

SUMMARY
of the Thirteenth Meeting of the Providers' Forum
held in conjunction with the Ninth Meeting of the International Committee
on Global Navigation Satellite Systems (ICG)

9, 11 and 13 November 2014
Prague, Czech Republic

The Thirteenth Meeting of the Providers' Forum (PF), co-chaired by China and the European Union, was held in conjunction with the Ninth Meeting of the International Committee on Global Navigation Satellite Systems (ICG), on the 9th, 11th and 13th of November 2014, in Prague, Czech Republic. The meeting agenda is attached as an annex to this report. China, India, Japan, the Russian Federation, the United States and the European Union were represented at the meeting.

Open service information dissemination

The following presentations were provided:

- **GNSS Space Service Volume**

The United States presented an update to the Global Navigation Satellite System (GNSS) Space Service Volume (SSV) concept. The United States is very pleased with the progress made at the Eighth Meeting of the ICG in 2013. The goal for the United States is to ensure an interoperable, sustained and quantified GNSS capability for space users. Recently released antenna patterns for the Global Positioning System (GPS) IIR and IIR-M satellites were also presented. These will help space users in High Earth Orbit (i.e. Geostationary Orbit and Geostationary Transfer Orbits (GTO)). The United States continues to encourage GNSS and Radio-Navigation Satellite Services (RNSS) partners to complete the SSV templates, develop specifications, and publish constellation antenna data.

- **MEOSAR**

The United States presented background information on the Medium Earth Orbit (MEO) Search and Rescue (MEOSAR) as an application for Cospas-Sarsat. MEOSAR is the next

generation of satellite-aided search and rescue that is in testing phase. MEOSAR payloads will be onboard GPS, GALILEO and the Russian Global Navigation Satellite System (GLONASS) satellites, and is expected to have early operational capability in 2015.

- **GALILEO System Status Update**

The European Union presented an update on the current status of GALILEO and noted a significant improvement in ranging accuracy over the past year. The European Union also provided an update on the GALILEO satellites 5 and 6. These satellites are in stable condition and were handed over to the GALILEO Command and Control on 27-28 September 2014. However the satellites are not in the expected orbits, due to a launch anomaly. An orbit raising maneuver was started for one of the satellites, and In Orbit-Testing is expected to be done in December 2014 after a higher target orbit has been reached. An analysis of the target orbit indicates that the signal in space could be used by most commercial receivers, but the lack of a valid almanac and navigation message (orbits, clocks) is expected. A decision about whether to use these satellites for navigation and search and rescue will be made after the In-Orbit-Testing is complete. The European Union also noted that the possibility of a collision with other MEO satellites is very low, based on their output of respective analysis centers.

The European Union also presented progress made on GALILEO Space Service Volume (SSV) characterization.

The European Union intends to publish the GALILEO characteristics related to the interoperable GNSS SSV in Spring 2015.

- **GNSS Market Access**

The presentation given by the United States noted that the United States National Space Policy encourages market access, and they have engaged in bilateral discussion with the European Union and Japan on this topic. The consideration of system specific equipage mandates by GNSS providers is an area of concern for the United States, as they may not be consistent with the World Trade Organization (WTO) commitments. The United States would prefer to see technology neutral performance-based standards, which allow the manufacturers and users to identify the optimal means for meeting the requirement.

Service Performance Monitoring

Under the topic of service performance monitoring, China noted two recommendations that have been proposed to the Working Groups A, B and D for further discussion. The first one is for the establishment of an information portal for international GNSS monitoring and assessment. The second recommendation is for the International GNSS Monitoring and Assessment Task Force to hold a workshop in 2015.

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

The Secretariat of MGA provided an update on the multi-GNSS demonstration project in the Asia/Oceanic region. The presentation noted that there are currently 42 organizations from 15 countries/regions who are participating. The 6th Regional Workshop was held 9-11 October 2014 in Phuket, Thailand. At that Workshop, two proposed experiments were endorsed by Multi-GNSS Asia steering committee, and the formation of a new working group on capacity building was proposed. It was noted that the results of the current multi-GNSS experiment will be reported at the next regional workshop.

ICG Information Centres and Information Portal

The ICG Executive Secretariat provided an update on recent and future activities:

- **ICG Information Centers**

The African Regional Centre for Space Science and Technology Education - in French Language (CRASTE-LF) in Morocco, acting as the ICG information center, completed the first session of nine-month postgraduate course on GNSS in September 2014.

- **ICG Website**

The ICG website is being redesigned by the Office for Outer Space Affairs, and will include the addition of a webpage for ICG associate members and observers. More information about the website will be presented at the Providers' Forum planning meeting in February 2015.

- **ICG 10 Year Anniversary Booklet**

The booklet is being updated for the 10 year anniversary of the ICG in 2015. The first chapter of the book contains information about each Providers' system, and needs to be updated from the last time the booklet was published in 2010. The goal is to have the booklet complete by June 2015, so that it can be launched at the 58th Session of the

Committee on the Peaceful Uses of Outer Space. Completion of the input template was requested to be submitted to the ICG Executive Secretariat by the end of November 2014.

Other Items

A review of the draft vision statement was discussed. The European Union offered some revisions.

The United States proposed that debris mitigation in MEO and GNSS market access be topics for discussion by the Providers. The Providers agreed to consider this proposal at their next meeting based on further information to be provided by the United States.

The Providers agreed to add to the agenda of the Providers Forum an item on review of progress in the implementation of the recommendations of the ICG Working Groups.

The Providers agreed that the next meeting of the Providers' Forum would be held in Vienna in June 2015 in conjunction with the fifty-eighth session of the Committee on the Peaceful Uses of Outer Space.