International Civil Aviation Organization

MIDANPIRG Communication, Navigation and Surveillance Sub-Group

Thirteenth Meeting (CNS SG/13)
(Jeddah, Saudi Arabia, 20 – 23 October 2024)

Agenda Item 5: CNS Planning and Implementation Framework in the MID Region Surveillance Matters

THE IMPORTANCE OF SURVEILLANCE SHARING IN THE MID REGION

(Presented by the United Arab Emirates)

SUMMARY

This paper highlights the importance of surveillance sharing in the Middle East (MID) region to enhance air traffic management (ATM) efficiency and safety. It recommends adopting a revised surveillance sharing agreement based on guidelines derived from the EUROCONTROL model, specifically tailored to the MID region's needs. The paper emphasizes the responsibilities of each State as outlined in the "GUIDELINES FOR AN AGREEMENT FOR THE SHARED USE OF RADAR SENSOR DATA" and the relevant provisions of the Global Air Navigation Plan (GANP) and the MID Air Navigation Plan (MID ANP).

Action by the meeting is in Paragraph 3 of this WP.

REFERENCES

- ICAO Global Air Navigation Plan (GANP), 6th Edition (2019-2022)
- ICAO Middle East Region Air Navigation Plan (MID ANP)
- EUROCONTROL, "Guidelines For An Agreement For The Shared Use Of Radar Sensor Data SUR.ET1.ST05.3000-GUI-01-00

1. INTRODUCTION

1.1 The Middle East region continues to experience significant growth in air traffic, necessitating the adoption of advanced technologies and collaborative practices to ensure the safety, efficiency, and sustainability of air navigation services. One critical aspect of this modernization is the sharing of surveillance data among States within the region.

1.2 The ICAO Global Air Navigation Plan (GANP, 6th Edition, 2019-2022) emphasizes the importance of surveillance sharing as part of a performance-based approach to air navigation services (ANS). The GANP highlights in the Aviation System Block Upgrade (ASBU) framework, particularly under Performance Improvement Area 2 (PIA 2: Globally Interoperable Systems and Data), the need for integrated surveillance systems to enhance global ATM interoperability and efficiency (GANP, Doc 9750, Section 3.3.2).

1.3 Similarly, the ICAO Middle East Region Air Navigation Plan (MID ANP) reflects the importance of surveillance sharing to address regional challenges and improve cross-border coordination. The MID ANP, specifically in Volume I, Part IV (CNS), underscores the need for the integration and sharing of surveillance data among MID States to enhance situational awareness, efficiency and safety across the region.

1.4 Surveillance sharing enables improved situational awareness, more effective air traffic management, and enhanced safety through real-time data exchange. However, the effectiveness of such sharing is contingent upon the establishment of robust agreements, clear responsibilities, and stringent cybersecurity measures.

2. DISCUSSION

2.1 The MID region has made significant strides in implementing surveillance technologies such as Automatic Dependent Surveillance-Broadcast (ADS-B) and radar systems. However, the potential of these systems is not fully realized due to limited data sharing among States.

2.2 Enhanced surveillance sharing could lead to better conflict detection and resolution, optimized air traffic flows, and improved cross-border airspace management. The MID ANP emphasize the importance of harmonized surveillance practices to address these operational challenges effectively.

2.3 The meeting may wish to review the proposed Regional Guidelines about the Agreement for the Shared Use of Radar Sensor Data as presented at **Appendix A**. The meeting may wish to note that the guidelines are based on a well-established framework originally drafted by EUROCONTROL. These guidelines, derived from the "Guidelines for an Agreement for the Shared Use of Radar Sensor Data SUR.ET1.ST05.3000-GUI-01-00," have been adapted to address the specific complexities of air traffic management and radar data sharing in the Middle East. This model can serve as a foundation for a revised agreement in the MID region, tailored to meet the unique operational, legal, and geopolitical requirements of the States involved.

2.4 Clear delineation of responsibilities and liabilities for data integrity and security is crucial, as outlined in Articles 7, 8, and 9 of the guidelines. These responsibilities must be explicitly defined in the agreement to ensure that all parties are accountable for maintaining the integrity and security of the shared surveillance data.

2.5 The agreement establishes a mechanism for the regular review and updating of the agreement to incorporate technological advancements and address emerging threats. This dynamic approach ensures that the agreement remains relevant and effective in the face of evolving operational environments and security challenges.

2.6 With the increasing reliance on digital data in ATM, cybersecurity has become a paramount concern. The integrity of shared surveillance data must be protected against unauthorized access, tampering, and other cyber threats.

2.7 Each State participating in the surveillance sharing agreement should assume responsibility for the cybersecurity of the data they receive. This includes ensuring that data is processed, stored, and used in a manner that preserves its integrity and complies with international cybersecurity standards.

3. ACTION BY THE MEETING

3.1 The meeting is invited to

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

b) urge States within the MID region to increase the level of radar data sharing, thereby enhancing regional air traffic management, situational awareness, and overall safety; and

c) adopt the guidelines outlined at **Appendix A** as part of Service Level Agreements (SLAs) between States.

Proposed MID Region Guidelines on Agreement about the Shared Use of Radar Sensor Data

A. Foreword

A.1. This document is a direct response to the need for a specialized framework that addresses the complexities of air traffic management and radar data sharing across the diverse and rapidly evolving airspace of the Middle East.

A.2. The original version of this document has been drafted in English, ensuring clarity and consistency in communication across all nations within the Middle East region. It is intended as a foundational guideline to enhance cooperation and ensure the safe, efficient, and sovereign use of radar data among Middle Eastern countries and aviation authorities.

B. Scope

B.1. This document serves as a guideline for drafting agreements on the shared use of radar data among Air Traffic Services (ATS) Organizations within the Middle East. It is designed to facilitate the creation of bilateral and, where applicable, multilateral agreements for radar data sharing, incorporating the Middle Eastern aviation sector's unique operational requirements, geopolitical, and technical landscape.

B.2. The guidelines provided herein offer the versatility to either stand as a separate agreement or to be seamlessly incorporated into existing Communication, Navigation, and Surveillance (CNS) agreements. This adaptability ensures that stakeholders can effectively align with the evolving needs of air traffic management in the Middle East, facilitating enhanced cooperation without necessitating the overhaul of current frameworks. Whether augmenting current agreements or establishing new dedicated arrangements for radar data sharing, this document aims to provide a comprehensive foundation that respects and responds to the specific operational and regulatory contexts of the region.

C. Reference Documents

C.1. This document incorporates provisions from the documents and standards mentioned herein. By referencing these materials within the text, their provisions become an integral part of this document. In the event of any inconsistencies between the guidance provided in this document and the content of the referenced materials, the policies and regulations shall prevail. Notably, this document draws significantly from "**Guidelines For An Agreement For The Shared Use Of Radar Sensor Data SUR.ET1.ST05.3000-GUI-01-00**," which is the primary guideline document referenced.

D. Abbreviations and Acronyms

D.1. For these guidelines, the following are used:

Abbreviation	Full Form
ASTERIX	All Purpose Structured Eurocontrol Radar Information Exchange
ATC	Air Traffic Control
ATS	Air Traffic Services
CAA	Civil Aviation Authorities
NM	Nautical Mile(s)

E. Proposed Text for the Agreement

Note: *Modifications to the standard text of the agreement and its annex may be necessitated by variations in legal statutes, organizational structures, or technological advancements specific to the Middle East.*
Sections enclosed in brackets ([]) are placeholders meant to be filled with details pertinent to the specificities of the agreement, ensuring flexibility and relevance to the unique conditions of each arrangement.

This agreement ("**Agreement**") is entered in to on [insert date] between:

The [name of the State's responsible Organisation or the name of the (privatised) Air Traffic Control (ATC) Organisation] represented by [function/title of representative],

herein referred to as "the **Provider**,"

and

The [name of the State's responsible Organisation or the name of the (privatised) Air Traffic Control (ATC) Organisation] represented by [function/title of representative],

herein referred to as "the **User**";

(individually, referred to as "**Party**" and jointly as "**Parties**")
Note:*If there are multiple Providers or Users, the aforementioned designations should be replicated for each Provider or User. In scenarios where the Providers also serve as Users (for instance, when each entity supplies radar information to the other), the terms Provider and User may be replaced with the actual names of the Organisations.*

- Acknowledging the objectives of enhancing air traffic management through the strategic enhancement of radar surveillance capabilities, whether by the establishment of new installations or the mutual sharing of radar data;
- Aiming to enhance the continuity, precision, and reliability of radar tracking across multiple radar systems, to refine trajectory predictions and conflict detection, and to achieve the goal of establishing the required nautical mile separation standard across the airspace governed by the signatories of this agreement;

Note*: Additional motivations and justifications for this agreement may be included here.*

The Parties hereby agree as follows:

ARTICLE 1 - Objective of the Agreement

1. The primary objective of this Agreement is to enhance radar coverage and the availability of radar data within the Flight Information Regions (FIRs) under the User's jurisdiction.
2. To achieve this objective, the Provider agrees to supply radar data to the User.

ARTICLE 2 - Usage Restrictions

3. The User is authorised to utilise the provided radar data exclusively for maintaining the safety, efficiency, and uninterrupted operation of their Air Traffic Services or related support activities, as well as for technical demonstrations, evaluations, and testing pertinent to their operational duties, except as detailed otherwise in Annex A.
4. The User is prohibited from disclosing any information obtained through this Agreement to any third party not mentioned herein, in any form or context. Such information must not be employed for purposes other than those outlined in Article 1 above, without the explicit written approval of the Provider.

ARTICLE 3 - Equipment and Installation

1. The User is responsible for acquiring at their own cost all necessary equipment and spare parts, for the reception and utilization of radar data both at the Provider's and the User's locations.
2. Unless otherwise specified, the Provider agrees to install the requisite equipment at their premises without charge, while the User will bear the costs of equipment installation at their premises.
3. The User must oversee the arrangement for procurement, setup, and activation of dedicated lines, essential for the radar data's transmission from the Provider to the User.
4. Initial tests to assess the functionality of the equipment and dedicated lines for radar data transmission are to be conducted jointly by the Provider and the User.
5. The stipulations of this article also extend to any future modifications of the equipment or dedicated lines.

ARTICLE 4 - Equipment Maintenance

1. Routine upkeep, repair, and replacement of the equipment used for radar data provision under this Agreement will be performed by the technical personnel at both the Provider's and the User's locations.
2. Routine maintenance, repairs, and replacements at the Provider's facilities, as mentioned in Article 1, will be conducted at no extra charge by the Provider according to the Provider's standard maintenance practices.
3. The User is responsible for the maintenance, repair, and replacement of equipment on their premises, incurring all related costs, and must adhere to their usual standards of maintenance.

ARTICLE 5 - Equipment and System Modifications

1. Any required modifications will be formally communicated by the Provider to the User at least six months before their scheduled implementation date.

ARTICLE 6 - Financial Obligations

1. The inception of this Agreement assumes that the User will cover all initial and recurring expenses related to equipment and private services necessitated by this Agreement.
2. The access to and usage of radar data, will be provided at no cost.

3. Expenses related to the setup and routine inspection of private circuits, taxes, customs duties, and any other initial or ongoing charges for line rentals or additional equipment must be paid by the User.

ARTICLE 7 - Data Integrity

1. The Provider is committed to employing all feasible measures, following the standards it typically upholds, to ensure the quality and uninterrupted supply of radar data.
2. Whenever feasible, the Provider will notify the User in advance about any scheduled service interruptions, providing such information as soon as it becomes available and ensuring at least 24 hours' notice for any planned disruptions.
3. The Provider is obliged to promptly communicate any disruptions in radar data delivery to the User's technical supervision center, or at the first reasonable opportunity.

ARTICLE 8 - Exemption from Liability

1. The Provider shall not be held responsible for any interruptions in radar data delivery caused by failures or defects in the surveillance systems or private circuits.
2. The Provider is exempt from liability for any direct or indirect costs, losses, or damages that result from interruptions or degradations in the quality of the provided radar data.

ARTICLE 9 - Legal Framework

1. This Agreement acknowledges that it will not compromise the essential duty of the relevant Authorities, under law or otherwise, to ensure the safe, effective, and uninterrupted provision of Air Traffic Services.
2. The Provider will not be deemed to have breached this agreement if its inability to fulfill obligations or to provide radar data is due to unforeseeable circumstances beyond its control, including force majeure events.
3. This document represents the complete and exclusive agreement between the Parties.

ARTICLE 10 - Communication

1. All correspondence related to this Agreement should follow the guidelines outlined below.
    - [Provider State's Organisation or name of ATC Organisation, mail address,telephone and fax number]
    - [User State's Organisation or name of ATC Organisation, mail address, telephone and fax number]

ARTICLE 11 - Term of Agreement

1. This Agreement becomes effective on the date it is signed by the last of the Parties involved and will remain in effect for five years (the "**Initial Term**").
2. After this initial term, the Agreement will automatically renew, unless one of the Parties decides to terminate by providing written notice three months before the end of the Initial Term.
3. The Agreement may be terminated early if the radar data is to be permanently discontinued. In such cases, the Provider must provide at least six months written notice to the User.

4. The User may also request early termination of the Agreement due to necessary modifications, with at least three months' written notification to the Provider.

The signing of this Agreement by duly authorised representatives is a testament to its acceptance.

Executed in [place] on [date], in English, with [number] original copies made.

ANNEX A-1. INVOLVEMENT OF ADDITIONAL PARTIES (IF APPLICABLE)

A.1 In the framework of This Agreement

- In alignment with Article 2: Limitations,

the Provider grants permission for the User to share the radar data with the entities listed below:

- [Name of the party]
- [Name of the party]

A.2 For this Purpose The User under this Agreement is tasked with establishing equivalent Radar Sharing Agreements, taking on the role of provider, with the parties named above.

***Note**: The annexure is structured to contain dynamic information, subject to periodic updates to reflect operational or environmental changes within the region.*
Should the User intend to distribute the radar data, or any derivative thereof, to a third entity, that entity's name must be incorporated into entities list in this annex. Any sharing arrangement formed between the User and such third entity requires the Provider's written consent. The Provider retains the right to determine the necessity of revising the primary agreement between the Provider and User(s) based on these new arrangements.

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