



UNITED NATIONS  
Office for Outer Space Affairs

## INFORMATION NOTE

### United Nations/United Arab Emirates/United States of America Workshop on the Applications of Global Navigation Satellite Systems

Hosted by and Co-organized with the  
Emirates Institution for Advanced Science and Technology

Dubai, United Arab Emirates

16 – 20 January 2011

#### 1. Background

Following the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), held in 1999 (A/CONF.184/6, 1999), the United Nations General Assembly endorsed “The Space Millennium: Vienna Declaration on Space and Human Development.” The Vienna Declaration called for action to improve the efficiency and security of transport, search and rescue, geodesy and other activities by promoting the enhancement of, universal access to and compatibility among, space-based navigation and positioning systems. The Plan of Action, contained in document A/59/174 entitled “Review of the implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space” and endorsed by the General Assembly in its resolution 59/2, presented findings and proposed specific actions in the areas that are important for strengthening and further developing the well-being and the future of all nations. These actions include, among others, maximizing the benefits of the use and applications of global navigation satellite systems (GNSS) to support sustainable development, improving medical and public health services through the use of space technologies, developing a comprehensive, worldwide environmental monitoring strategy as well as improving the management of the Earth’s natural resources. Additional information is available at: [www.unoosa.org](http://www.unoosa.org)

Since 2001, the United Nations Office for Outer Space Affairs (UNOOSA) has organized a series of regional workshops and international meetings to promote the use of GNSS. These workshops and meetings presented the status of existing and near-term GNSS systems and their augmentations and also presented examples of GNSS applications that support sustainable development. In an attempt to build a system of systems in the coming decade, the International Committee on Global Navigation Satellite Systems (ICG) was established in December 2005 under the umbrella of the United Nations. The ICG is a forum to discuss GNSS to benefit people around the world. Additional information is available at: [www.icgsecretariat.org](http://www.icgsecretariat.org)

To implement a global navigation and positioning satellite systems programme, the Office for Outer Space Affairs is organizing regional workshops, training courses and international meetings focusing on capacity-building in the use of GNSS in various areas of applications that support sustainable development, particularly in developing nations. To support the work of the ICG, the Office, as the ICG Executive Secretariat, is focusing on deploying instruments for the international space weather initiative (ISWI), developing a GNSS

education curriculum that could be integrated into the education programmes of the regional centres for space science and technology education affiliated to the United Nations, and utilizing regional reference frames. Additional information is available at: <http://www.iswi-secretariat.org/>

**The United Nations/United Arab Emirates/ United States of America workshop on the applications of GNSS** is organized to augment the exchange of information, collaboration and advances in the use of GNSS in wide range of applications (e.g. aviation, marine, roads and highways, rail, space, agriculture, forestry, and natural resource exploration, surveying and mapping, scientific applications) with a view to establish a regional cooperative mechanism.

## **2. Venue and date**

**The Workshop on the applications of GNSS will be held in Dubai, United Arab Emirates from 16 to 20 January 2011.** The venue of the workshop will be the campus of the Higher Colleges of Technology in Dubai Academic City.

## **3. Organizers**

The United Nations Office for Outer Space Affairs (OOSA) and the Emirates Institution for Advanced Science and Technology on behalf of the Government of the United Arab Emirates (UAE) are co-organizing the above workshop.

## **4. Objectives of the workshop**

The main objectives of the workshop are to:

- update on-going activities related to the use of GNSS technology in participating countries;
- identify the specific needs of individual plans and projects on GNSS, taking into consideration the local institutional settings, including specific training and capacity-building needs;
- develop a regional plan of action that would contribute to the wider use of GNSS technology and its applications, including the possibility of one or more national or regional pilot projects, or both, in which interested institutions could incorporate the use of GNSS technology.

## **5. Expected outcomes**

- Specific recommendations on discussed multi-disciplinary applications;
- Preliminary agreement of regional cooperation in support of on-going activities/projects towards the implementation of a dense network of GNSS sites that could establish a common reference frame for the region. This geodetic network would be part of the global geodetic infrastructure that includes other regional frames known as African Geodetic Frame (AFREF), Geocentric Reference System for the Americas (SIRGAS), Reference Frame Sub-Commission for Europe (EUREF) and the European Position Determination System (EUPOS), and the Asia Pacific Reference Frame (APREF).
- Action plan addressing identified issues/concerns.

## **6. Preliminary programme of the Workshop**

The programme will include plenary sessions and sufficient time for discussions among participants to identify the priority areas where pilot projects should be launched and examine possible partnerships that could be established. As a preliminary suggestion the following sessions will be organised:

## **Thematic Sessions**

### **Session 1: Trends in satellite-based navigation systems**

- Global Positioning System (GPS)
- GLObal NAVigation Satellite System (GLONASS)
- European Satellite Navigation System (GALILEO)
- COMPASS/BeiDou Navigation Satellite Systems (CNSS)

### **Session 2: Initiatives/experiences in GNSS user applications: Case studies and practical cooperation models**

- Civil aviation and transportation (roads, highways, rail)
- Marine
- Environment, agriculture, and disaster relief
- Surveying and mapping
- Timing and telecommunications

### **Session 3: GNSS reference station systems and services: National projects**

- Geodetic framework, based on continues observation and analysis of GNSS data
- Realization of the International Terrestrial Reference Frame in the region: perspectives for a regional cooperative mechanism

### **Session 4: International Space Weather Initiative**

- Monitoring Solar-terrestrial interaction at the United Nations Office at Vienna
- Instrument Arrays: Instrumentation and data analysis
- Opportunities for collaboration

### **Session 5: Education and training in the use and applications of GNSS technologies**

- Education and training programmes
- GNSS education tools

## **Discussion Sessions**

### **Session 6: Regional cooperation in applying GNSS technology**

- Issues, concerns and approaches for pilot projects/initiatives, requirements of implementing, mechanisms and resources of implementing
- Possible follow-up projects and initiatives

### **Session 7: Conclusions and recommendations**

- Groups discussion results and recommendations
- Proposal for future workshops/training courses

## **Technical Visit**

- Visit to the Emirates Institution for Advanced Science and Technology – Facility tour

## **7. Working Methods**

Participants of the workshop are requested to deliver a presentation paper and materials covering information on the use of GNSS technology, case studies/projects in GNSS applications in their respective countries. Each speaker is allocated 20 minutes for the presentation and is requested to submit a copy of the presentation in Microsoft PowerPoint format at least two weeks before the commencement of the workshop. It is also necessary to submit an abstract of presentation with a maximum of 300 words including the following details: Paper Title, Author (s) Name(s), Affiliation(s), and e-mail address for the presenting author.

Presentations made at the workshop will be published on the website of the Office for Outer Space Affairs approximately two weeks after the workshop at: [www.unoosa.org](http://www.unoosa.org)

## **8. Sponsorship of the workshop**

The United Nations, the Government of UAE, the United States of America through ICG are co-sponsors of the workshop. **Sponsorship of the workshop still open to interested entities.**

## **9. Expected participants**

The Workshop is being planned for a total of 100 participants, including policymakers, decision makers and senior experts from the following groups: international, regional, national and local institutions, United Nations agencies, non-governmental organizations, research and development institutions, academia and also from industry.

## **10. Participation requirements**

Participants should be in senior managerial or decision-making responsibility at governmental agencies, national and regional institutions, non-governmental organizations or industry. **Equally qualified female applicants are particularly encouraged.**

## **11. Language of the Workshop**

The working language of the Workshop will be English.

## **12. Financial support**

Within the limited financial resources available, a limited number of selected participants will be offered financial support to attend the Workshop. This financial support will defray the cost of travel (a round trip ticket – most economic fare – between the airport of international departure in their home country and Dubai, United Arab Emirates) and/or the room and board expenses for the duration of the Workshop.

## **13. Deadline for Submission of Applications and Abstracts**

The completed application form together with the presentation abstract, properly endorsed by the applicant's Government/institution, should be submitted to the Office for Outer Space Affairs, United Nations Office at Vienna, Vienna International Centre, P.O. Box 500, A-1400, Vienna, Austria, **no later than Friday, 12 November 2010.**

Please note that on-line application form is available on the UNOOSA web site at the following address:

<http://www.oosa.unvienna.org/oosa/en/SAP/act2011/un-gnss/index.html>

#### **14. Life and health insurance**

Life/major health insurance for each of the selected participants is necessary and **is the responsibility of the candidate or his/her institution or Government**. The co-sponsors will not assume any responsibility for life and major health insurance, nor for expenses related to medical treatment or accidents.

#### **15. Further information and contact details**

For information regarding the submission of nominations for attendance and funding, please contact **Ms. Ayoni Oyenehin**, United Nations Office for Outer Space Affairs, at the following e-mail address: [ayoni.oyenehin@unoosa.org](mailto:ayoni.oyenehin@unoosa.org)

For information regarding the programme, presentations/abstracts and speakers of the Workshop, please contact **Ms. Antonella Bini** at [antonella.bini@unoosa.org](mailto:antonella.bini@unoosa.org) or **Ms. Sharafat Gadimova** at [sharafat.gadimova@unoosa.org](mailto:sharafat.gadimova@unoosa.org)

The focal point for the United Arab Emirates will be **Mr. Salem Al Marri**, the Emirates Institution for Advanced Science and Technology, who can be contacted at the following e-mail address: [salem@eiaast.ae](mailto:salem@eiaast.ae)