



ASSEMBLY — 37TH SESSION

TECHNICAL COMMISSION

Agenda Item 39: Transition from Aeronautical Information Service (AIS) to Aeronautical Information Management (AIM)

DEVELOPMENT OF ACTION ITEMS FOR THE ROADMAP OF TRANSITION FROM AIS TO AIM

(Presented by the Republic of Korea)

EXECUTIVE SUMMARY

This paper introduces action items that the Republic of Korea has developed to implement twenty-one steps for the seamless transition from aeronautical information services (AIS) to aeronautical information management (AIM) in accordance with the ICAO Roadmap.

The action items listed in 3.1 will be useful for States which are looking for necessary actions to be taken for the implementation of the ICAO Roadmap for transition from AIS to AIM until such time that more enhanced templates for action items are developed by ICAO for global implementation.

It is also proposed that, from the global harmonization aspect, ICAO should develop more enhanced templates for action items which explicate the twenty-one steps of the ICAO Roadmap to transit from AIS to AIM, in reference of 3.1, to avoid duplicated efforts among the States.

Action: The Assembly is invited to:

- a) note the information regarding the development of action items for the roadmap of transition from AIS to AIM contained in this paper;
- b) consider 3.1 of this paper with regard to the necessary actions to be taken for the implementation of the ICAO roadmap to make a transition from AIS to AIM; and
- c) conclude that ICAO should develop more enhanced templates for action items, for global implementation, for the AIS-AIM transition Roadmap, in reference of 3.1, to avoid duplicated efforts among the States.

<i>Strategic Objectives:</i>	This working paper relates to Strategic Objectives D: <i>Enhance the efficiency of aviation operations</i>
<i>Financial implications:</i>	No additional resources required
<i>References:</i>	<i>ICAO Roadmap for transition from AIS to AIM</i>

1. INTRODUCTION

1.1 The “ICAO Roadmap for the Transition from AIS to AIM” provides States with guidance to transform the current product-centric aeronautical information services (AIS) to the data-centric aeronautical information management (AIM) which is one of the key enablers of Air Traffic Management (ATM) Operational Concept.

1.2 In this Roadmap, twenty-one steps for the transition are introduced to be taken in three successive phases - consolidation, digitalization and information management, but it says that the three phases need not be followed in a waterfall approach.

1.3 To implement the AIM in the Republic of Korea (ROK), a tailor-made and detailed national AIM implementation plan was required. This national plan has to show the data originators, the publishing authorities and the end users what to do and how for the successful introduction of AIM, while applying the steps and phases provided by ICAO.

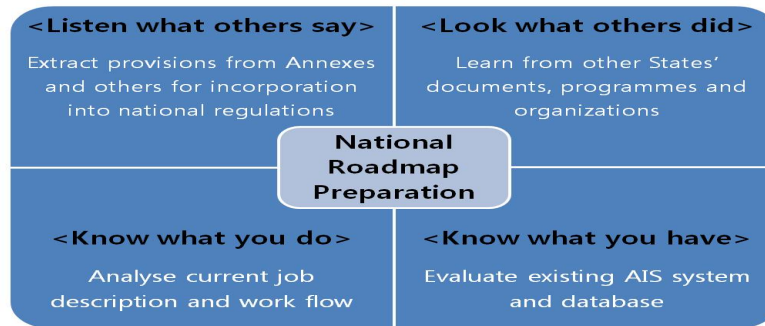
2. PREPARATION OF THE AIM IMPLEMENTATION PLAN

2.1 In December 2009, the Republic of Korea AIM Implementation Plan (ROKAIM) was established after one year of in-depth study and research. The current AIM regulations and guidance material were thoroughly reviewed and experiences of other States and international organizations were studied. Existing national AIS organizations and systems were analysed and a series of interviews and on-site visits were conducted.

2.2 Annex 15 — *Aeronautical Information Services* including amendments 35 and 36, Annex 4 — *Aeronautical Charts* including the amendments 55 and 56, and the results from the ICAO AIS-AIM Study Group were reviewed. Then, new provisions were developed to be incorporated in the national regulations.

2.3 A considerable number of States and regional organizations such as Eurocontrol are leading AIM implementation. They already have a number of documents, developed software programmes, and restructured AIS organizations to fit into the AIM environment. Experiences and information from those sources were practically referred in designing the ROKAIM.

2.4 For the seamless transition from AIS to AIM, a considerable amount of time was invested to analyse the job descriptions and work flow among AIS organizations in order to find out the best way to assign AIM functions. On the other hand, the automatic AIS systems and databases were also examined with a view to find any possibility for extension or consolidation.



3. ACTION ITEMS DEVELOPED AND TAKEN BY THE REPUBLIC OF KOREA

3.1 Based on the lessons learned from the comprehensive study of the ICAO provisions and other States' best practices, the ROK developed the following action items for the implementation of the Roadmap for the successful transition from AIS to the AIM:

a) **Action item 1: Set compact AIM regulations:** Current AIS regulations should be amended to timely reflect the upcoming amendments of ICAO Annexes 4 and 15. This regulation reform, which is going to be completed by 2016, is expected to produce a slim and systemic set of AIM regulations.

b) **Action item 2: Organize an Advisory Group:** The AIM is like a jigsaw puzzle which becomes perfect only when different pieces come together. Likewise, the AIM also can be completed when different stakeholders duly play their individual roles while sharing the common view. In this regard, the ROKAIM Advisory Group has been established with members from the AIS authorities, airport operators, airlines, military authorities and weather authority. This group is responsible for the provision of practical advice on operational aspects of the AIM.

c) **Action item 3: Restructure AIS organization:** Current AIS organizations of the ROK are scattered at different airports, regional offices and air traffic control facilities. From the organizational efficiency aspect, a consolidated and centralized organization is more desirable to operate AIM rather than that is dispersed. The organizational restructuring consumes a long time because it should be supported by consensus among those involved. The ROK is currently reviewing several different forms of structures. The new AIM organization is planned to start its operation from 2014.

d) **Action item 4: Provide AIS personnel with AIM training:** Personnel who supply or use the data-centric aeronautical information need to know how to adjust themselves to this new type of aeronautical information and working environment. This is why a detailed and systemic training programme should be prepared for each AIS person.

e) **Action item 5: Design and develop AIM Database:** Centralized databases for static data, dynamic data, e-AIP (Electronic Aeronautical Information Publication) XML data and GIS (Geographic Information System) will be developed respectively in a way to secure the data safety and integrity. The CRC (Cyclic Redundancy Check) 32-bit requirements will be satisfied by an automatic encoding and decoding programme.

f) **Action item 6: Develop electronic aeronautical information products:** In accordance with the ICAO Roadmap and consequently developed Korean national roadmap, the electronic version of the AIP (Aeronautical Information Publication), NOTAM (Notice to airman), PIB (Pre-flight Information Bulletin), TOD (Terrain and Obstacle Data), AMDB (Airport Mapping Data Base) and weather information will be developed. For the TOD, AMDB and weather information, the airport operators and weather authority will play a major role in the development, and the AIS authority will integrate the components into the AIM structure.

g) **Action item 7: Hold periodic workshops and seminars:** It is important to share current information, among AIS providers and users, on the trend of AIM around the world and new national policies for the AIM implementation. The provision of periodic workshops and seminars are the most effective methods to build a common understanding among concerned persons and set a same target to achieve together.



4. CONCLUSION

4.1 In order to implement the AIM in a State, both a conceptual explanation and a practical methodology that provides guidance on who does what in which sequence are necessary. Specific ways of implementation may be different from State to State, but having a list of action items for the implementation of the ICAO Roadmap, at least, will make AIM implementation smoother.

4.2 In this light, any States which are looking for the necessary actions to be taken for the implementation of the ICAO Roadmap are invited to refer to the action items listed in 3.1 that were developed and being taken by the ROK until such time that more enhanced templates for action items are developed by ICAO for global implementation.

4.3 From the global harmonization aspect, ICAO should develop more enhanced templates for action items which explicate the twenty-one steps of the Roadmap, in reference of 3.1, to avoid duplicated efforts among the States.