International Committee on Global Navigation Satellite Systems

19 January 2007
Inter-Agency Meeting on Outer Space Activities
Open Informal Session

Vienna, Austria
Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III)

- 1999 UNISPACE III: The Space Millennium - Vienna Declaration on Space and Human Development

- 2001: Action Teams established by COPUOS under voluntary leadership by Member States

- 2004 UNISPACE III+5 Plan of Action contained in the report of COPUOS to the UNGA on the review of the implementation of the recommendations of UNISPACE III and endorsed by the UNGA
Global Navigation Satellite Systems and Augmentation Systems

Operating Global Navigation Satellite Systems (GNSS)

- USA’s GPS Modernisation and ultimately GPS-III (+ WAAS)
- Russia’s GLONASS Re-vitalisation
- EU’s Galileo (+ EGNOS)
- Japan’s QZSS/MSAS
- India’s GAGAN/INRSS
- China’s Compass
“The Space Millennium: Vienna Declaration on Space and Human Development” (Vienna Declaration)

GNSS related recommendation:

“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 of space-based navigation and positioning systems”
Action Team GNSS: Establishment in 2001

- 12 Action Teams were established by UN Committee on the Peaceful Uses of Outer Space (COPUOS)

| Action Team Nr. 1 (Environmental Monitoring Strategy); | Action Team Nr. 9 (Knowledge-sharing) |
| Action Team Nr. 2 (Management of Natural Resources); | Action Team Nr. 10 (GNSS) |
| Action Team Nr. 4 (Weather and climate monitoring); | Action Team Nr. 11 (Sustainable Development) |
| Action Team Nr. 6 (Public health) | Action Team Nr. 14 (Near-Earth objects) |
| Action Team Nr. 7 (Disaster management) | Action Team Nr. 17 (Capacity building) |
| | Action Team Nr. 18 (Awareness increase) |
| | Action Team Nr. 32 (Innovative funding sources) |

- Recommendations that have been assigned highest priority by Member States of the United Nations
- GNSS Action Team co-chaired by the United States and Italy
- GNSS applications/coordination: Regionally, Internationally
Action Team GNSS: Membership

- **38 countries**

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- **15 organizations**
- **3 UN system entities: ESCAP, ICAO, ITU**
- **4 IGOs: ESA, European Commission, Eurocontrol, BIPM**
- **8 NGOs: CGSIC, EURISY, AIAA, IAG, IAIN, ICA, FIG, IGS**
Action Team GNSS: Working Groups

- Five Thematic Areas
  - Surveying, mapping, and Earth sciences
  - Agriculture and management of natural resources
  - Environmental monitoring and management
  - Transportation
  - Education and training, awareness increase
Action Team GNSS: 2001-2004

- Use of GNSS for applications such as disaster warning and emergency response, aviation, maritime and land transportation, mapping and surveying, agriculture, power and telecommunication networks, and geographic information systems

- Regional workshops and international meetings with:
  - system providers;
  - augmentation system providers, and users

2001: Malaysia (ESCAP) and Austria (ECE)

2002: Chile (ECLAC) and Zambia (ECA)
Action Team GNSS: Main Findings

- Coordination mechanism involving operators of GNSS and their augmentations, as well as appropriate international organizations;

- Integration of GNSS into the basic infrastructure (government, commercial and scientific) of countries, particularly in the developing world;

- Establish mechanisms for identifying and eliminating sources of interference that could degrade signals from GNSS and their augmentations
Moving from a short-term “Action Team” to a Long-term “International Committee on GNSS” (ICG)
UN/USA International Meetings on the Use and Applications of GNSS

- 2002
- 2003
- 2004
  - Action Team concluded (Report)
  - ICG Terms of Reference (Draft)
  - ICG Work Plan (Draft)
  - GNSS/ICG Web Information Portal (Draft)
  - Follow-up projects/initiatives on GNSS applications (21)
  - UN/Italy Long-term fellowship programme GNSS
  - AFREF, SIRGAS, EUPOS, ...

- UNISPACE III + 5: Review of the implementation of the recommendations of UNISPACE III (UN GA Res. 59/2, para 11)
Meetings of the Action Team (2001-2004) and Establishment of the International Committee on GNSS (2005) have been facilitated by the UN Office for Outer Space Affairs
First Meeting of the ICG: 2006

ICG: Terms of Reference

Objectives:

- Encourage coordination among providers of GNSS core systems and augmentations in order to ensure greater compatibility and interoperability;

- Encourage and promote the introduction and utilization of satellite positioning, navigation, and timing services, particularly in the developing countries, through assistance with the integration of GNSS services into their infrastructures;

- Report periodically on its activities to UNCOPUOS
ICG: Terms of Reference

Participants

- (a) Members:
  - Current and future core system providers including, European Community (Galileo), Russian Federation (Glonass), and United States (GPS);
  - Member States of the UN with an active programme in implementing or promoting a wide range of GNSS services and applications (Italy);
  - Current and future regional or augmentation system providers including, China (Compass), ESA (EGNOS), India (GAGAN/INRSS), Japan (MSAS/QZSS), Nigeria (NigComsat-1 SBAS), US (WAAS), and other compatible ground-based systems;

- (b) Associate Members:
  - International and regional organizations and associations dealing with GNSS services and applications including, UNOOSA, CGSIC, IAG, ICA, IGS, ISPRS, IERS, FIG, EUPOS, ICSU;

- (c) Observers:
  - COSPAR, BIPM, IAIN, URSI, ITU
First Meeting of the ICG: 2006

ICG: Work Plan

- (a) Compatibility and Interoperability;
- (b) Enhancement of performance of GNSS services
- (c) Information Dissemination
- (d) Interaction with National and Regional Authorities and Relevant International Organizations
- (e) Coordination

All participants will cooperate, as appropriate, on matters of mutual interest related to civil satellite-based positioning, navigation, timing, and value-added services
ICG: Work Plan

Information Dissemination

- ICG Information portal, including a calendar of GNSS related events
- Identify undergraduate and graduate courses on GNSS
- Disseminate a list of relevant textbooks on GNSS in English and other languages
- Use of the Regional Centres for Space Science and Technology Education, affiliated to the United Nations to promote GNSS use and applications
- Develop a proposal for further mechanisms to promote the applications of GNSS
First Meeting of the ICG: 2006

- **ICG: Conclusions**

  - The ICG adopted its Terms of Reference and Work Plan

  - A proposal to establish a “Providers Forum” to enhance compatibility and interoperability among current and future global and regional satellite-based systems was noted
The United Nations General Assembly,
in its resolution 61/111 of 14 December 2006

“Notes with appreciation that
the International Committee on
Global Navigation Satellite Systems was established on
a voluntary basis as an informal body to promote cooperation,
as appropriate, on matters of mutual interest related to
civil satellite-based positioning, navigation, timing and
value-added services, as well as
the compatibility and interoperability of global navigation
satellite systems, while increasing their use to support
sustainable development, particularly in developing countries”
CONCLUSION

- GNSS has universal application to activities undertaken by UN specialized agencies

- ICG would welcome input from the IAM on what it could do to support UN System use of GNSS