International Civil Aviation Organization

A37-WP/89
TE/37
3/9/10

WORKING PAPER

ASSEMBLY — 37TH SESSION

TECHNICAL COMMISSION

Agenda Item 46: Other issues to be considered by the Technical Commission

STRATEGIC PLANNING OF MULTI-MODAL TRANSPORT TRAFFIC MANAGEMENT (MTTM) BASED ON DEVELOPMENT OF THE GLOBAL NAVIGATION SATELLITE SYSTEMS (GNSS)

(Presented by Colombia)

EXECUTIVE SUMMARY

In their strategic planning, some States, such as Colombia, are considering a single multi-modal transport system that would benefit all users and operators, and improve on current systems.

An improved GNSS system could provide a navigation service that is integrated and may be used for the different modes of transport that are planned for future development, for greater efficiency and effectiveness.

Action: The Assembly is invited to:
a) take note of this information;
b) propose the development of global strategic guidance and planning manuals for MTTM based on the development of GNSS navigation systems; and
c) promote the integration and coordination of international bodies such as ICAO, the Federal Aviation Administration (FAA) and the International Committee on Global Navigation Satellite Systems (ICG) of the United Nations, among others, for the purpose of sharing experience and developing integrated projects for such objectives as the real-time management and monitoring of multi-modal transport traffic. GNSS wide-area augmentation systems should be used to offer services with added value for the transport sector.

Strategic Objectives:	This working paper relates to the following strategic objectives: A: Safety – enhance global civil aviation safety; and D: Efficiency – Enhance the efficiency of aviation operation.
Financial implications:	MTTM multi-sector cost-effectiveness/self-sustainability.
References:	Doc 9849, *Global Navigation Satellite System (GNSS) Manual* (plans by some States for improved integrated, inter-operational multi-modal transport) Doc 9750, *Global Air Navigation Plan*

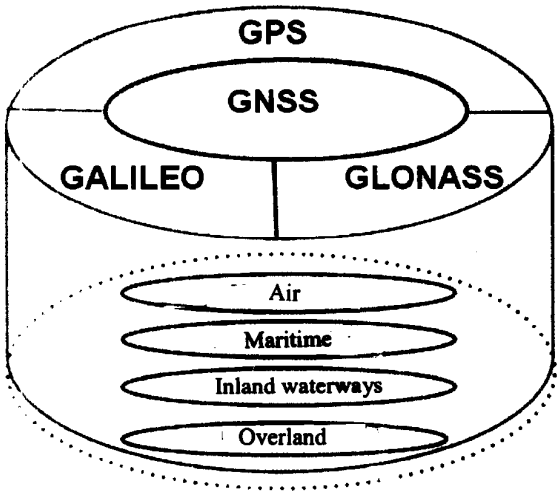
1. INTRODUCTION

1.1 The global navigation satellite systems (GNSS) are undergoing major development. This could lead to greater cost-effectiveness for multi-sector multi-modal transport traffic management (MTTM)/self-sustainability if the systems are developed on the basis of a global strategic plan for the short-, medium- and long-term to create a multi-modal transport navigation system that is effective, efficient, integrated and inter-operational for all multi-modal transport users around the world. Such developments would result in the improved safety of air, maritime, inland waterway and overland transport, enhanced self-sustaining capabilities and cost-effectiveness, greater MTTM operational capacity and a more positive environmental impact, in conformity with prevailing standards.

1.2 Doc 9750, *Global Air Navigation Plan*, is an excellent guide for the global planning of air navigation. It could be further improved with the addition of a GNSS navigation planning manual for integrated and inter-operational multi-modal transport. The same is true for Doc 9849, *Global Navigation Satellite System (GNSS) Manual*.

1.3 The GNSS options in Figure 1 could be developed further if the various modes of transport are included in strategic planning, analysis and evaluation at the global level, for the benefit of users.

Figure 1: GNSS global navigation system for integrated and inter-operational multi-modal transport



2. DISCUSSION

2.1 Herein is a proposal for users and operators of integrated and inter-operational multi-modal transport. The viability of the system should be studied at the global level and the greatest possible effort should be made worldwide to develop GNSS wide-area augmentation systems such as WAAS, EGNOS, GAGAN, SNAS, MSAS and SACCSA, so that said systems may be effectively coordinated in such a way as to benefit all of the sectors. There should be an integrated monitoring system for multi-modal transport, with guidance and planning manuals that meet the needs of clients and their users.

3. RECOMMENDATION

3.1 Improve the prospects for users of global multi-modal transport (air, maritime, inland waterways and overland), using the GNSS global navigation systems and with the first phase involving the development of SBAS systems (satellite-based augmentation systems), which have wide coverage and are inter-operable.

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