USAP for efficiency

Plans for 2026-2027-2028

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Evolve Programme Strategy using a Design-Thinking Approach

Evolve USOAP into an outcome-driven, integrated and sustainable entity that delivers value and is adapted to future needs.



Risk-based and safety-oriented Audit Model

- Data-driven audit scope and prioritization
- Audit follow-up policies focus on safety relevant improvements
- Audit results/scores with limited validity
- Leverage RSOOs/RAIOs to reduce burden on small States



ENHANCE DATA MGMT

- Generate safety relevant insights from USOAP and EFOD
- Feed insights to support Member States, Auditor Training, Standards development



Programme Sustainability

Programme funding model aligned with its cost model to ensure sustainability



Collaborative Arrangement for the Prevention and Management of Public Health Events in Civil Aviation (CAPSCA)

Objectives and ongoing activities

- Mitigate impact of health emergencies on aviation
- Flexible and agile approach to emergencies
- Inter- and intra-sectoral collaboration
- Risk-based and evidence informed guidance
- Global, regional & national implementation assistance
- Innovative strategies

Current priorities

1. Align WHO IHR and ICAO SARPs
2. Manual: Regional Coordinators
3. Develop training for National CAPSCA focal points

Hanta and Ebola Virus







Advanced Air Mobility / New Entrants

Leveraging ICAO Experience Integrating RPAS, UAS and AAM

AAM – Designing the Future Ecosystem

- AAM Study Group (2023–current) shaping global approach
- Vision for the global AAM ecosystem
- Gap analysis of ICAO provisions
- Recommendations for future ICAO work
- ICAO Strategy for AAM

1. ICAO expertise in delivering regulatory frameworks for unmanned aviation (intl', IFR, ctrl a/s)
2. Strategic approach: Vision, gaps, rec. for work
3. Active ICAO expert groups (RPASP, AAM SG)

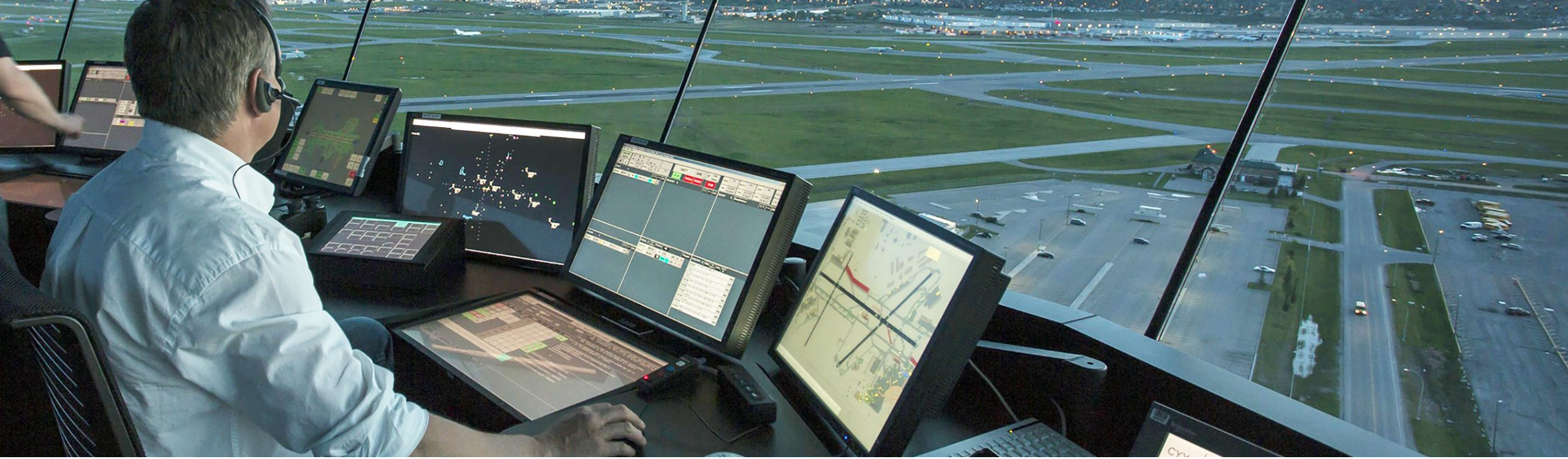
RPAS – Delivered Regulatory Foundation

- Adopted SARPs & PANS across multiple Annexes (1, 2, 6, 8, 10, 14, 19...)
- Operational regulatory framework enabling safe integration
- Evidence-based provisions developed over a decade (2014-current)
- Supporting State and industry implementation today



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is Safe and Secure**

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Air Navigation Performance Improvement

Air Navigation Performance Improvement - Global Developments

- **ATM Concept of Operations**
 - Refinement and guidance on trajectory-based operations (TBO)
 - High altitude operation (HAO) global vision and concept
 - Update to the Connected Aircraft concept
- **Spectrum Protection**
 - WRC-27 preparation is a major priority
 - ICAO's CNS programme is moving toward an integrated, performance-based and technology-flexible framework, while maintaining interoperability, spectrum protection and aviation safety



Crisis Preparedness and Response

Ongoing Activities

1. Development of ICAO Crisis Management Framework

3. Management and coordination of Contingency Coordination Teams (CCTs)

2. Harmonization of Regional ATM Contingency Management Frameworks

4. Capacity building and awareness campaign through global and regional forums

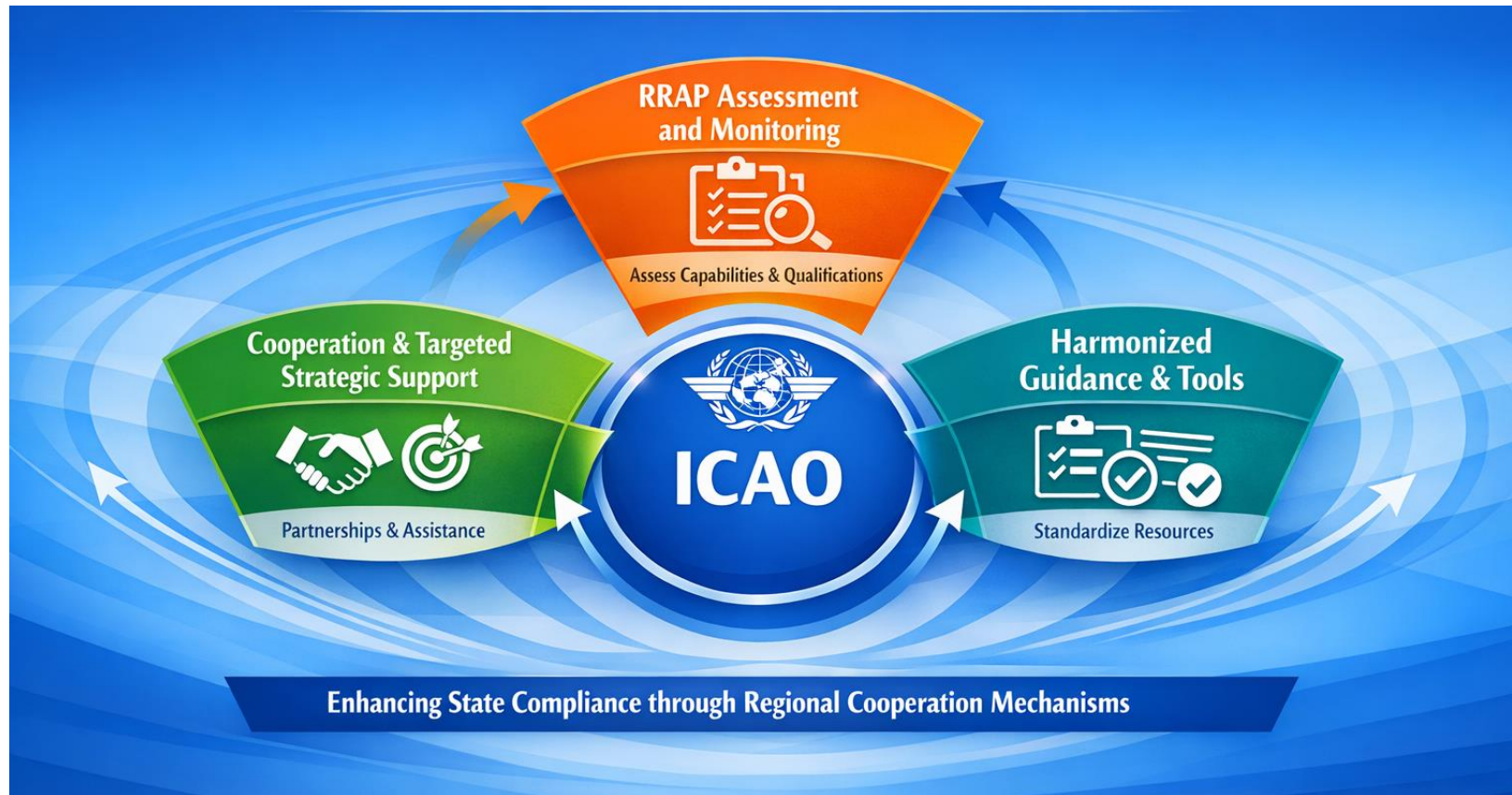




Regional Cooperation

1. ICAO Regional Cooperation Framework

Core Pillars of the ICAO Regional Cooperation Framework





2. Implementation Support Initiatives

- Regional Workshops for Accident Data Reporting (ADREP) and the ECCAIRS 2 reporting tool
- Establishment and implementation of ATFM services in preparation for 2030 applicability date
- Establishment and implementation of FF-ICE services in preparation for 2034 cessation of FPL2012
- Dedicated GNSS RFI mitigation iPack
- Spectrum implementation assistance
- Human Factors Across Global Aviation: From Design to Performance Webinar Series

03 Upcoming Events

2026-2027



2026



2027



Third High-Level Safety Conference



Third Global Runway Safety Symposium



Enhanced Aeronautical Meteorology Symposium



Air Navigation World – Global Navigation Satellite System (GNSS) Resilience

Thank You

