



WORKING PAPER

ASSEMBLY — 39TH SESSION

TECHNICAL COMMISSION

Agenda Item 36: Aviation safety and air navigation implementation support

CONSIDERATION OF THE MINIMUM PATH IN GANP2019

(Presented by Japan)

EXECUTIVE SUMMARY

The twelfth Air Navigation Conference (AN-Conf/12) recommended ICAO to identify modules in Block 1 considered to be essential for implementation at a global level in terms of the minimum path to global interoperability and safety. When identifying such essential modules, it is important to consider in the light of implementation, so that it will contribute globally harmonized improvement of air navigation service.

Action: The Assembly is invited to urge ICAO to identify elements (or services) in modules in Block 1 considered to be essential for implementation at a global level and develop high level principles or guidelines in order to ensure achievable implementation in consideration of follows:

- a) the achievable implementation target date should be assigned taking into account the period for research and development, personnel training, development of rules and manuals, deployment of automation systems, coordination with stakeholders, and any necessary works depending each module;
- b) the background information to be identified some modules as minimum path and good practices including cost-benefit performance when possible, should be provided so that each state will be able to explain to the stakeholders and obtain consensus to introduce the identified modules; and
- c) the progress of discussion to identify some modules as minimum path should be shared among contracting states as much as possible, so that each state will be able to re-examine the identified modules as minimum path comparing with each national roadmap for the improvement of air navigation services.

<i>Strategic Objectives:</i>	This working paper relates to the Safety, Environmental Protection and Sustainable Development of Air Transport Strategic Objectives.
<i>Financial implications:</i>	None.
<i>References:</i>	Doc 9750, <i>Global Air Navigation Plan</i> Doc10007, <i>Report of the Twelfth Air Navigation Conference</i>

1. INTRODUCTION

1.1 In order to address air traffic growth in future, the improvement of air navigation service is essential. Therefore 38th ICAO Assembly endorsed Aviation System Block Upgrades (ASBUs) in Global Air Navigation Plan (GANP) for globally harmonized upgrade of Air Navigation Service and ICAO Asia/Pacific region adopted Seamless ATM Plan for regional implementation of GANP and made arrangement for proceeding collaboratively the advancement of ATM with considering regional situation.

1.2 Meanwhile, in 2012, the twelfth Air Navigation Conference (AN-Conf/12) adopted the recommendation 6/12, which describes “*ICAO identify modules in Block 1 considered to be essential for implementation at a global level in terms of the minimum path to global interoperability and safety, with due regard to regional diversity, for further consideration by States.*” This implies that some modules in Block 1 will be implemented with taking care of global harmonization, while each state/region will consider own needs in the meantime.

1.3 Draft 5th edition of GANP describes the minimum path more explicitly than current 4th edition of GANP as follows:

- a) as it is expected that these Modules may eventually become the subject of ICAO Standards with mandated implementation dates, the concept of “minimum path” to global interoperability and safety is introduced;
- b) although all ASBU Modules are equally important, it is recognized that:
 - ◆ some Modules must be implemented globally, and therefore must be designated as part of the minimum path to achieve global interoperability;
 - ◆ deployment of such Modules in the earliest available time frame will result in maximum benefits for the aviation stakeholders;
 - ◆ implementations of such Modules should take place around the same time periods; and
- c) the development of suitable high level principles or guidelines to identify essential Modules at a global level will be necessary.

2. DISCUSSION

2.1 GANP is a crucial guidance to encourage globally harmonized improvement of Air Navigation Service, and the contracting states promoted the modernization of each service. Japan Civil Aviation Bureau (JCAB) has also understood the objective of GANP and actively worked to introduce various measures identified in a Japanese future vision “CARATS (Collaborative Actions for Renovation of Air Traffic Systems)” in consideration of both domestic needs and GANP roadmap together with stakeholders.

2.2 There are 90 airports and more than 4,000 flights are operated every day in Japan. However, airspace over national land is not so wide, thus it is quite congested. In order to enhance effective and efficient use of airspace, it is necessary to implement appropriate measures by considering the domestic needs, explaining the cost effectiveness of measures and gaining the consensus among stakeholders. In addition, JCAB provides air navigation service for vast oceanic airspace. In order to improve air navigation service in such remote area, it is required to actively introduce advanced

technologies and operations through demonstration and validation. So JCAB has promoted the discussion and information sharing with adjacent states through bi-lateral meeting for the development to introduce new harmonized air navigation service.

2.3 JCAB has made efforts to improve efficiency of air navigation service in harmonized manner with adjacent states with focusing primarily domestic benefit the situation seems almost same as other states while degree of domestic and international interest might be different depending on each state.

2.4 Regarding draft 5th edition of GANP circulated as state letter, it might be required to establish ICAO Standards with mandated implementation dates to implement the identified module in Block 1, and the States which make decision to implement that module need to adhere that ICAO Standards. The concept of minimum path will be necessary in order to achieve globally harmonized improvement of air navigation service and will contribute to encourage the investment and the deployment of advanced systems by identifying the standardization date.

2.5 So that, it is important to consider following points when introducing the concept of minimum path into GANP2019.

- a) when the states make a decision to introduce the module, it is required to show the cost-effectiveness to stakeholders and get consensus from them. In special, technical modules which is difficult to show effectiveness directly by itself only, such as communication infrastructure, needs to devise explanation, for instance, in a way to consider its introduction together with expected operational improvement and show effectiveness;
- b) in order to introduce the new operation, it is also expected to develop and validate dedicated automation systems, establish or rebuild the operational procedure, and conduct trainings to the staffs, as well as to establish the operational certification, upgrade on-board avionics, and plan transfer programme, if necessary; and
- c) so, in the light of the implementation, the civil aviation authority and air navigation service provider of each contracting state needs to encourage “What should be done by When?” be identified among stakeholders such as civil aviation authority, air navigation service provider, airspace users, airport operators, manufactures, and military authority, and manage the progress properly.

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