



## ASSEMBLY — 35TH SESSION

### TECHNICAL COMMISSION

**Agenda Item 23: Consolidated statement of continuing ICAO policies and practices related to communications, navigation, and surveillance/air traffic management (CNS/ATM) systems**

#### **THE EGYPTIAN INITIATIVE FOR A MULTI-MISSION SATELLITE BASED SYSTEM DEDICATED TO CNS/ATM SERVICES NAVISAT AFRICAN & MIDDLE EAST NAVIGATION SYSTEM**

(Presented by Egypt on behalf of the ACAC<sup>1</sup> member states)

### INFORMATION PAPER

#### SUMMARY

This paper describes briefly the Egyptian Initiative “NAVISAT” African & Middle East Navigation System, which calls for the implementation of Inter-regional Satellite System dedicated to CNS/ATM services Africa and Middle East. The system proposed will support the Satellite based Augmentation System and their extension to our region while providing safe aeronautical mobile and fixed communication services.

This paper presents the last progress of the NAVISAT initiative and related short term activities.

## 1. INTRODUCTION

1.1 This initiative was addressed by Egypt to ICAO meetings in Middle East and Africa regions in addition to ACAC meetings since 6 years ago. The initiative calls for a space project comprising the implementation of inter-regional multi-mission satellite system dedicated to CNS/ATM services serving Africa and Middle East to overcome the problems faced in the existing air navigation systems in Africa and Middle East regions.

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<sup>1</sup> The Arab Civil Aviation Commission (ACAC) member states are: Bahrain, Iraq, Jordan, Lebanon, Libyan Arab Jamahiriya, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, United Arab Emirates and Yemen.

1.2 The NAVISAT African & Middle East Navigation System will support Navigation Satellite based Augmentation Systems and their extension to these regions while providing safe aeronautical communication services.

## 2. PROJECT FEATURES

2.1 As mentioned, the system the system is focusing on an aeronautical mission. Which will provide safe communications and navigation services to aeronautical users (Aircraft, Air Traffic Control Centers, Airlines Operations and administrative centers ... etc.).

2.2 The objective of the aeronautical mission is to provide the following:

- a) Mobile communications services: Air/Ground voice and data communications services (ICAO AMSS Standard).
- b) Fixed communications services: Ground/Ground voice and data communications services required for ATC centers (Coordination data, Meteorological data ... etc.).
- c) Navigation signal: through relying GPS signals or its augmentation systems.

2.3 The objectives of the NAVISAT system are to define tire satellite solutions that would contribute to the enhancements of the Air Navigation safety in the Middle East and Africa regions. The NAVISAT initiative shall be compliant with standards and practices of the ICAO on one hand and aim to be compatible with current plans and use as far as possible the existing air traffic ground equipment installed in the different countries.

2.4 In order to reach the above objectives, first step of the NAVISAT study will be to perform analysis of the existing infrastructure, on-going communication/navigation projects and set up transition strategy.

## 3. NAVISAT INITIATIVE PROGRESS

3.1 Necessary actions have been taken by Egypt for ITU filing to start frequency coordination process (June 1998).

3.2 The NAVISAT initiative was presented to ICAO community since 1997, in the Middle East and AFI regions (MIDANPIRG and APIRG). It was also presented to the world wide CNS/ATM implementation conference held in Rio de Janeiro in May 1998.

3.3 The council of Arab Transport Ministries approved this initiative in its 14th Session held in Cairo on 1998. The Council decided to form a dedicated committee within the tasks of ACAC in order to make a precise study for the initiative.

3.4 The results of the preliminary studies bilaterally performed by the Egyptian Civil Aviation Authorities and Alcatel Space was encouraging, and showed the need for detailed studies for the NAVISAT project.

3.5 The ICAO meetings in AFI and Middle East regions expressed its satisfaction, with the communication components of NAVISAT, reporting that it is in line with the objectives of the MIDVSAT in Middle East region and NAFISAT in Africa region, making these projects complementary provided that NAVISAT project would be cost effectiveness to the states.

3.6 In the light of the above, the French Government offered its assistance to Egypt, through the decision in December 2003, to allocate a feasibility study loan to Alcatel in order to carry out a detailed study, named “Feasibility and Definition Study for NAVISAT/Air Navigation System for Africa and Middle East” under which Egypt will be the beneficiary of such a study.

3.7 On 3rd June 2004, the Egyptian Holding Company for Airports and Air Navigation (EHCAAN) has signed MoA (Memorandum of Agreement) with, Alcatel Space Company to Carry out a detailed study for NAVISAT within a period of (11) months starting from July 2004.

3.8 First step of this study, as stated above, is to analyze the ongoing plan and exact needs of the region to define the best solutions for EGNOS extension and aeronautical communication system by satellite.

#### **4. CONCLUSION**

4.1 NAVISAT initiative is entering a definition/feasibility study step that will allow to propose satellite system solutions to enhance Air Navigation safety in Middle East and Africa regions taking into consideration the existing plan and infrastructure.

4.2 This study shall analyze CNS/ATM current and future needs to propose the right and suitable NAVISAT system and a transition scenario to the NAVISAT system.

#### **5. ACTION BY THE ASSEMBLY**

5.1 The Assembly is invited to note the above information.