



International Committee on Global Navigation Satellite Systems (ICG)

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- 2001 – 2004: Action Team on GNSS (Italy and the United States) – *in implementation of the recommendations of UNISPACE-III, 1999, Vienna*
 - An international framework to support operational coordination and exchange of information among system operators and national and international user communities would be important
 - The assumption was that current and future system operators would soon move from a competitive to a collaborative mode where there is a shared interest in the universal use of GNSS services regardless of the system
- 2005: Establishment of the ICG (noted by UNGA 61/111 of 14 December 2006)
 - Promote the use of GNSS and its integration into infrastructure, particularly in developing countries;
 - Encourage **compatibility and interoperability** among global and regional systems
- Main challenge is to provide assistance and information for those countries seeking to integrate GNSS into their basic infrastructure, including at governmental, scientific and commercial levels

- Members: 9 nations and the European Union
- Current and future core, regional or augmentation systems providers: China (BeiDou), EU (Galileo/EGNOS), Russia (GLONASS/SDCM), United States (GPS/WAAS), India (IRNSS/GAGAN), and Japan (QZSS/MSAS)
- State Members of the United Nations with an active programme in implementing or promoting a wide range of GNSS services and applications: Italy, Malaysia, United Arab Emirates
- Associate Members and Observers: 21 organizations
- International & regional organizations and associations dealing with GNSS services and applications: UN system entities, IGOs, NGOs
- UNOOSA (2006), India (2007), United States (2008), Russian Federation (2009), Italy & European Union (2010), Japan (2011), China (2012), United Arab Emirates (2013), European Union (2014), United States (2015), **Russian Federation (2016)**, **Japan (2017)**, China (2018), India (2019), Vienna (2020)

■ 2007: Establishment

- Members: Current and future global and regional satellite navigation systems and Satellite-based Augmentation Systems (SBAS) providers
- PF provides ways and means of promoting communication among system providers on key technical issues and operational concepts such as the GNSS spectrum protection, orbital debris, and orbit de-confliction
- Scientific and Technical Subcommittee of UNCOPUOS (UN GA Res. 62/217 of 1 February 2008) started consideration of an agenda item “Recent developments in GNSS”

2017: Eighteenth Meeting, 6 June, Vienna, Austria

- Open Service Information Dissemination
- Open Service Performance
- Spectrum Protection (interference detection and mitigation)
- Report on a multi-GNSS demonstration project in Asia/Oceania region

■ Interference Detection and Mitigation (IDM)

- To continue addressing the need for worldwide GNSS spectrum protection
- To establish a multi-year agenda item focused on national efforts to protect RNSS spectrum, and pursue GNSS IDM in member states

■ Request for voluntary reporting on national RNSS spectrum protection practices and GNSS IDM capabilities (A/AC.105/C.1/2017/CRP.18):

STSC agreed that, a general exchange of information should be included on issues related to GNSS IDM, with a view to raising awareness of efforts to achieve the overall goal of promoting effective use of GNSS open services by the global community.

http://www.unoosa.org/res/oosadoc/data/documents/2017/aac_105c_12017crp/aac_105c_12017crp_18_0.html/AC105_C1_2017_CRP18E.pdf

- **Interoperable GNSS Service Volume (SSV)**

- Support to SSV in future generation of satellites:

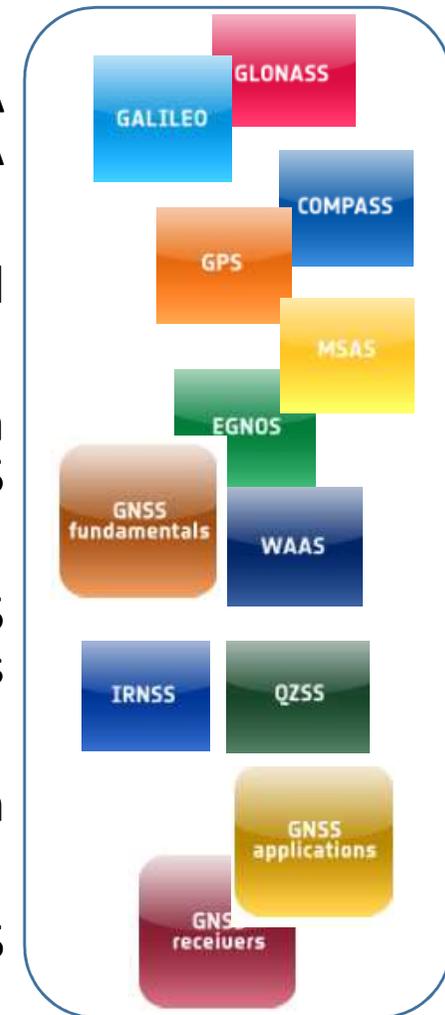
Service providers have been actively contributing to the completion of the SSV templates that include the support of the SSV of the different systems. Many GNSS provided data in the SSV template derived from measurement and characterization efforts conducted based on existing satellite designs

- Additional Data for Space Service Volume:

In order to exploit the Interoperable GNSS Space Service volume for space missions or to develop GNSS space receivers, information from the service providers regarding the power emissions for wide off-boresight angles are essential. Initial information on this aspect is available from every service provider

Working Groups (cont.)

- In line with ICG2012 recommendation on NAVIPEDIA, ESA has been maintaining and developing further NAVIPEDIA with up-to-date information.
- NAVIPEDIA is today extensively used by universities and Galileo application developers.
- NAVIPEDIA is also used as reference as part of the European Satellite Navigation Conference (ESNC) for the GNSS application developers
- An APP version of NAVIPEDIA (for both Android and iOS operational systems) is currently under development. This should be ready by the end of 2016.
- By October 2016, more than 1 million visits received on NAVIPEDIA website so far (www.navipedia.org)
- Most visited articles are on GNSS fundamentals and GNSS applications.



▪ United Nations Regional Workshops/training courses

- These activities increase awareness among decision and policy makers of the benefits of GNSS, and develop regional and national pilot projects on GNSS applications

▪ **Technical Seminar on Reference Frames in Practice, FIG Working Week 2017, 29 – 30 July 2017, Kobe, Japan**

- To provide technical knowledge on the operational and practical aspects and issues relating to reference frames, in particular to facilitate a regional forum for geodetic agencies, improve data sharing (GNSS leveling, tide gauge, gravity)

▪ **United Nations/United States of America Workshop on International Space Weather Initiative: The decade after the International Heliophysical Year 2007, 31 July – 4 August 2017, Boston College, Chestnut Hill, Massachusetts, USA**

- A high level international forum on the economic and societal effects of extreme space weather: *to discuss issues and policies for acknowledging space weather as a global challenge; and to focus on international framework for space weather services*
- International Space Weather Initiative session: *Instrumentation, Solar effects, modelling, SW and its effects on GNSS*

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Our Work - ICG

International Committee on Global Navigation Satellite Systems (ICG)

MISSION STATEMENT

The International Committee on Global Navigation Satellite Systems (ICG), established in 2005 under the umbrella of the United Nations, promotes voluntary cooperation on matters of mutual interest related to civil satellite-based positioning, navigation, timing, and value-added services. The ICG contributes to the sustainable development of the world. Among the core missions of the ICG are to encourage coordination among providers of global navigation satellite systems (GNSS), regional systems, and augmentations in order to ensure greater compatibility, interoperability, and transparency, and to promote the introduction and utilization of these services and their future enhancements, including in developing countries, through assistance, if necessary, with the integration into their infrastructures. The ICG also serves to assist GNSS users with their development plans and applications, by encouraging coordination and serving as a focal point for information exchange.

VISION STATEMENT

The International Committee on Global Navigation Satellite Systems (ICG) strives to encourage and facilitate compatibility, interoperability and transparency between all the satellite navigation systems, to promote and protect the use of their open service applications and thereby benefit the global community. Our vision is to ensure the best satellite based positioning, navigation and timing for peaceful uses for everybody, anywhere, any time.

At the "United Nations International Meeting for the Establishment of the International Committee on Global Navigation Satellite Systems (ICG)" held on 1-2 December 2005 in Vienna, Austria, the ICG was established on a voluntary basis as an informal body for the purpose of promoting cooperation, as appropriate, on matters of mutual interest related to civil satellite-based positioning, navigation, timing, and value-added services, as well as compatibility and interoperability among the GNSS systems, while increasing their use to support sustainable development, particularly in the developing countries. The participants in the meeting agreed on an establishment of the ICG information portal, to be hosted by UNOOSA, as a portal for users of GNSS services.

Our Work

- Secretariat of COPUOS
- Programme on Space Applications
- UN-SPIDER
- ICG
 - Members
 - Providers Forum
 - Working Groups
 - ICG Annual Meetings
 - ICG Programme on GNSS Applications
 - Resources
 - ICG Documents
 - Space Weather & GNSS
 - Other Events
 - ICG Timelines
- UN Space
- Space Law
- Topics
- Photo Gallery

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International Committee on Global Navigation Satellite Systems
The Way Forward
 10 YEARS OF ACHIEVEMENT 2005-2015

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 Current and Planned Global and Regional Navigation Satellite Systems and Satellite-based Augmentation Systems
 International Committee on Global Navigation Satellite Systems Position Paper

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 10 years of achievement of the United Nations on Global Navigation Satellite Systems

- WWW.UNOOSA.ORG
- WWW.UNOOSA.ORG/OOSA/EN/OURWORK/ICG/ICG.HTML

- Significant progress continues to be made through ICG, and the results of this work not only promote the capabilities of GNSS to support sustainable development, but also promote new partnerships among members of ICG and institutions of the broader user community, particularly in developing nations
- The activities and opportunities provided through the ICG result in the development and growth of capacities that will enable each country to enhance its knowledge, understanding and practical experience in those aspects of GNSS technology that have the potential for a greater impact on its economic and social development, including the preservation of its environment
- The ICG is an important vehicle in the multi-lateral arena, as satellite-based positioning, navigation and timing becomes more and more a genuine multinational cooperative venture