



## **Fourteenth Meeting of the Providers' Forum**

**United Nations Office at Vienna, Vienna International Centre**

**8 June 2015  
Vienna, Austria**

### **Summary of Discussions**

The Fourteenth Meeting of the Providers' Forum, co-chaired by Mr. Kenneth Hodgkins of the United States and Mr. Pieter De Smet of the European Commission was held on 8 June 2015 in Vienna, Austria preceding the 58<sup>th</sup> Session of the Committee on the Peaceful Uses of Outer Space (COPUOS), 10 – 19 June 2015. The meeting agenda is attached (see Annex I) herewith.

China, Japan, the Russian Federation, the United States and the European Union were represented at the meeting. The list of attendees is attached (see Annex II) herewith.

#### **Open service information dissemination**

The meeting noted that Working Group A on Compatibility and Interoperability (WGA) had continued its work on developing a template that each individual GNSS provider might consider using in their publication of signal and system information, the policies of provision, and the minimum levels of performance offered for open services. It was also noted that as requested by a provider or providers, WGA would assist in exchanging information with ICG participants important to resolving global navigation satellite systems (GNSS) open service anomalies that impact users.

The meeting further noted that the detailed report would be provided after further discussions at the WGA inter-sessional meetings that were scheduled to be held on 10 - 12 June 2015 in Vienna, and on 13 - 16 July 2015, Queensland, Australia in conjunction with the 2015 International GNSS Symposium (iGNSS).

#### **Service performance monitoring**

The meeting took note of two recommendations (i) the establishment of an information portal for international GNSS monitoring and assessment; and (ii) the international GNSS monitoring and assessment task force to hold a workshop in 2015 that were proposed to the Working Groups A (Compatibility and Interoperability), B (Enhancement of Performance of GNSS Services) and D (Reference Frames, Timing, and Applications) for further consideration.

The meeting heard a presentation on “iGMAS update and status” by X. Dong, H. Sun and X. Lu of China. The presentation is attached (see Annex III) herewith.

### **Spectrum protection: interference detection and mitigation**

The meeting noted that the 4<sup>th</sup> Workshop on GNSS Spectrum Protection and Interference Detection and Mitigation, scheduled to be held on 10 -11 June 2015 in Vienna, would continue discussions on recommendations/outcomes of the previous workshops related to unintentional interference levels, standards for crowdsourcing interference detection, the issues of GNSS as an international critical infrastructure, and practical aspects of the evaluation of the interference environment in the GNSS frequency bands.

The view was expressed that consideration should be given to evaluating existing and emerging interference detection, localization and characterization capabilities by GNSS providers and user communities in their nations or regions. Consequently, it was noted that the WGA would facilitate providers’ discussions on their individual views and actions related to radionavigation satellite service (RNSS) spectrum issues and agenda items under consideration by the International Telecommunication Union (ITU) and its Working Parties.

The meeting noted that “Recent developments in global navigation satellite systems” is an agenda item in the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space (COPUOS). The providers were encouraged to contribute to COPUOS’s GNSS agenda item by informing Member states about RNSS spectrum protection and IDM.

The meeting also noted that the International Telecommunication Union (ITU) World Radiocommunication Conference (WRC-15) did not have any significant issues relevant to GNSS providers.

The meeting took note of the recommendation made at the United Nations/Russian Federation Workshop on the applications of GNSS held on 18 – 22 May 2015 in Krasnoyarsk concerning matters related to building the capacity of countries to address radio-frequency interference problems. The Workshop participants recommended that this matter should be directed to the National Space Agencies and/or National Spatial Data Infrastructure authorities to take appropriate steps to protect GNSS open signals.

### **ICG Information Centres: Regional Centres for Space Science and Technology Education (affiliated to the United Nations)**

The ICG Executive Secretariat informed participants that the Civil Global Positioning System (GPS) Service Interface Committee (CGSIC) made arrangements with Trimble Navigation Ltd. To provide educational materials related to GNSS to the ICG information centres. It was noted that these materials would be used within the Centres for the nine-month postgraduate courses on GNSS.

The meeting noted that the experts of the Reshetnev Information Satellite Systems Joint Stock Company will be giving lectures on GLObal NAVigation Satellite System (GLONASS) and future perspectives of GLONASS/GNSS at the African Regional Centre for Space Science and Technology Education - in French Language (CRASTE-LF) in Morocco.

The meeting noted that the regional workshop on GNSS was scheduled to take place in Nepal in 2016. The meeting also noted the expression of interest request to host the regional workshop on GNSS in China in 2017.

### **ICG Information Portal: Updating website content**

The meeting noted that the new ICG website had been designed to better serve the members of the ICG and to raise awareness of the work of the ICG. The updated website is based on the new website of the United Nations Office for Outer Space Affairs (OOSA) at: [www.unoosa.org](http://www.unoosa.org)

It was also noted that the ICG website included an interactive timeline of ICG's important events, and the list of ICG activities was included in the calendar of the events of OOSA (<http://www.unoosa.org/oosa/en/events/calendar-view.html>). The providers therefore were invited to provide additional information/photos to be included in the new ICG information portal.

### **Report on a multi-GNSS demonstration project in the Asia/Oceania region**

The meeting noted that regional workshops on GNSS continued to be organized in the framework of the workplan of the Asia Oceania Multi-GNSS Demonstration Campaign.

### **Draft provisional agenda for the 15<sup>th</sup> Meeting of the Providers' Forum, 1 – 6 November 2015, Boulder, Colorado, United States**

The meeting agreed that the 15<sup>th</sup> Meeting of the Providers' Forum will be held in conjunction with the 10<sup>th</sup> Meeting of the ICG in Boulder, Colorado, United States.

### **ICG Working Groups Reports**

It was recommended that the ICG Working Group Co-chairs be invited to report on their workplans and on the status of the implementation of recommendations from previous ICG meetings.

Some delegations expressed the view that the Working Groups needed to have a tangible objective, including a time frame or action plan for implementation of their recommendations.

### **Other matters**

- Debris mitigation in medium-Earth orbit

The meeting agreed that the topic would be further considered under the agenda item "Other matters" at the next Providers' Forum meeting. It was also noted that further information would be provided by the United States via e-mail prior to the next meeting of the Providers' Forum.

- GNSS market access

The meeting agreed that the topic would be further considered under the agenda item "Other matters" at the next Providers' Forum meeting.

- Comments on the Agenda of the Tenth Meeting of the ICG, Boulder, Colorado, United States, 2 – 6 November 2015

The meeting noted that the US positioning, navigation and timing (PNT) Advisory Board would be held in Boulder, Colorado, on 30 - 31 October 2015. This meeting was generally open to the public, therefore, the ICG meeting participants were welcome to participate in and make presentations at that meeting. It was noted that Mr. James Miller of the National Aeronautics and Space Administration (NASA) should be contacted if interested in participating in and presenting at the meeting. Detailed information about the PNT Advisory Board can also be found at: <http://www.gps.gov/governance/advisory/>

With regard to the question of whether specific topics were identified for the Applications and Experts Session to be held on 3 November 2015, it was noted that the presentation topics would be defined and communicated by e-mail later on.

With regard to the schedule of work of the Working Groups on 3 and 4 November 2015, the meeting agreed that this tentative schedule would be confirmed after the agendas of the Working Groups were finalized.

- Request for Observer status of Space Generation Advisory Council (SGAC)

The Providers' Forum took note of the request of the Space Generation Advisory Council (SGAC) for observer status with ICG. The Provider's Forum also noted the Youth for GNSS project (YGNSS) of SGAC.

The Providers' Forum was unable to reach consensus on this request and recommended that the ICG invite SGAC to participate, in an expert capacity, in the work of Working Group C on information dissemination and capacity building.

- United Nations International Meeting on GNSS, 14 – 18 December 2015, Vienna

The meeting took note of the United Nations International Meeting on GNSS scheduled to take place in Vienna, 14 – 18 December 2015, and agreed to organize a special session on GNSS spectrum protection. The aspects of GNSS spectrum protection to be addressed include regulatory, technical, operational, and policy. The session would be organized in cooperation with and support of the WGA's IDM Task Force.

- Glossary of terms and document consolidating decisions and conclusions

The meeting noted that the glossary of terms would be updated as necessary.

The meeting also noted that the document entitled "Extracts from reports of ICG and its Providers' Forum" would be posted on the ICG information portal, and the document would be updated to reflect the proceedings of the ICG and Providers' Forum meetings.

- Space Weather

The meeting took note of a draft National Space Weather Strategy that was released by the United States Space Weather Operations, Research and Mitigation (SWORM) Task Force and distributed by the ICG Executive Secretariat in May 2015. It was noted that although the public comment period ended on 29 May 2015, the strategy had the information to construct an effective strategy for mitigating space weather effects that could be of interest to the ICG. Further detailed information is available at: <http://www.dhs.gov/national-space-weather-strategy>