International Civil Aviation Organization

MIDANPIRG/22 & RASG-MID/12 Meetings

(Doha, Qatar, 4 – 8 May 2025)

Agenda Item 5.3: ANS (AIM, PBN, AGA-AOP, ATM-SAR, CNS and MET)

STRENGTHENING AIR TRAFFIC SAFETY WITH SURVEILLANCE SHARING

(Presented by The United Arab Emirates)

SUMMARY

This paper builds upon the discussions held during the CNS SG/13 meeting and emphasizes the need for expanding surveillance sharing within the Middle East (MID) region to further enhance air traffic safety, efficiency, and cross-border coordination. It highlights the benefits of wider surveillance data integration, addresses existing challenges, and presents the UAE's experience in surveillance data sharing as a model for regional collaboration.

Action by the meeting is at paragraph 3.

REFERENCE

- ICAO Global Air Navigation Plan (GANP), 6th Edition (2019-2022)
- ICAO Middle East Region Air Navigation Plan (MID ANP**)**

1. INTRODUCTION

1.1 The demand for air travel in the MID region continues to rise, necessitating more robust air traffic management (ATM) solutions to maintain safety and efficiency. One key enabler is enhanced surveillance data sharing among States to improve situational awareness and airspace coordination.

1.2 Building on discussions from the MIDANPIRG CNS SG/13 meeting, this paper reinforces the need to go beyond the current level of surveillance sharing by encouraging wider regional collaboration and addressing barriers such as legal, technical, and cybersecurity concerns.

1.3 ICAO’s Global Air Navigation Plan (GANP) emphasizes the importance of surveillance sharing as part of globally interoperable systems, particularly under Performance Improvement Area 2 (PIA 2). Similarly, the MID ANP advocates for harmonized surveillance integration to improve regional ATM performance.

1.4 The UAE has successfully implemented surveillance sharing mechanisms with neighboring States and regional partners, providing valuable insights into the operational and technical benefits of cross-border surveillance data exchange. These experiences highlight best practices that can be adopted at a broader MID regional level.

2. DISCUSSION

2.1 The Need for Expanded Surveillance Sharing

2.1.1 The MID region has seen significant progress in deploying modern surveillance technologies, including radar, Automatic Dependent Surveillance-Broadcast (ADS-B), and multilateration (MLAT). However, many States still operate in isolation, limiting the potential benefits of surveillance integration.

2.1.2 Greater data sharing would improve conflict detection, reduce separation minima, enhance airspace capacity, redundancies and optimize ATM operations. The need for additional surveillance data sharing is crucial to addressing gaps in coverage, particularly in cross-border and remote airspace regions.

2.1.3 Despite these benefits, challenges remain, including legal concerns over data ownership, cybersecurity risks, and the need for standardized agreements. Addressing these issues requires a structured approach, guided by ICAO's principles and regional cooperation.

2.2 UAE's Experience in Surveillance Sharing

The UAE has actively engaged in surveillance data sharing initiatives, both bilaterally and multilaterally. Some of the key achievements include:

2.2.1 Comprehensive Radar Data Integration: To address the fragmentation of service providers within the UAE, the UAE ACC has established radar sharing agreements with both national stakeholders and adjacent States. This integrated approach ensures seamless airspace surveillance coverage, enhances cross-border situational awareness, and supports ATM operations and future airspace management concepts. By consolidating data from various sources, the UAE strengthens the resilience of its surveillance network, reducing the risk of airspace congestion and improving operational efficiency.

2.2.2 ADS-B Data Integration: The UAE has successfully integrated ADS-B surveillance data from multiple sources, improving the accuracy and availability of aircraft position information, particularly in remote and oceanic airspace.

2.2.3 Unified Tracker System Integration: All radar feeds—national and cross-border—are consolidated within a central tracker system, effectively creating a "radar of radars." This integration enhances situational awareness, optimizes airspace management, and improves conflict detection and resolution.

2.2.4 Cybersecurity and Data Integrity Measures: Recognizing the critical nature of surveillance data, the UAE has implemented robust cybersecurity protocols to safeguard all shared data streams. These measures ensure data integrity, protect against unauthorized access, and comply with international cybersecurity standards, maintaining the reliability and security of the surveillance network.

2.3 MIDANPIRG should encourage voluntary participation by States, with priority given to high-density airspace and key air traffic corridors.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) take note of the information contained in this paper;

b) acknowledge the UAE's experience in successful surveillance data sharing as a potential model for regional implementation; and

c) urge MID States to enhance surveillance data sharing initiatives and commit to broader regional cooperation.

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