



International Committee on  
Global Navigation Satellite Systems

## **ICG WORKING GROUP S Systems, Signals, and Services**

### **ICG-12 Meeting**

**Kyoto, Japan**

**2-7 December 2017**

### **AGENDA**

#### **Monday, 04 December**

##### **0915-0930 Introduction**

- 1) WG-S Co-chairs Opening Remarks
- 2) Approval of the Agenda
- 3) WG-S Events in 2017

##### **0930-1000 GNSS Updates**

*System Providers*

- 1) Beidou (BDS)
- 2) Galileo
  - a. Galileo I/NAV changes

*EU*

- 3) GLONASS
- 4) GPS
- 5) QZSS
- 6) IRNSS/NAVIC

\* Note: This is an opportunity for group discussion on any information relevant to WG-S that requires clarification or elaboration based on the system provider updates presented in the plenary session on Monday, 07 November.

**1000-1115 GNSS Compatibility & Spectrum (*IDM Standards and Information Exchange*)**

1) PRESENTATIONS

- a. GPS Interference Test Approval Process

*Rick HAMILTON, U.S.*

- b. Interface Between Aviation Authorities and GNSS Service Provider to Analyze Possible RFI Incidents

*Rick HAMILTON & Ken ALEXANDER, U.S.*

- c. Practical estimation of electromagnetic and interference environment at the point of location of measurements in GNSS frequency bands. Recommendation. The current version of the document

*Stanislav KIZIMA, Russia*

- d. GNSS Interference Detection and Localization for Urban Area and Critical Infrastructure

*Weimin ZHEN, Wen XIONG & Yi ZHOU, China*

2) Report of the IDM Task Force

*Rick HAMILTON, U.S. & Weimin ZHEN, China*

**1115-1135 Coffee Break\***

**1135-1300 GNSS Compatibility & Spectrum (*Signal Compatibility and Spectrum Protection*)**

1) PRESENTATIONS

*Working Group Members*

2) Report of the Compatibility & Spectrum Sub-Group

*Dominic HAYES, EU & Takahiro MITOME, Japan*

3) Recommendations and Actions

- a. Recommendation 12S.1: Interference protection criteria  
b. Recommendation 12S.2: Device-based interference detection standard  
c. Actions from Intersessional Meetings

**1300-1400      Lunch**

**1400-1500      Performance Standards Team Meeting**

**1500-1530      Interoperability & Service Standards (*Open Service Standards*)**

1) PRESENTATIONS

a. Summary of Draft Changes to GPS SPS PS

Andrew Hansen, U.S.

2) Update from the Performance Standards Team

*Alexey BOLKUNOV, Russia & John LAVRAKAS, U.S.*

3) Way Forward

**1530-1555      Interoperability & Service Standards (*Multi-GNSS Interoperability*)**

1) PRESENTATIONS

a. GNSS Ensemble Time

*Dominic HAYES, EU*

b. Time Scale Interoperability Issues

*Russian Institute of Radionavigation and Time (RIRT), Russia*

c. Interoperability Assessment for the Navigation Receiver Level

*Sergey Silin, Russia*

**1555-1615      Coffee Break**

**1615-1730      Interoperability & Service Standards**

1) Report of the Subgroup Co-chairs

*Jeff AUERBACH, U.S. & Xiaochun LU, China*

2) Recommendations and Actions

a. Draft Recommendation 12S.3: 2nd System Time Workshop

b. Discussion on Service Anomaly Information Exchange

c. EU Proposal for an IGMA and Performance Standards Workshop in 2018

## **Tuesday, 05 December**

### **0915-1115 Joint Working Group Session (S, B, C, D)**

#### ***Open Service Information Sharing and Service Performance Monitoring (International GNSS Monitoring and Assessment)***

##### 1) PRESENTATIONS

- a. U.S. Update on Trial Project Implementation

*Andrew HANSEN & John LAVRAKAS, U.S.*

- b. Galileo Reference Centre and the EU's contribution to the IGMA

*EU*

- c. IGMA: Challenges and Way Forward

*Alexey BOLKUNOV, Russia*

- d. EU Proposal to host IGMA and Performance Standard Workshop

*EU*

- e. Algorithms and Implementation of GNSS Basic Monitor and Assessment  
Parameters

*Xiaolin JIA & Jianwen LI, China*

- 2) Report of the IGMA Task Force

*Satoshi KOGURE, Xurong DONG & WG-D*

- 3) Review Next Steps and Actions

#### ***Space Service Information***

- 1) Space Service Volume Report from WG-B

### **1115-1135 Coffee Break**

### **1135-1230 System-of-Systems Operation**

- 1) Orbital Debris Mitigation Guidelines

- a. Galileo Satellite Disposal Plans

*EU*

- b. Orbital stability analysis and safety guidelines of BDS satellites end-of-life disposal

*Xinuo CHANG, China*

2) Other PRESENTATIONS

- a. QZSS Operation Orbit Area vs. GEO Protected Regions

*Mari YUZAWA, Japan*

3) Way Forward

*David TURNER, U.S. & Sergey REVNIVYKH, Russia*

**1230-1530      Lunch and Attendance at other Working Group Meetings**

**1530            City Tour Followed by Banquet**

**Wednesday, 06 December**

**0900-1100      *Review and Consensus on Working Group Actions and Recommendations; Refinement of the WG-S Report to the Committee and Providers Forum***

- 1) Compatibility and Spectrum Actions and Recommendations

*Takahiro MITOME, Dominic HAYES, Sergey REVNIVYKH & David TURNER*

- 2) Interoperability and Service Provision Actions and Recommendations

*Xiaochun LU, Jeff AUERBACH, Sergey REVNIVYKH & David TURNER*

- 3) Review of Co-Chairs Presentation to the ICG Plenary

- 4) Possible Times and Locations for Intersessional Meeting(s)

- 5) Closing Remarks

*David TURNER, U.S. & Sergey REVNIVYKH, Russia*