

International Civil Aviation Organization



**THE TWELFTH WORKING GROUP MEETING OF
AERONAUTICAL TELECOMMUNICATION NETWORK
(ATN) IMPLEMENTATION CO-ORDINATION GROUP OF
APANPIRG (ATNICG WG/12)**



5 – 8 August, Renton, WA, USA

**Agenda Item 5: SWIM (Including updates on FAA SWIM Programme
(Implementation/operations/governance)**

**DEVELOPMENT STATUS OF SWIM IN THE REPUBLIC OF KOREA AND
STANDARDIZATION OF SOA BY ISO**

(Presented by Republic of Korea)

SUMMARY

This paper presents development status of SWIN in the Republic of Korea and standardization of SOA by ISO.

1. INTRODUCTION

1.1 SWIM is defined in B1-31 block of ASBU (Aviation System Block Upgrades) and provides effective aeronautical data exchange method for future ATM. This also makes the usage of aeronautical data easily and gives effective connection of future aviation devices as an aeronautical data management system.

1.2 SWIM changes the concept of current aeronautical data exchange method from service provider oriented system to user oriented one. To achieve this concept, current point-to-point wired network needs to be replaced with flexible one that utilizes standard data forma. If this system is used for CDM (Collaborative Decision Making), safety and capacity of airplane will increase.

1.3 When the aeronautical data are replaced to digital format, the amount of aeronautical data increases dramatically, e.g., big data. To prepare the era of big aeronautical data, the Republic of Korea has started to develop SWIM. In the first step, this research focuses on ground-to-ground data exchanges, including aeronautical information, weather data and flight information. For the next step, this research will cover air-to-ground network including most of aeronautical data.

**2 DEVELOPMENT STATUS OF SWIM IN THE REPUBLIC OF KOREA AND
STANDARDIZATION OF SOA BY ISO**

2.1 The Republic of Korea has developed the SWIM project since December 2012. Inha University leads the project and Korea airports cooperation, a company, some universities, and consultant groups are involved in the project.

2.2 The milestone of SWIM development of the Republic of Korea is as follows: In 2013, fundamental scheme is designed, core functions will be implemented by 2014, and test-bed system will be made by 2015. Specifically, core function development schedule in 2014 is advanced by one year. In 2016, the test-bed will be connected to the practical aeronautical data systems and verified their interoperability.

2.3. As one of development contents of the Republic of Korea, SWIM project, survey for aeronautical related people was done to ask how much convenient functions would be given by SWIM. The result shows that many people agree with the functions and have consensus of future SWIM scheme.

2.4. In addition, requirements for development of SWIM were defined and aeronautical data format have been researched for data interoperability with other countries.

2.5. Based on the SWIM operational concepts, the SOA plays an important role in SWIM to manage the aeronautical data. Some of key issues need to be considered first such as ‘governance’ that determines important functions and roles of aeronautical data service, ‘standardization’ that provides interoperability between countries, ‘scalability’ that gives flexible data management, and ‘security’ that protects unwanted access or attacks or abuses.

2.6 SOA standard is being undergoing by the standard body of ISO/IEC SC32. One of current items discussed in the body is governance.

2.7 For the success of SWIM project, the Republic of Korea is willing to cooperate with other countries, join the interoperability tests, and participate in the standardizations of ICAO.

3. ACTION BY THE MEETING

3.1 The meeting is invited to note the above information.
