

Second Meeting of ICG Global Navigation Committee

(ICG-2) – (UN) Committee of GNSS provider states

ICG-2 took place on 4 – 7 September 2007, in Bangalore, India, hosted by the Indian Space Research Organization (ISRO).

ICG applications include safety and economic development, particularly the efficiency and safety of transport, search and rescue, geodesy, land management and other activities.

In its resolution 61/111 of 14 December 2006, the United Nations General Assembly noted with that the ICG

- had been established on a voluntary basis as an informal body
- promote cooperation related to civil satellite-based positioning, navigation, timing and value-added services,
- increasing their use to support sustainable development, particularly in developing countries.
- made substantive progress in furthering its workplan approved at the first meeting of the ICG organized by the Office of Outer Space Affairs of the United Nations Secretariat in Vienna in 2006.

- **Members are (States provides GNSS) China, the European Community, India, Japan, the Russian Federation, the United States, Italy,**
- **(Further Members are) International organizations: the Bureau International des Poids et Mesures (BIPM - Elisa Felicitas Arias), the European Position Determination System (EUPOS - Rosenthal), the IAG Reference Frame Sub-Commission for Europe (EUREF - Ihde), the Fédération Internationale des Géomètres (FIG – Matt Higgins), the International Association of Geodesy (IAG – Chris Rizos), the International Association of Institutes of Navigation (IAIN), the International GNSS Service (IGS, formerly International GPS Service – Ruth Neilan), the Office for Outer Space Affairs of the United Nations Secretariat, and the Union Radio-Scientifique Internationale (URSI).**
- **Malaysia and the United Arab Emirates also attended and were recognized by the ICG as new members.**

First Day:

- **A major development at this meeting was the establishment of a Providers Forum to enhance compatibility and interoperability among current and future system providers,**
- **Members of the Providers Forum are China, the European Community, India, Japan, the Russian Federation and the United States.**
- **The Providers Forum addressed key technical issues and operational concepts such as compatibility and interoperability, the protection of GNSS spectrum, orbital debris/orbit de-confliction and other matters related to the work of the ICG.**
- **ICG Benefit: GNSS providers come together with users (geodesy, navigation etc.) to exchange information and meet requirements**

The second day of the meeting

- **was devoted to expert presentations made by India, GNSS service providers, State Members, intergovernmental organizations, and non-governmental organizations dealing with GNSS applications.(EUREF presentation)**

Summary

EUREF is the key organization for the support of the geodetic GNSS ground based infra-structure in Europe

- GNSS, Height and Gravity reference frames -
- EUREF supports the IAG (IGS, GGOS, ...) items in EUROPE
- EUREF takes over geodetic tasks of EuroGeographics – the European legal entity of 49 European NMCA's in 42 states
- EUREF will certainly be an important partner in the implementation of INSPIRE (EC), GGOS (IAG), GEOSS (GEO)

www.euref-iag.net

www.euref.eu

Addendum

Is there a need

- **for the creation of a legal basis for International Geodetic Reference Systems**
- **through an International Treaty**
- **prepared by ICG?**

Background

IAG

- **created as “Mitteleuropäische Gradmessung” in 1862**
- **changed in “Internationale Erdmessung” in 1889**
- **works on the basis of an International Treaty between Prussia and German and Non-German member states**
- **was closed in 1917 and lost its legal basis**
- **continued 1931 as non-governmental organization through foundation of Section Geodesy as part of IUGG (Section Geodesy was renamed 1932 in IAG).**

On the third day, the International Committee addressed its workplan through the working groups focused on:

- A. compatibility and interoperability;**
 - B. enhancement of performance of GNSS services;**
 - C. information dissemination and coordination; and**
 - D. interaction with national and regional authorities and relevant international organizations. (IAG, IGS, EUREF, ...)**
-
- Recommendations and plans to address the current and future work under each group were presented to the ICG.**

Drafted by IAG, FIG, BIPM members UN ICG Recommendation

Coordination of navigation satellite systems space and time references

The United Nations International Committee on Global Navigation Satellite Systems (ICG)

considering

- the international value of having many GNSS operational with a composite contribution of several tens of satellites,
- the desirability of using all systems interchangeably,
- the use by GPS of references very close to UTC and ITRF (WGS84),
- the GLONASS efforts to approach UTC and ITRF (PZ90, new version 09/07),
- the Galileo design referring to UTC and ITRF (GTRF),
- that other important satellite navigation systems are now being designed and developed *),

*) Compass, IRNSS, QZSS, various SBAS,

recommends

- that the reference times (modulo 1 s) of satellite navigation systems be synchronized as closely as possible to UTC,
- that the reference frames for these systems be in conformity with the ITRF,
- that these systems broadcast, in addition to their own System Time (ST):
 1. the time difference between ST and a real-time realization of UTC,
 2. a prediction of the time differences between ST and UTC.

- **Invitation of the United States to host the third meeting, to be held in 2008. The Committee also noted the**
- **Offer of the Russian Federation to host the succeeding meeting in 2009.**
- **Acting as the Secretariat for the ICG and the Providers Forum, the United Nations Office for Outer Space Affairs will assist in the preparations for these meetings and interim planning and working group activities.**