



International Civil Aviation Organization

APIRG CNS Subgroup

Second Meeting
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Agenda Item 5: Aeronautical Radio Navigation Services (ARNS)

**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.

1.4 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:

- a) Activity A - Assessing necessary policies and actions in favour of a progressive GNSS services market implementation
- b) Activity B - Running a programme of training & awareness activities
- c) Activity C - Implementing GNSS Service Demonstrations.

1.5 METIS is performed in parallel with the GNSS SIS (Signal In Space) Provision Activity in the MEDA region, which is under the responsibility of the European Space Agency (ESA).

1.6 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.

1.7 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).

1.8 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.

1.9 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.

1.10 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. This Regional Plan identifies the actions and plan for the progressive introduction and development of GNSS Services (including safety-of-life services) in the MEDA area, in next 5-10 years and for various user/application domains, such as transport applications, from the initial introduction of EGNOS to the further addition of Galileo.

2.2 The METIS Regional Plan elaboration is based on complementary studies and strength cooperation with MEDA countries. It 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.

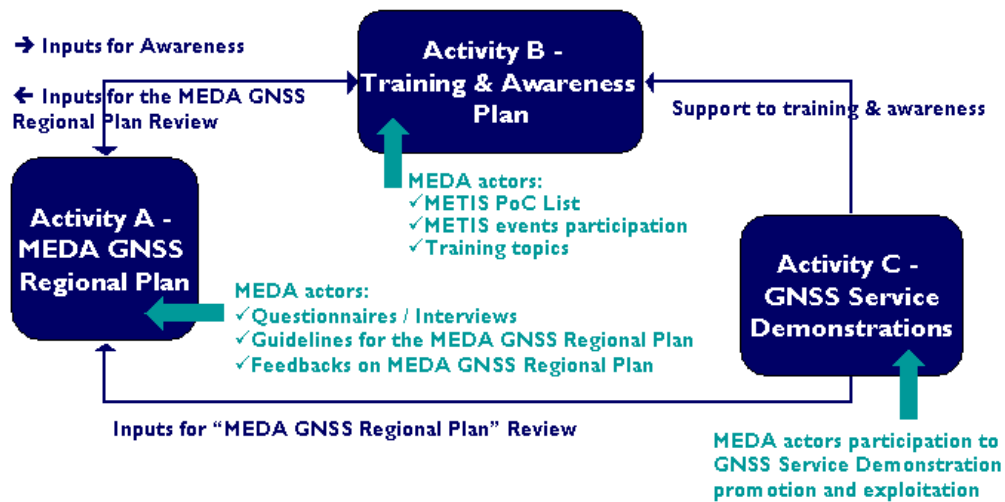
2.3 The cross feeding between the other METIS activities is of importance for the successful achievement of the GNSS Regional Plan. Activity A performs the necessary tasks for the elaboration of the GNSS Regional Plan, providing inputs to Activity B (Training and Awareness) and receiving inputs from Activity C (Demonstration).

2.4 The GNSS Regional Plan will be shared with the stakeholders of the MEDA countries, to support the development of a common policy regarding the use and service market development of EGNOS and GALILEO in the Mediterranean region.

2.5 MEDA actor's involvement is a key factor for "METIS 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 Next figure gives a quick look on the MEDA Actors involvement during the GNSS Regional Plan preparation.



For this purpose, dedicated Workshops will be organized, where MEDA National Coordinators will be invited to discuss and share the GNSS Regional Plan developed by the project. METIS will hold its first Workshop in Casablanca (Morocco) on 12th July 2007 organised by the Al Akhawayn University and hosted by the Moroccan Office National des Aéroports (ONDA). The basic methodology and assumptions for the Regional Plan will be 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 to perform 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. The programme has been defined according to a questionnaire sent to MEDA actors and addressed an overview of the EGNOS and Galileo programmes as well as the different GNSS applications in aviation, maritime, land transport and Location Based Services (LBS). During the seminar, feedback from the participants was gathered in order to improve the organization of the next training.

3.3 GEMCO will host the second training and seminar session in Cairo on 6th - 7th November 2007. The programme will take into account the lessons learnt in the first training and the MEDA actors will be invited to present their national activities in GNSS. This programme will be soon available on the METIS web site (www.aui.ma/GNSS/metis/).

4. METIS ACTIVITY C: DEMONSTRATIONS

4.1 METIS has initiated the set-up and execution of 10 demonstrations, with the purpose of promoting the benefits of GNSS 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. These are “wide-scale” demonstrations focusing on transactional applications, and involving at least three MEDA partners, belonging to at least two different MEDA regions. As an example, they target aviation and freight transport user communities, which are naturally characterised by involving interests from a wide geographical area.

- b) 6 Local Area Demonstrations (LAD) target local applications and involve one MEDA countries. These are “local-scale” demonstrations include pilot to be executed in a MEDA region with the participation of one or two local partners. METIS LADs have been selected based on regional needs, indeed they are specifically oriented to application domains that are of interest for the selected country.

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 LBS 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 assess the performance of EGNOS-based mobile surveillance and control.

4.5 This APV Wide Area demonstration and MEDaCoN details are subject to specific WPs of GNSS TF/6. Members are invited to refer to these WPs.

4.6 METIS activity C is aimed at increasing the awareness of the involved user communities, resulting in an effective communication programme annexed to each demonstration. Members of GNSS TF are kindly invited to attend these demonstrations and their subsequent events.

5. ACTION BY THE MEETING

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.