

Workplan of the International Committee on Global Navigation Satellite Systems

The Committee's indicative workplan contains the following elements:

(a) Compatibility and interoperability

Since compatibility and interoperability are highly dependent on the establishment of standards for service provision and user equipment, the Committee might need to address the topic of the adoption of common guidelines. However, the Committee would not itself set guidelines; instead it will identify applications where no guidelines currently exist (i.e. such as land transport use of global navigation satellite systems (GNSS) through interoperability of regional ground based differential GNSS (DGNSS) augmentation systems), and recommend possible organizations that could appropriately set new guidelines. Consultation with existing standard-setting bodies, such as the International Civil Aviation Organization (ICAO), the International Maritime Organization (IMO), the International Telecommunication Union (ITU) and the International Organization for Standardization (ISO) will also be required.

The working group formed to address compatibility and interoperability, to be co-led by the United States of America and the Russian Federation, will pursue the following actions:

Action A1: Establish a providers forum to enhance compatibility and interoperability among current and future global and regional space-based systems.

Action A2: Organize a workshop(s) on measures being taken by Members, Associate Members and Observers to enhance interoperability and compatibility of (1) global and regional space-based systems and (2) regional ground-based DGNSS.

Action A3: Survey the level of interoperability and standardization among GNSS constellations and augmentations in order to identify concrete steps that can be taken at different levels (regulatory, system implementation, user algorithms) to improve interoperability and standardization. It is expected that the situation is well advanced in civil aviation and maritime areas, therefore, the effort would probably need to concentrate on land-based applications and users.

Action A4: Consider guidelines for the broadcast of natural disaster alarms via GNSS.

Action A5: Develop a strategy for support by the International Committee of mechanisms to detect and mitigate sources of electromagnetic interference, taking existing regulatory mechanisms into consideration.

(b) Enhancement of performance of GNSS services

As a unique combination of GNSS service providers and major user groups, the Committee will work to promote and coordinate activities aimed at enhancing GNSS performance, recommending system enhancements and meeting future

user needs. Specifically, the following actions will be taken by a working group co-led by India and the European Space Agency:

Action B1: Develop a reference document on models and algorithms for ionospheric and tropospheric corrections.

Action B2: Examine the problem of multi-path and related mitigation actions affecting both GNSS systems and user receivers, especially for mobile receivers.

Action B3: Examine the extension of GNSS service to indoor applications.

(c) Information dissemination

The Committee will consider the establishment of user information centres by GNSS providers. The maintenance of a globally focused website will be a major task of these centres. The United Nations, through the Office for Outer Space Affairs of the Secretariat and on behalf of the Committee, will combine all the websites into a single site to act as a portal for users of GNSS services. Therefore, the Office for Outer Space Affairs will lead a working group to accomplish the following actions:

Action C1: Establish the International Committee information portal drawing on contributions from Members, Associate Members and Observers of the Committee. This will include a calendar of GNSS-related events.

Action C2: Identify undergraduate and graduate courses on GNSS to be included on the Committee portal.

Action C3: Consider the possibility of disseminating a list of relevant textbooks on GNSS in English and other languages through the Committee portal. Consideration will also be given to developing a glossary of terms and definitions.

Action C4: Consider the use of the Regional Centres for Space Science and Technology Education, affiliated to the United Nations, to promote GNSS use and applications.

Action C5: Identify international conferences where Members, Associate Members and Observers will make presentations on the existence and work of the International Committee. A list of such events will be maintained on the Committee information portal.

Action C6: Develop a proposal for further mechanisms to promote the applications of GNSS.

(d) Interaction with national and regional authorities and relevant international organizations

The Committee will establish links with national and regional authorities and relevant international organizations, particularly in developing countries.

The Committee will organize and sponsor regional workshops and other types of activity in order to fulfil its objectives. The Fédération internationale des géomètres (FIG), the International Association of Geodesy (IAG) and the International GNSS Service will co-lead the activities listed below:

Action D1: Define minimum operational performance standards for GNSS performance monitoring networks.

Action D2: Establish a working group focused on Site Quality, Integrity and Interference Monitoring (SQII).

Action D3: Establish a working group to develop a strategy for support by the International Committee of regional reference systems (e.g., the African Geodetic Reference Framework (AFREF), the European Position Determination System (EUPOS), the IAG Reference Frame Sub-Commission for Europe (EUREF) and the Geocentric Reference System for the Americas (SIRGAS)).

Action D4: Establish a working group to develop a strategy for support by the International Committee of mechanisms to detect and mitigate sources of electromagnetic interference, taking existing regulatory mechanisms into consideration.

(e) Coordination

In the future, the Committee will consider, make recommendations and agree on actions to promote appropriate coordination across GNSS programmes. Furthermore, the Committee will encourage its Members, Associate Members and Observers to maintain communication, as appropriate, with other groups and organizations involved in GNSS activities and applications, through the relevant channels within their respective Governments and organizations.

The Committee could also support the establishment of national and/or regional planning groups for GNSS that would address regulations associated with the use of GNSS services and suggest organizational models to use at the national level for co-coordinating and governing GNSS use.