

The development of Long-term Vision of Future Air Traffic Systems in Japan

H. Matsunaga

Director for Engineering Planning, New CNS/ATM Systems
ATS Systems Planning Division, ATS Department

Japan Civil Aviation Bureau (JCAB), Ministry of Land, Infrastructure, Transport and Tourism (MLIT), Tokyo, Japan

Abstract: JCAB is currently working with the aim of developing a long-term vision of future air traffic systems in Japan around 2025. In the course of the development, JCAB has been reviewing our past policies and programs in relation to the ICAO FANS (CNS/ATM) concept in the 1990's, and been also considering new directions to meet recommendations in the 5-Year ATS Plan made by the Civil Aviation Council in 2007. JCAB intends to develop our long-term vision of future air traffic systems, taking into account developments in other countries including ICAO.

Keywords: next generation air transportation system

1. INTRODUCTION

Japan has been in the forefront of implementation of CNS/ATM and developed the aeronautical satellite systems as well as modernized our systems such as ATM Center and RNAV systems. Nevertheless, the continuously growing air traffic demand, and the diversifying needs of aircraft operators, and the constantly changing global environment, are placing challenges on JCAB to develop robust future air transportation systems in an internationally harmonized manner.

2. POLICY REVIEW

To date, JCAB has proactively implemented various systems and procedures in accordance with the ICAO FANS (CNS/ATM) concept. For examples, the ATM Center was commissioned first in Asia/Pacific in 2005, and RNAV and aeronautical satellite communications/navigation systems became operational in 2007, and consequently airspace capacity enhancement and significant reduction of ATC separation were realized. As the first step of future air traffic systems development, JCAB has reviewed relevant policies and programs in light of achievements and outstanding issues.



3. AVIATION COUNCIL REPORT

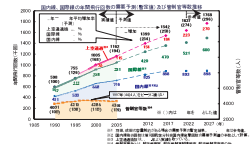
In 2007, The Civil Aviation Council analyzed problems that the present ATS systems were facing, and examined future needs in CNS/ATM. The Council, in its report, formed various recommendations aimed at enhancing safety, capacity, efficiency, human resource development and R&D. These recommendations in the Council report are incorporated into the 5-Year National Plan of Social Infrastructure Construction from 2008 to 2012.

4. LONG TERM VISION

JCAB plans to develop a long-term vision of future air traffic systems in Japan around 2025.

4.1 Background

As air transport demands increase, airspace congestion has become more serious concern. For example, JCAB expects the air traffic demand in Japan around 2025 to be approximately 1.5 times of 2005, and IATA also anticipates a rapid growth in the East Asia region in their "IATA Vision in 2015". This situation requires JCAB to make our continuous efforts to change ourselves for the purpose of ensuring safety and capacity.



4.2 Policy Targets

The following areas are identified as policy targets of future air traffic systems around 2025:

- (1) Enhancement of safety;
- (2) Increase of capacity to meet air traffic growth;
- (3) Improvement of convenience;
- (4) Improvement of ATS efficiency;
- (5) Consideration of environment; and
- (6) Strengthening of the presence in the international aviation.

Performance indicators will be developed for respective areas because it is considered essential for JCAB to continuously monitor the progress and assess outcomes in order to maximize benefits.

4.3 Future Operational Concept and Programs in CNS/ATM

JCAB has been developing a future operational concept and detailed programs in CNS/ATM, taking into account development of relevant operations and technologies in other countries as well as ICAO.

5. CONCLUSION

JCAB will continue the development of the vision and its implementation, in concert with relevant parties.

Copyright Statement

The author confirms that he or ENRI holds copyright of all original material included in his paper. He also confirms he has obtained permission, from the copyright holder of any third party material included in their paper, to publish it as part of his paper. The author grants full permission for the publication and distribution of this paper as part of the EIWAC 2009 proceedings or as individual off-prints from the proceedings.