



ICAO

# ICAO APAC & EUR/NAT CMAC/FUA WORKSHOP

*One-step forward*



Bangkok, Thailand  
19 – 23 January 2026





SAFE SKIES.  
SUSTAINABLE FUTURE.

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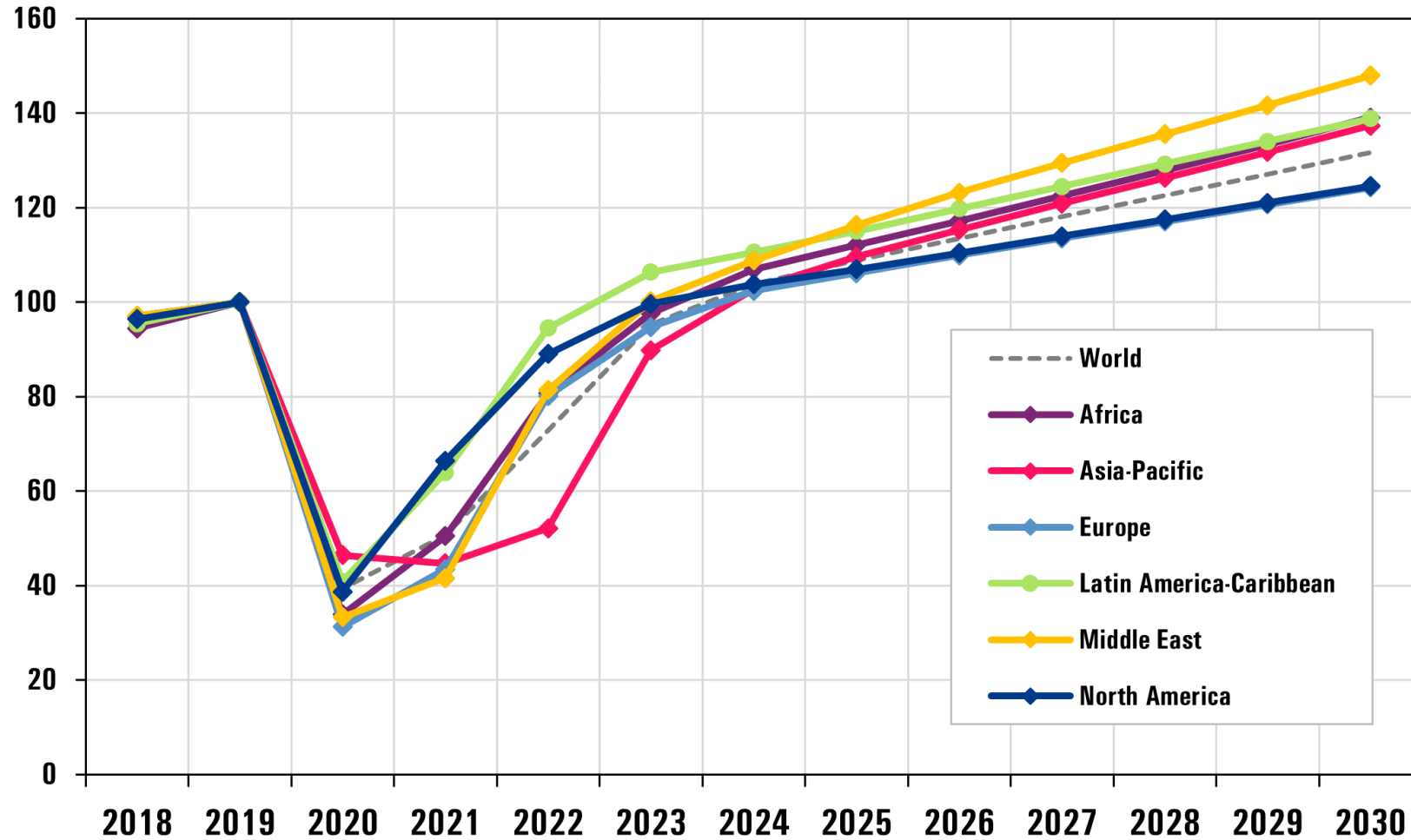
# Updates from APAC Region

Ms. ZHANG Ying  
Deputy Chief, ICAO APAC Regional Sub Office  
19 January 2026



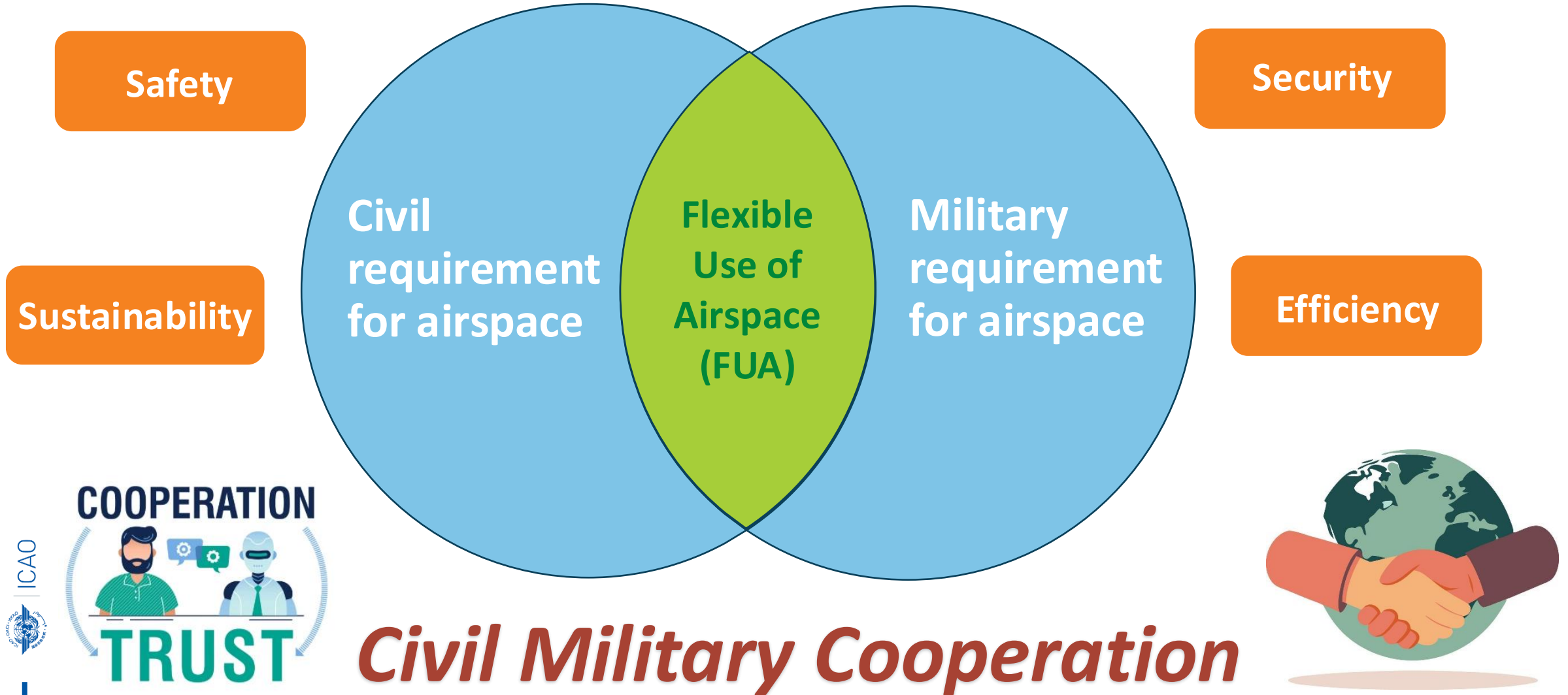
# Traffic Recovery and Growth

Medium-term passenger traffic forecast by regions  
(indexed, 2019 = 100)



Source: ACI Advisory Bulletins 26 February 2025

# Why CMAC & FUA?



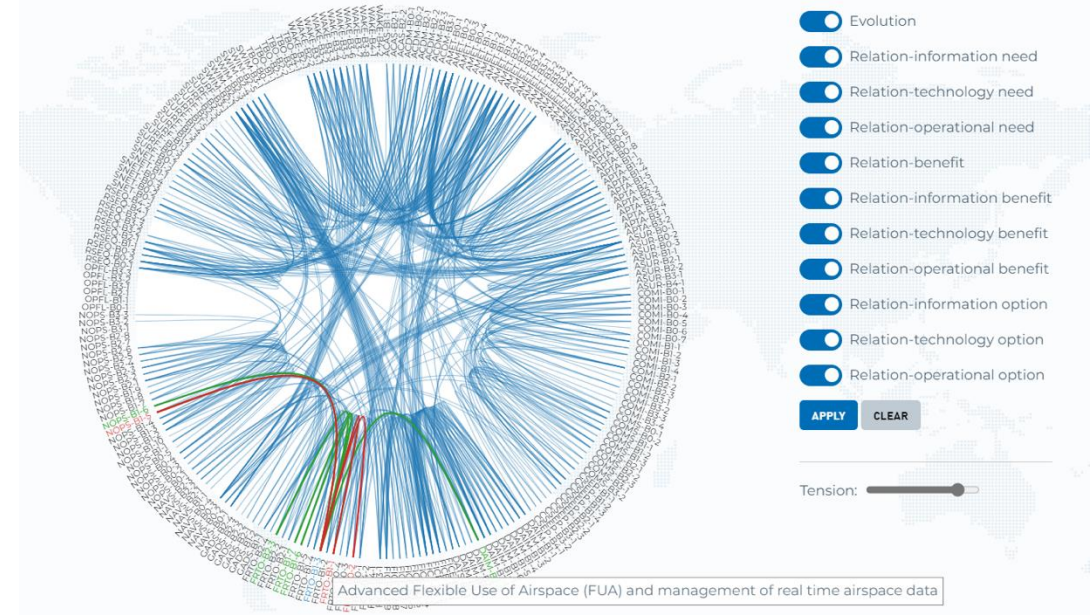
# CMAC in GANP

FRTO-B0/2 Airspace planning and Flexible Use of Airspace (FUA)



FRTO-B1/3 Advanced Flexible Use of Airspace (FUA) and management of real time airspace data

DEPENDENCY GRAPH



KPI04 Filed flight plan en-route extension

KPI05 Actual en-route extension

KPI17 Level-off during climb

KPI18 Level capping during cruise

KPI19 Level-off during descent

# Main ANS implementation challenges in APAC

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Diversified regulatory environments



Different operational complexities

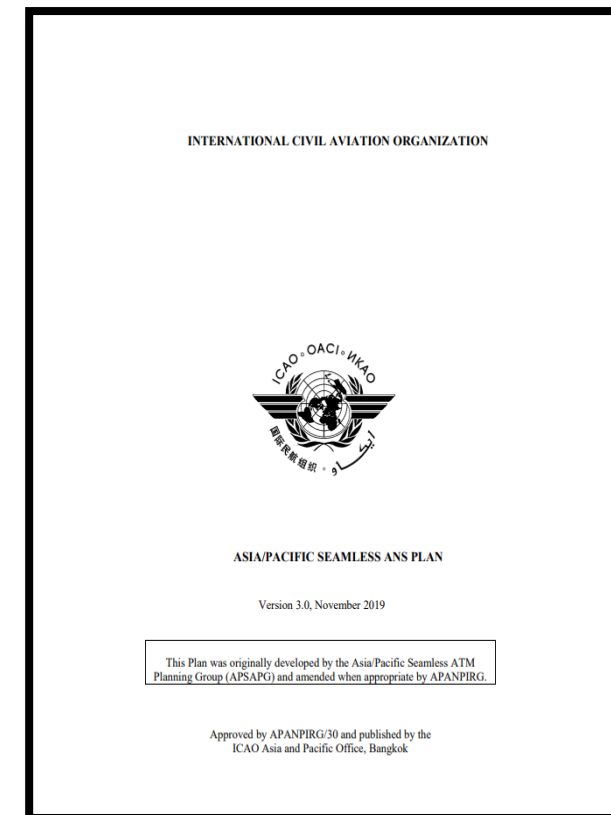


Diversified air navigation infrastructure

# ***Asia / Pacific Seamless ANS PLAN*** ***(Ver. 4.0, Nov. 2024)***

The objective of Seamless ATM is the **safe** and **interoperable** provision of **harmonized and consistent** air traffic management service provided to a flight, appropriate to the airspace category **and free of transitions** due to a change in the air navigation service provider or Flight Information Region.

## ***No Country Left Behind***



# Key CMAC Elements in APAC

## APAC ASBU Block 0 and Block 1

- FRTO-B0/1 – 4: Direct routing, Airspace Planning and FUA, Flexible Routings, and basic conflict detection and conformance monitoring (1)
- FRTO-B1/1 – 7: Free Route Airspace, RNP routes, Advanced FUA and Airspace Management (ASM), Dynamic Sectorization, Enhanced Conflict Detection Tools and Conformance Monitoring, and Multi-Sector Planner Function (2)

## APAC Seamless Regional Elements Priority

- Civil-Military SUA management (1)
- Civil-Military strategic and tactical coordination (1)
- Civil-Military common procedures and training (2)
- Ballistic launches/space re-entry management (1)
- Civil-Military integrated systems and facilities (2)

# Implementation Status

Reporting Item	States/Administrations Fully Implemented	States/Administrations In Progress
ASBU - FRTO B0/1 to B0/4 (Priority 1)	10	4
ASBU - FRTO B1/1 to B1/7 (Priority 2)	0	5
Regional – C/M SUA management (Priority 1)	15	3
Regional – C/M strategic coordination (Priority 1)	15	2
Regional – C/M tactical coordination (Priority 1)	17	2
Regional – C/M common procedures and training (Priority 2)	11	3
Regional – C/M integrated systems (Priority 2)	8	2
Regional – C/M integrated facilities (Priority 2)	9	2

# Implementation Status



The overall implementation progress in the Region is slow and partial to reaching the goals of Aviation System Block Upgrades (ASBU) and regional priorities in line with the target time of APAC Seamless ANS Plan



The implementation progress in APAC Region is of big diversity:

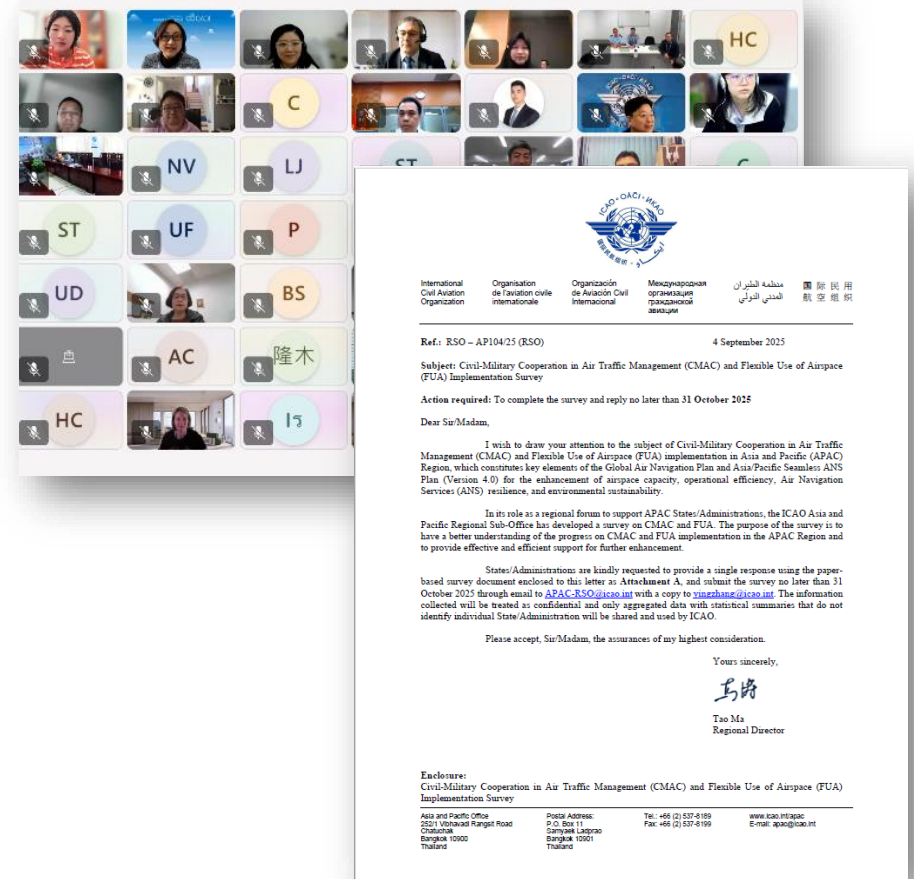
- Regulatory framework
- C/M joint ASM cell
- Three phases of FUA
- C/M data exchange and systems support
- Post-operation evaluation

***In the Delhi Declaration, “enhanced civil/military cooperation” remains as one of the high priority objectives in APAC.***

# Implementation Support

- ❖ ICAO has supported States/ Administrations in enhancing CMAC and implementing FUA through
  - delivering Workshops and Seminars
  - working together with States/ Administrations on specific CMAC/ FUA projects
  - Providing tailored training modules for on-site civil-military workshop at the request of States/Administrations
- CMAC will be specified as one of the meeting Agendas of ATM/SG

## Webinar on Civil Military Cooperation in ATM 20 – 21 November 2024



The image shows a screenshot of a webinar interface. On the left, there is a grid of 24 video thumbnails, some showing participants and others showing initials like HC, C, NV, LJ, ST, UF, P, UD, BS, AC, 隆木, and I3. On the right, there is a document titled "Webinar on Civil Military Cooperation in ATM 20 – 21 November 2024". The document is a letter from the ICAO APAC Regional Sub-Office (RSO) to States/Administrations, dated 4 September 2025. The letter discusses the development of a survey on CMAC and FUA implementation in the APAC region and requests a response by 31 October 2025. The letter is signed by Tao Mr. Regional Director.

International Civil Aviation Organization | Organisation de l'aviation civile internationale | Organización de Aviación Civil Internacional | Международная организация гражданской авиации | منظمة الطيران المدني الدولي | 国际民用航空组织

Ref.: RSO – AP104/25 (RSO) 4 September 2025

Subject: Civil-Military Cooperation in Air Traffic Management (CMAC) and Flexible Use of Airspace (FUA) Implementation Survey

Action required: To complete the survey and reply no later than 31 October 2025


Dear Sir/Madam,

I wish to draw your attention to the subject of Civil-Military Cooperation in Air Traffic Management (CMAC) and Flexible Use of Airspace (FUA) implementation in Asia and Pacific (APAC) Region, which constitutes key elements of the Global Air Navigation Plan and Asia/Pacific Seamless ANS Plan (Version 4.0) for the enhancement of airspace capacity, operational efficiency, Air Navigation Services (ANS) resilience, and environmental sustainability.

In its role as a regional forum to support APAC States/Administrations, the ICAO Asia and Pacific Regional Sub-Office has developed a survey on CMAC and FUA. The purpose of the survey is to have a better understanding of the progress on CMAC and FUA implementation in the APAC Region and to provide effective and efficient support for further enhancement.

States/Administrations are kindly requested to provide a single response using the paper-based survey document enclosed to this letter as Attachment A, and submit the survey no later than 31 October 2025 through email to [APAC-RSO@icao.int](mailto:APAC-RSO@icao.int) with a copy to [ypanhane@icao.int](mailto:ypanhane@icao.int). The information collected will be treated as confidential and only aggregated data with statistical summaries that do not identify individual State/Administration will be shared and used by ICAO.

Please accept, Sir/Madam, the assurances of my highest consideration.

Yours sincerely,  
  
Tao Mr.  
Regional Director

Enclosure:  
Civil-Military Cooperation in Air Traffic Management (CMAC) and Flexible Use of Airspace (FUA) Implementation Survey

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Contact ICAO APAC RSO at [apac-rso@icao.int](mailto:apac-rso@icao.int) for more information.

# Initial Outcomes of the Survey

## *Key experiences and good practices – Words from States*

**Strong commitment from high level** in both civil and military, which has been crucial for driving implementation forward

**Regular civil-military conferences and meetings** that facilitate knowledge sharing and address operational challenges collaboratively

The importance of **early** civil-military collaboration and **continuous** coordination to address local operational challenges.

**Exchange of experiences** through training & meeting result in enhance airspace safety & capacity

Established **data sharing protocols** between civil and military systems that improve situational awareness and enable more efficient airspace management.

Full implementation is still in progress, but benefits gained through the **progressive implementation**.

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# Initial Outcomes of the Survey

## *Top 5 key elements for implementation priority*

### Strategic Coordination

The creation of a **permanent body, facilities and procedures** to facilitate long and medium-term planning for optimal civil and military operations, and the tactical coordination element.

### Tactical Coordination

The establishment of **facilities and procedures** derived from the high-level strategic coordination body for the **daily, safe and efficient tactical management of operations**.

### Airspace Review

The regular review of **SUA and controlled airspace**, to ensure that the SUA types reflect the usage, and the lateral and vertical limits are the minimum required to safely contain the activity therein

### Flexible Use of Airspace

**Mechanisms to ensure the minimization of airspace being exclusively assigned** for civil or military use in accordance with FUA principles

### Integrated Civil-Military ATM System

The integration of civil and military ATM systems where **practicable**, including the policies and procedures to manage State aircraft that are non-compliant with civil requirements, etc.

# Initial Outcomes of the Survey

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## *Top 5 key benefits of implementation*

- 1 Improved safety
- 2 Enhanced airspace capacity
- 3 More efficient utilization of airspace
- 4 Fuel/emissions savings
- 5 Reduced flight delays

# Initial Outcomes of the Survey

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- ❖ States are encouraged to complete the Survey and have it sent to ICAO APAC Regional Sub-Office (RSO) at [apac-rso@icao.int](mailto:apac-rso@icao.int), before **the end of March 2026** if not yet done so
  - Assist States to conduct gap analysis
  - For ICAO to better understand the key concerns and needs of the States
- ❖ Outcomes of the Survey will be tentatively reported to ATMSG meeting this year



# Summary

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- **FUA complexity** is linked to the operational environment
  - can be implemented at different degrees of efficiency or complexity depending on the maturity of the State's ATM environment
- **SCALABLE**: Implement what you need!
  - may be applied within FIRs of a single State, or for cross-boarder airspace
  - can be implemented in the absence of an ATFM system
- The **FULL benefits** of FUA are ONLY possible by implementing it at the tactical, pre-tactical and strategic phases
- **Progressive IMPROVEMENT**: Implement – Review – Further Implement

*Find your own way and take step by step forward!*

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# Thank You



[apac-rso@icao.int](mailto:apac-rso@icao.int)

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Pigeonhole

**Any question ?**

**Please scan the QR code to access  
the Pigeonhole Live application :**

**Site: [pigeonhole.at](https://pigeonhole.at)**

**Passcode: [CMACFUA](#)**

