International Civil Aviation Organization

ICAO

The Ninth Meeting of System Wide Information Management Task Force (SWIM TF/9)

Bangkok, Thailand, 14 – 17 May 2024

Agenda Item 8:   State, Regional and Global SWIM Updates

SWIM IMPLEMENTATION STATUS IN REPUBLIC OF KOREA

(Presented by Republic Of Korea Air Traffic Management Office)

SUMMARY

This paper provides information about the SWIM implementation status and future plans in Republic Of Korea.

1. **INTRODUCTION**

1.1   It is about the current status of establishing an aviation communication network for real time sharing of SWIM information in Korea in order to reduce defects in aviation communication and ensure efficiency in respond to SWIM development and implementation recommendation in ICAO Global Air Navigation Plan and Aviation System Block Upgrades.

2. **DISCUSSION**

2.1   In December 2023, the basic design of SWIM was completed, including the design of the establishing an aviation communication networks for real-time sharing of domestic SWIM information. Through detailed design from 2024 to 2025, one SWIM CENTER and four STDDS implementation plans will be prepared, and SWIM implementation will be established by 2028.

2.2   STDDS(SWIM Terminal Data Distribution System) will be installed in four location(Air Traffic Management Office, Kimpo airport, Jeju airport, Incheon airport) among SWIM information prviders where information can be provided intensively, and other SWIM information providers can provide and share information in connection with nearby STDDS.

-   Picture1 : National Airport, Air Navigation facility and scheduled STDDS sites

2.3   According to the National ATM Reforation And Enhancement(NARAE), air traffic management information is planned to be linked to SWIM in standard data format through DAIM(Digital Aeronautical Information Management), FF-ICE(Flight and Flow Information for the Collaborative Environment), and upgraded aeronautical meteorological information.
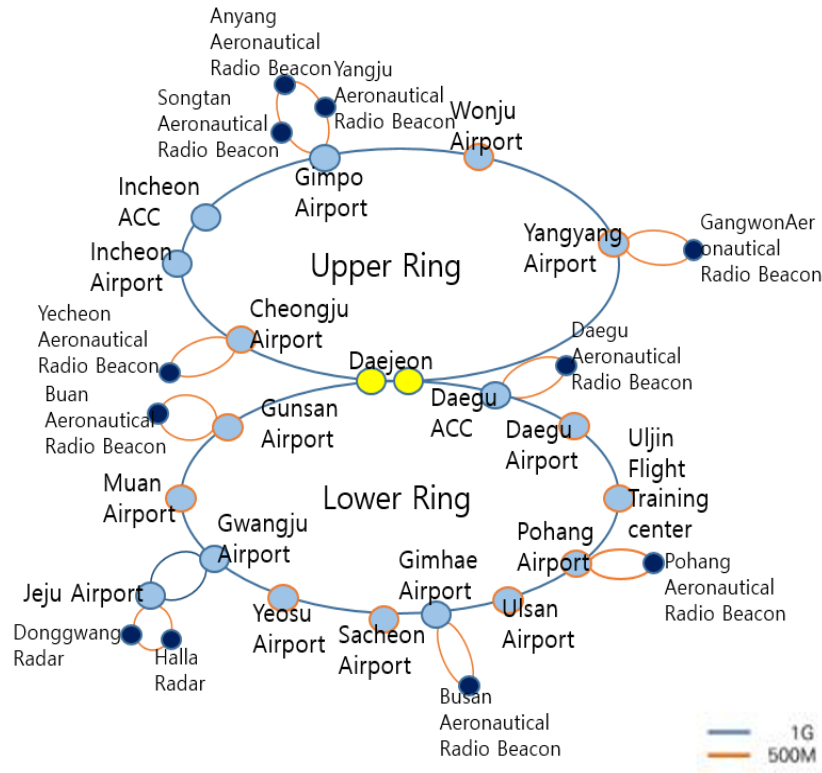
2.4   The SWIM communication network is designed to use national integration network. The NATIONAL INTEGRATION NETWORK is a backbone network that integrates information and communication networks operated individually by administrative agencies in the country and connects them to single network. NATIONAL INTEGRATION NETWORK aims to be bulit by 2025 to provide network platform services.

-   Picture2 : Scheduled communication network configuration on map of ROK

2.5   Using the NATIONAL INTEGRATION NETWORK, it plans to secure 5G bandwidth between bases with 6 location as base areas and 1 to 2G bandwidth in other areas. Such NATIONAL INTEGRATION NETWORK can be used free of charge in the backbone section, so users only have to pay for branch lines connecting to the NATIONAL INTEGRATION NETWORK. Consequently, lots of communication costs can be reduced.

2.6   In addition, considering operational stability, it will be configured a Ring Topology so that even if one connection is disconnected, it can reroute path.

-    Picture3 : Scheduled communication network configuration diagram (detail)

2.7   Schedule

SCHEDULE	
Detailed Design	2024~2025
Implementation	2025~2028

3.   ACTION BY THE MEETING

3.1   The meeting is invited to:

     a)   note the information in this paper;
     b)   discuss directions for SWIM Implementation; and
     c)   discuss any other matter as appropriate.