



International Committee on
Global Navigation Satellite Systems

AGENDA

Eleventh Meeting of the International Committee on Global Navigation Satellite Systems

Sochi, Russian Federation

6 – 11 November 2016

Sunday, 06 November 2016

Venue: *Pullman Sochi Center, 11A Ordzhonikidze Street*

12:00 – 18:00 **On-site Registration**

13:00 – 15:40 **First Providers' Forum Meeting** (*Platan Room*)

*Co-Chairs: Sergey KARUTIN, Russian Federation and
Kenneth HODGKINS, United States of America*

15:40 – 16:00 *Coffee Break*

16:00 – 17:00 **Meeting with the Working Groups Co- Chairs**

17:00 – 18:00 **Providers' Forum Meeting (to be continued as needed)**

7 – 11 November 2016

ICG PLENARY SESSIONS

Monday, 07 November 2016

Venue: *Pullman Sochi Center, 11A Ordzhonikidze Street*

08:00 – 18:00 **On-site Registration**

09:00 – 12:00 **First Plenary Session of ICG** (*Platan Room*)

Chair: Sergey KARUTIN, Russian Federation

Attended by all. The primary purpose is for the GNSS system and augmentation providers to present the status and future plans for their systems, and an opportunity for the ICG members, associate members and observers to provide updates on recent developments in their organizations and associations with regard to GNSS services and applications. All presenters will identify issues for discussion in the ICG plenary sessions and/or its working groups meetings

09:00 – 09:55 **Welcome/Opening Remarks**

09:05 Anatoliy PAKHOMOV, *Mayor of the Sochi city*

Mikhail KHSYLOV, *Deputy Director General, ROSCOSMOS*

Sergey KARUTIN, *General-Designer, ROSCOSMOS*

Simonetta DI PIPPO, *Director, United Nations Office for Outer Space Affairs*

09:55 **Adoption of Agenda**

10:00 – 13:00	Providers System and Service Updates
10:00	Global Navigation Satellite System (GLONASS) Status, <i>Ivan REVNIVYKH, Russian Federation</i>
10:15	GPS Program and Policy Update, <i>Kenneth ALEXANDR on behalf of Harold MARTIN, United States</i>
10:30	Status Update on the European Satellite Navigation System (GALILEO), <i>Pieter DE SMET, European Commission</i>
10:45	Update on the BeiDou Satellite Navigation System, <i>Jiaqing MA, China</i>
11:00 – 11:20	Coffee Break
11:20	The Indian Regional Navigation Satellite System (IRNSS) – Navigation with Indian Constellation (NavIC) and the GPS-aided GEO-Augmented Navigation System (GAGAN), <i>Nilesh DESAI, India</i>
11:40	Status Update on the Quasi-Zenith Satellite System (QZSS), <i>Satoshi KOGURE, Japan</i>
12:00 – 13:30	Group photo/Lunch
13:30 – 16:00	Presentations by Members, Associate Members, Observers and Invited Observers on Matters of Interest to ICG
13:30	Fostering Science with GNSS, <i>Javier VENTURA-TRAVESET, Daniel BLONSKI, European Space Agency, and Gunnar ELGERED, Chalmers University of Technology</i>
13:45	Satellite Orbit Dynamics and Modelling, <i>Zuheir ALTAMIMI, International Earth Rotation and Reference Systems Service on behalf of Marek ZIEBART, International GNSS Services</i>
14:00	An update on the International Terrestrial Reference Frame, <i>Zuheir ALTAMIMI, International Earth Rotation and Reference Systems Service</i>
14:15	GNSS is alive within FAI Airports, <i>Bernald SMITH, Fédération Aéronautique Internationale</i>
14:30	EUPOS® - a Joint Initiative of Central and East - European Countries in Precise GNSS Real-Time Positioning: Status 2016, <i>Jaroslav ŠIMEK, European Position Determination System</i>
14:45	EUREF activities, <i>Markku POUTANEN, IAG Reference Frame Sub-commission for Europe</i>
15:00	The Significance of GNSS for Radio Science, <i>Patricia DOHERTY, International Union of Radio Scientists</i>

- 15:15 RNSS and the ITU Radio Regulations, *Hon FAI NG, International Telecommunication Union*
- 15:30 ICG WG-B Achievements on Interoperable GNSS Space Service Volume (SSV), *Stefan WALLNER, Working Group B*
- 15:45 Civil GPS Service Interface Committee Update, *Russel HOLMES, Civil GPS Service Interface Committee*

16:00 – 16:15 *Coffee Break*

16:15 – 18:00 Applications and Experts Seminar

Chair: Andrey KUPRIYANOV, Russian Federation

Attended by all. The primary purpose is for GNSS experts to offer their views on GNSS today and vision for the future. The audience will have an opportunity to ask the panel members questions.

- 16:15 Brad PARKINSON, *National Space-based PNT Advisory Board, United States of America*
- 16:45 Qianxun BDS High precision positioning services and applications, *Ke LI, Qianxun Location and Networking Co. Ltd., China*
- 17:00 High precision GNSS land applications in the economy, *Andrey KUPRIYANOV, Association GLONASS/GNSS Forum, Russian Federation*
- 17:15 Prospects of application of high-precision navigation in the irrigated agriculture, *Anatoliy ZEILIGER, Russian State Agrarian University Moscow Timiryazev Agricultural Academy, Russian Federation*
- 17:30 Real-Time GNSS for Earthquake and Tsunami Early Warning, *Gerald BAWDEN, National Aeronautics and Space Administration*

18:00 Adjourn

18:45 – 20:30 Welcome Dinner: *LightHouse restaurant, 1/1, Morskoy Pereulok*

Tuesday, 08 November 2016

08:00 – 18:00 On-site Registration

**Working Groups Meetings
(Parallel Sessions)**

09:00 – 11:00 WG S – Systems, Signals and Services (*Platan Room*)

*Co-chairs: David TURNER, United States of America and
Sergey REVNIVYKH, Russian Federation*

09:00 – 11:00 (in parallel) **WG C – Information dissemination and capacity building**
(*Cypress Room*)

*Co-chairs: Sharafat GADIMOVA, Office for Outer Space Affairs and
Andrey KUPRIYANOV, Russian Federation*

11:00 – 11:20 Coffee Break

11:20 – 13:00 **WG S – Systems, Signals and Services (continues)**

11:20 – 13:00 (in parallel) **WG C – Information dissemination and capacity building**
(continues)

13:00 – 14:00 Lunch

14:00 – 15:40 **WG S – Systems, Signals and Services (continues)**

14:00 – 15:40 (in parallel) **WG C – Information dissemination and capacity building**
(continues)

15:40 – 16:00 Coffee Break

16:00 – 18:00 (in parallel) **Working Groups meetings**

18:00 **Adjourn**

Wednesday, 09 November 2016

08:00 – 14:00 **On-site Registration**

**Working Groups Meetings
(Parallel Sessions)**

09:00 – 11:00 **Joint Working Groups Meeting** (*Platan Room*)

11:00 – 11:20 Coffee Break

11:20 – 13:00 **WG B – Enhancement of GNSS Performance, New Services and
Capabilities** (*Camelia Room*)

*Co-chairs: Nilesh DESAI, India, Xingqun ZHAN, China and Stefan WALLNER,
European Space Agency*

11:20 – 13:00 (in parallel) **WG D – Reference Frames, Timing and Applications**
(*Magnolia Room*)

*Co-chairs: Ruth NEILAN, International GNSS Service (IGS), Zuheir ALTAMIMI
International Association of Geodesy (IAG) and Neil WESTON, International
Federation of Surveyors (FIG)*

13:00 – 14:00 Lunch

- 14:00 – 15:40** **WG B – Enhancement of GNSS Performance, New Services and Capabilities (continues)**
- 14:00 – 15:40** **(in parallel) WG D – Reference Frames, Timing and Applications (continues)**
- 15:40 – 16:00* *Coffee Break*
- 16:30** **City Tour followed by Banquet at Chaika restaurant (1, Voikova Street)**

Thursday, 10 November 2016

09:00 – 11:00 **Working Groups Parallel Sessions**

Working groups to prepare conclusions and recommendations for the ICG consideration.

(Platan Room) **Working Group S - Systems, Signals and Services**

(Camelia Room) **Working Group B - Enhancement of GNSS Performance, New Services and Capabilities**

(Cypress Room) **Working Group C – Information dissemination and capacity building**

(Magnolia Room) **Working Group D – Reference Frames, Timing and Applications**

11:00 – 11:20 *Coffee Break*

11:20 – 16:00 **Second Plenary Session of ICG (Presentations by Working Groups) (Platan Room)**

Chair: Sergey KARUTIN, Russian Federation

Attended by all. The primary purpose is for the Working Groups to present results of their meetings or any inter-sessional meetings held since the Tenth Meeting of the ICG. Presentations will include any draft recommendations to the ICG.

11:20 **Presentation by WG S and Discussions**

12:10 **Presentation by WG B and Discussions**

13:00 – 14:00 *Lunch*

14:00 **Presentation by WG C and Discussions**

14:50 **Presentation by WG D and Discussions**

15:40 – 16:00 *Coffee Break*

16:00 – 18:00 **Second Session of the Providers' Forum** (*Platan Room*)

Co-chairs: Sergey KARUTIN, Russian Federation and Kenneth HODGKINS, United States of America

Attended by only the Providers. The primary purpose is to discuss any draft recommendations to the ICG from the working groups and to develop response or suggest amendments to the draft recommendations.

16:00 – 18:00 **(in parallel) Meeting of Associate Members, Observers and invited observers (as needed)** (*Magnolia Room*)

The purpose is to discuss issues of common concern that have emerged during earlier sessions.

18:00 **Adjourn**

Friday, 11 November 2016

09:00 – 13:00 **Third Plenary Session of the ICG** (*Platan Room*)

Chair: Sergey KARUTIN, Russian Federation

Attended by all. The primary purpose is to consider final recommendations as considered by the Providers' Forum. This session will also consider other ICG-related issues.

09:00 – 10:00 Consideration of proposed ICG recommendations (as needed)

Membership of the ICG: The request for Observer Status by Resilient Navigation & Timing Foundation

10:00 – 11:00 Review and approval of meeting conclusions (joint statement, press release, etc.)

11:00 – 11:20 *Coffee Break*

11:20 Other matters

- The Development Status of the Korean Augmentation Satellite System (KASS), *Moombeom HEO*, Korean Aerospace Research Institute
- **Japan:** Announcement for the Twelfth Meeting of the ICG in 2017
- **Expression of Interest** to host the ICG meetings in 2018 (China), in 2019 (India) and in 2020.

12:20 **Closing Statements**

13:00 **Adjourn**