



International Civil Aviation Organization

**AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP  
SIXTEENTH MEETING (APIRG/16)  
(Kigali, Rwanda 19-23 November 2007)**

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**Agenda Item 7:      Technical Cooperation**

**METIS – AN ILLUSTRATION OF COORDINATED ACTIVITIES  
TO PROMOTE THE IMPLEMENTATION OF GNSS SERVICES**

(Presented by GEMCO)

**SUMMARY**

This working paper presents the METIS (Mediterranean Introduction of GNSS Services) project (<http://www.aui.ma/GNSS/metis>) launched in the framework of the Euro-MED GNSS I Programme, to pave the way for GNSS services in the Mediterranean region. Launched by the Galileo Joint Undertaking (GJU) in July 2006, METIS is now entrusted to the European GNSS Supervisory Authority (GSA). This project runs in parallel with the relevant infrastructure preparation for GNSS SIS (Signal In Space) Provision Activity in the region, undertaken by ESA, the European Space Agency.

**1.      INTRODUCTION**

1.1      This working paper provides information on achievements and work plan of the METIS project. METIS (MEdiTerranean Introduction of GNSS Services) is a project launched by the Galileo Joint Undertaking (GJU) in the framework of the Euro-MED GNSS I Programme. METIS started on July 2006 and will be running for 30 months. Since the 1st January 2007, METIS contract is entrusted to the GNSS Supervisory Authority (GSA).

1.2      METIS goal is to pave the way for GNSS services in the Mediterranean region, by:

- a)      Contributing to the definition of Euro-Mediterranean policy and actions in favour of the GNSS (EGNOS/GALILEO) services market in MEDA
- b)      Establishing cooperation and shared objectives between EU and MEDA economic actors supporting such a policy.

1.3 METIS primary outcome will be the development of a Regional Plan for the GNSS services market development in the MEDA region, covering the next 5-10 years, to facilitate the introduction of the full Galileo services, initially through EGNOS.

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1.5 In order to achieve its goal, METIS has put in place a programme of three main activities, running throughout the MEDA region over a period of 30 months:

1. Activity A - Preparation of a Euro-Med “GNSS Regional Plan”
2. Activity B - Running a “Training & Awareness” programme
3. Activity C - Implementation of 10 “GNSS Service Demonstrations”

1.6 METIS is performed in parallel with the GNSS SIS (Signal In Space) Provision Activity in the area, performed by the European Space Agency (ESA).

1.7 METIS involves a comprehensive Euro-Mediterranean team, including stakeholders and users from: Algeria, Belgium, Egypt, France, Spain, Israel, Jordan, Lebanon, Morocco, Palestinian Authority, Syria, Tunisia and Turkey.

1.8 Telespazio (Italy) is the project coordinator and is supported by Consortium partners: Al Akhawayn University (Morocco), Thales Alenia Space (France), European Satellite Services Provider ESSP (Belgium) and France Développement Conseil FDC (France).

1.9 The Galileo Euro-Med Cooperation Office (GEMCO), based in Cairo (Egypt), is also among the METIS team members supporting the training and awareness activities, in its key role as reference point for the promotion of EGNOS/Galileo applications and services in the MEDA area.

1.10 METIS kicked off on 12th July 2006 at GEMCO (Galileo Euro-Med Cooperation Office) premises in Cairo (Egypt). An audience of about 40 persons from Euro-Mediterranean countries, and including main stakeholders attended the meeting: Belgium, Egypt, France, Greece, Israel, Italy, Jordan, Lebanon, Morocco, Palestinian Authority, Spain, Tunisia and Turkey.

1.11 In order to stimulate the involvement of the MEDA actors, the project has created a list of MEDA Point of Contacts from the different countries, periodically informed on the project achievements, invited to actively contribute to the project work and participate to the METIS events.

## **2. METIS ACTIVITY A: GNSS REGIONAL PLAN**

2.1 The METIS Activity A is developing a plan for the GNSS Service implementation in the ten MEDA countries. GNSS Regional Plan identifies the actions and plan for the progressive introduction and development of GNSS Services in the MEDA area, in next 5-10 years and for various user/application domains (in the transport and non-transport domains, safety-of-life and not), from the initial introduction of EGNOS to the further addition of Galileo.

2.2 The GNSS Regional Plan takes into account the particular needs of the region, the regional/national transport policies, infrastructure plans, and the social and economical benefits that the use of EGNOS and Galileo will generate.

2.3 The elaboration is obtained as iterations of the following main tasks:

- Diagnostic phase, addressing the present status and needs at regional, sub-regional and national level, obstacles and enablers, opportunities, trends and existing strategies “in support of GNSS”
- Classification phase, addressing necessary measures and actions per country, at regional and sub-regional levels
- Financial phase, evaluating costs related to measure and action, social and economical benefits generated by the use of EGNOS - now - and Galileo - in the future
- Prioritisation phase, setting priorities for measures and actions, plans per country, at regional and sub-regional levels (timing at 5-10 years).

2.4 The GNSS Regional Plan proposes a common policy regarding the use and service market development of EGNOS and GALILEO in the Mediterranean region. It is shared with the actors of the MEDA countries.

2.5 MEDA actor’s involvement is a key factor for the “GNSS Regional Plan”, to:

- a) Gather realistic information and inputs necessary for defining basic elements (GNSS service needs and priority markets, Current status and evolution of GNSS versus regional needs, Service provision schemes and necessary infrastructure elements, Addressable markets, Cost and potential revenue sources and benefits, Clear and updated picture of existing sub-regional initiatives / plan / policies)
- b) Feedback and shared approach for defining the strategy plan (review the developed “GNSS Regional Plan”).

2.6 MEDA actor’s involvement is pursued through questionnaire, dedicated interviews, promotion events, and workshops where the GNSS Regional Plan is presented and discussed.

### **3. METIS ACTIVITY B: TRAINING AND AWARENESS**

3.1 METIS has developed a programme of training activities aiming at increasing the GNSS knowledge in MEDA countries and promoting exchanges on GNSS plan and policies in this area. One of the goals of this training programme is to provide the trainees with the necessary material and knowledge in order to allow them performing an efficient dissemination at national or regional level.

3.2 A Master Training and seminar was successfully held in Al Akhawayn University in Ifrane (Morocco) on 15th-16th March 2007 with around 40 participants from Egypt, Jordan, Lebanon, Morocco, Tunisia and Syria. During the seminar, a fruitful discussion allowed to assess these two days in order to improve the organization of the next training.

3.3 METIS second Training and seminar was organised and hosted by GEMCO in Cairo on 6th-7th November 2007. MEDA and EU trainers presented GNSS (EGNOS) use and added value in different applications, and some national activities already in place or under development in some MEDA countries.

#### **4. METIS ACTIVITY C: DEMONSTRATIONS**

4.1 METIS has initiated the set-up and execution of 10 demonstrations, with the purpose of validating GNSS (EGNOS) use and promoting its benefits in various application cases and operative scenarios. METIS service demonstrations cover 9 MEDA countries and foresee involvement of MEDA actors. They target different application domains:

- a) 4 Wide Area Demonstrations (WAD) target sub-regional applications and involve at least 3 MEDA countries
- b) 6 Local Area Demonstrations (LAD) target local applications and involve one MEDA countries.

4.2 Among the WAD, a specific demonstration on APV landing using EGNOS signals is under preparation. This demonstration will be performed in Egypt, Jordan and Turkey. The dates are not yet fixed and the demonstration programme will be largely disseminated in civil aviation organizations.

4.3 Another WAD of interest for aviation is the MEDaCoN (MEDiterranean Data Collection Network) demonstration. It involves partners from Jordan, Morocco, Tunisia, Israel, Egypt, Turkey, Palestinian Authority and Algeria. The demonstration targets the education, research and location based services providers domains. It is aimed at providing a Data Collection Server and Network Management system, to perform the continuous monitoring of the status of EGNOS service in the Mediterranean region, in order to:

- a) Increase the practical knowledge of involved actors about the system and the provided services
- b) Facilitate the planning of local activities, from local demonstrations to academic works on geopositioning application development.
- c) Increase the system knowledge and confidence in the provided services giving a precise view on the performances.

4.4 Among the LAD, one is related to Mobile surveillance and control on airport. This demonstration will be performed on Casablanca Mohamed V airport. The demonstration targets the aviation domain. Its objective is to set-up, execute and perform results assessment of validating EGNOS-based mobile surveillance and control.

#### **5. Action by APIRG:**

The meeting is invited to:

- a) note the content of this paper.

- b) consider and comment this contribution which can help the definition of the activities to be carried out when developing regional GNSS implementation strategy.

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