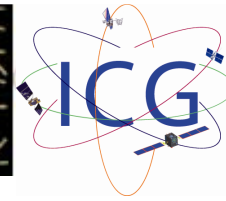




Office for Outer Space Affairs
United Nations Office at Vienna



International Committee on
Global Navigation Satellite Systems

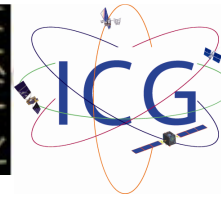
International Committee on Global Navigation Satellite Systems (ICG)

Sharafat Gadimova
ICG Executive Secretariat
Office for Outer Space Affairs
United Nations Office at Vienna

APEC GNSS Implementation Team (GIT 15) Meeting

13 – 17 June 2011

Brisbane, Australia



International Committee on Global Navigation Satellite Systems (ICG)

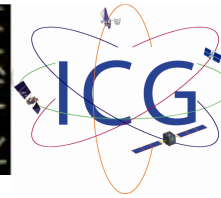
***A forum to discuss Global Navigation Satellite Systems (GNSS)
to benefit people around the world***

- ◆ **2005: Establishment of ICG**
 - ◆ **ICG Membership: Members, Associate Members and Observers**
 - ◆ **9 nations & the European Union**
 - ◆ **15 organizations (UN system entities, IGOs, NGOs)**

The ICG members cooperate, as appropriate, on matters of mutual interest related to civil satellite-based positioning, navigation, timing and value-added services

The UNOOSA, as the ICG Executive Secretariat, will assist the process of the establishment of the **Information Centres**

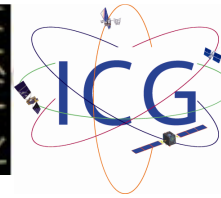
for training and information dissemination on global applications of GNSS and their socio-economic benefits for humanity



International Committee on Global Navigation Satellite Systems (ICG)

ICG Working Groups:

- ◆ ***Compatibility and Interoperability (USA and Russia)***
 - ◆ *to identify and encourage use of existing guidelines and standards to enhance compatibility and interoperability;*
 - ◆ *open service information sharing;*
 - ◆ *service performance monitoring;*
 - ◆ *spectrum protection: interference detection and mitigation.*
- ◆ ***Enhancement of performance of GNSS services (India and ESA)***
 - ◆ *to promote and coordinate activities aimed at enhancing GNSS performance, recommending system enhancements and meeting future user needs.*
- ◆ ***Information dissemination and capacity building (UNOOSA)***
 - ◆ *training/technical workshops for capacity building in developing countries*
- ◆ ***Reference Frame, Timing and Applications (IAG, IGS, FIG)***
 - ◆ *to consider geodetic and time references*



International Committee on Global Navigation Satellite Systems (ICG)

2006: First Meeting of the ICG, UNOV, Vienna, Austria

- ◆ Work Plan and Terms of Reference

2007: Second Meeting of the ICG, ISRO, Bangalore, India

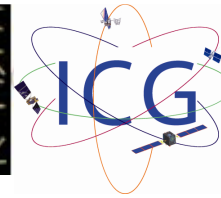
- ◆ Within the ICG is the **Providers' Forum**, consisting of those countries operating GNSS systems or with plans to develop one (USA, Russian Federation, European Union, China, India and Japan): **a venue for coordination and cooperation to improve overall service provision**

2008: Third Meeting of the ICG, JPL, Pasadena, USA

- ◆ Work Plan and Terms of Reference of the **Providers' Forum**
- ◆ **UN-affiliated Regional Centres for Space Science and Technology Education (India, Morocco, Nigeria, Mexico/Brazil) will act as the ICG Information Centres**

2009: Fourth Meeting of the ICG, Roscosmos, Saint-Petersburg, Russia

- ◆ Monitoring of the ionosphere during the next solar maximum and its effects on GNSS receivers;
- ◆ Adopted new principle on transparency: Every provider should publish documentation that describes signal and system information, policies of provision and minimum levels of performance for its open services;
- ◆ **Endorsed a proposal for a multi-GNSS demonstration project in the Asia/Oceania region**

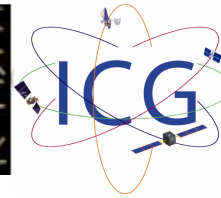


International Committee on Global Navigation Satellite Systems (ICG)

2010: Fifth Meeting of the ICG, Italy and the European Union, Turin, Italy

- ◆ Reviewed and discussed developments in GNSS, as well as the promotion of the use of GNSS and their integration into national infrastructure, particularly in developing countries;
- ◆ Addressed **aspects of spectrum protection, and interference detection and mitigation;**
- ◆ Considered the **issue of integrity for all users** where a particular effort is needed to make them aware of the **benefits arising from the coming multi-GNSS scenarios;**
- ◆ Considered a **programme on GNSS applications, including deploying instruments for the international space weather initiative (ISWI), as well as the applications of GNSS in various areas to support sustainable development;**
- ◆ Focused on **standard descriptions of geodetic and timing references for existing and planned systems;**
- ◆ Reiterated its support for **multi-GNSS campaigns.**

2011: Sixth Meeting of the ICG, Tokyo, Japan, 5 – 9 September



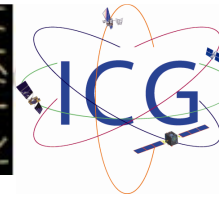
International Committee on Global Navigation Satellite Systems (ICG) :
Multi-GNSS Demonstration Campaign/Project

- ◆ **To be conducted** in order to encourage and promote the introduction and utilization of satellite positioning, navigation and timing services in the Asia and Oceania region through assistance with the integration of GNSS services into national infrastructures;

Asia/Oceania region is a unique place where the number of usable modernized navigation satellites will increase much faster than in other areas of the world

Therefore, International Committee on Global Navigation Satellite Systems:

- ◆ **Agreed** that the multi-GNSS demonstration campaign would be **beneficial to ICG efforts focused on promotion of interoperability among multiple GNSS;**
- ◆ **Endorsed** the implementation of the multi-GNSS demonstration campaign;
- ◆ **Encouraged** participation by all GNSS Providers and users in Asia/Oceania region to develop new applications and carry out experiments or demonstrations jointly.



Programme on GNSS Applications: Information Dissemination and Capacity Building

International Space Weather Initiative: *develop the scientific insight necessary to understand the science, and to forecast near-Earth space weather*

- ◆ ***2010: UN/Egypt Workshop, 6 – 10 November, Helwan University: Western Asia***
- ◆ ***2011: UN/Nigeria Workshop, 17 – 21 October, Abuja: Africa***
- ◆ ***2012: UN/Ecuador Workshop: Latin America and the Caribbean***

Regional Workshops on the Applications of GNSS: *increase awareness among decision and policy makers of the benefits of GNSS and develop regional and national pilot projects on GNSS applications*

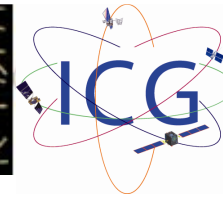
- ◆ ***UN/UAE Workshop on GNSS, 16 – 20 January 2011, Dubai, UAE***
- ◆ ***UN International Meeting on GNSS, 12 – 16 December 2011, Vienna, Austria***

Training for capacity building in developing countries: *provide support to the regional centres for space science and technology education, affiliated to the United Nations, which would also act as the ICG Information Centres*

- ◆ ***Morocco and Nigeria for Africa, Brazil and Mexico for Latin America and the Caribbean, and India for Asia and the Pacific***
- ◆ ***Development of the GNSS Education Curriculum***



Office for Outer Space Affairs
United Nations Office at Vienna



International Committee on
Global Navigation Satellite Systems

UNOOSA: ICG Executive Secretariat

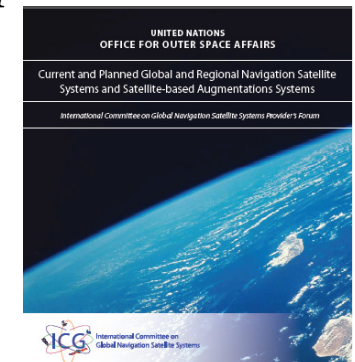
...to enhance the utilization of existing and planned opportunities

International Committee on Global Navigation Satellite Systems provides...

- ◆ web-based information
- ◆ information brochures

...and also

- open for collaboration and cooperation
- would welcome your participation in and contribution to the ICG activities



Web: <http://www.icgsecretariat.org>

ISWI displays in the UNOOSA permanent space exhibit at the UNOV

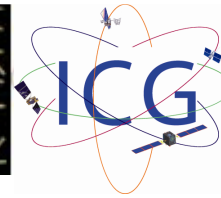


A model of a GPS Block III satellite in the UN Permanent Space Exhibit





Office for Outer Space Affairs
United Nations Office at Vienna



International Committee on
Global Navigation Satellite Systems

**Secretariat of the
International Committee on
Global Navigation Satellite Systems**

**United Nations Office for Outer Space Affairs
PO Box 500, 1400 Vienna, Austria**

Phone: +43 1 26060 5479

Fax: +43 1 26060 5830

E-mail: osa@unvienna.org

Web: <http://www.icgsecretariat.org>