



## **Fifth Meeting of the International Committee on Global Navigation Satellite Systems (ICG)**

**18 – 22 October 2010  
Turin, Italy**

### **Joint Statement**

The Fifth Meeting of the International Committee on Global Navigation Satellite Systems (ICG) was held in Turin, Italy from 18 to 22 October 2010, to continue reviewing and discussing developments in global navigation satellite systems (GNSS) and to allow ICG members, associate members and observers to consider matters of interest. ICG also addressed GNSS technology in the era of multi-systems receivers and the impact of GNSS interoperability on timing and other user applications. Representatives from industry, academia and Governments shared views on GNSS compatibility and interoperability.

The Meeting was jointly hosted by Italy and the European Commission on behalf of the European Union. Attendees included China, India, Italy, Japan, Malaysia, Nigeria, the Russian Federation, the United Arab Emirates, the United States of America, and the European Union, as well as the following intergovernmental and non-governmental organizations: Civil Global Positioning System Service Interface Committee (CGSIC), Committee on Space Research (COSPAR), European Space Agency (ESA), European Position Determination System (EUPOS), International Federation of Surveyors (FIG), International Association of Geodesy (IAG), IAG Reference Frame Sub-Commission for Europe (EUREF), International Bureau of Weights and Measures (BIPM), International Earth Rotation and Reference Systems Service (IERS), International GNSS Service (IGS). The representatives of the United Nations Office for Outer Space Affairs and International Telecommunication Union (ITU) also participated.

ICG recalled that the General Assembly, in its resolution 64/86 of 10 December 2009 (A/RES/64/86), while recommending that the Office for Outer Space Affairs should continue to serve as the Executive Secretariat of the ICG, welcomed the progress made by the ICG towards achieving compatibility and interoperability among global and regional space-based positioning, navigation and timing systems and in the promotion of the use of global navigation satellite systems and their integration into national infrastructure, particularly in developing countries, and noted with satisfaction that the ICG had held its fourth meeting in Saint Petersburg, Russian Federation, from 14 to 18 September 2009.

ICG noted that the working groups focused on the following issues: compatibility and interoperability; enhancement of the performance of GNSS services; information dissemination and capacity-building; and reference frames, timing and applications. It also noted the substantive progress made in furthering the ICG and Providers' Forum workplans that had been approved at the previous meetings of the ICG.

ICG further noted the achievements of the ICG Providers' Forum, as reflected in the publication entitled "Current and planned global and regional navigation satellite systems and satellite-based augmentation systems" (ST/SPACE/50).

ICG noted that the Working Group A on compatibility and interoperability had continued to explore further the issue of GNSS interoperability from users' perspectives. ICG also noted the results of a workshop focused on compatibility involving system providers. The Working Group A also addressed the remaining aspects of its work plan as revised at the fourth meeting of the ICG, including spectrum protection and interference detection and mitigation. The Working Group A recommended that interested members focus on proposals to address interference detection and mitigation, and draft a study plan for consideration by the ICG.

The Working Group B on enhancement of the performance on GNSS services discussed aspects of user position integrity with a briefing on the outcomes of a special meeting of the working group on this topic and a presentation on the plans on this matter on the GNSS systems and augmentations. Several recommendations were elaborated to proceed further on the issue of integrity for aviation and non aviation users where a particular effort was needed to make them aware of the benefits arising from the coming multi-GNSS scenarios. A new work item was added to the work plan dealing with techniques for radio-frequency interference mitigation and detection in the GNSS bands.

The Working Group C on information dissemination and capacity-building had continued to develop a programme on GNSS applications and reiterated the importance of deploying instruments for the international space weather initiative (ISWI), developing a GNSS education curriculum, as well as the application of GNSS in various areas to support sustainable development. In that respect, the ICG Information Centres established in the Regional Centres for Space Science and Technology Education affiliated to the United Nations would play a relevant role.

The Working Group D on reference frames, timing and applications noted excellent progress in the work of its two Task Forces focused on standard descriptions of geodetic and timing references for existing and planned systems. The Working Group agreed on an updated work plan. Recommendations were proposed and adopted by the ICG on several matters of relevance to the coordination of geodetic and time references. The Working Group reiterated its support for Multi-GNSS campaigns. An important new development was the agreement of the System Providers to liaise with relevant international bodies to ensure that receiver output formats for future GNSS signals are unambiguously defined.

ICG accepted the invitation of Japan to host its Sixth Meeting in Tokyo, from 5 to 9 September 2011. The Office for Outer Space Affairs, as the Executive Secretariat of ICG and its Providers' Forum, will assist in the preparations for the meeting and for interim planning meetings and working group activities. ICG noted the expression of interest by China to host the Seventh Meeting of ICG in 2012.