



AGENDA

**Nineteenth Meeting of the International Committee on
Global Navigation Satellite Systems
and
Thirty-second meeting of the Providers' Forum**

Busan, Republic of Korea

19 – 24 October 2025

Sunday, 19 October 2025	
<i>Venue: Paradise Hotel Busan, 296 Haeundae Beach Road, Haeundae-gu</i>	
<i>Time: Busan Local Time (UTC + 9 hours)</i>	
12:00 – 15:30	On-site Registration
THIRTY-SECOND MEETING OF THE PROVIDERS' FORUM	
13:00 – 17:00	FIRST MEETING OF THE PROVIDERS' FORUM <i>Chairperson: Xiaochun LU, China</i> <i>Attended by only the Providers. The primary purpose is: (i) to discuss the agenda and meeting procedures for ICG-19 and the 32nd Meeting of Providers' Forum; (ii) to develop response or suggest amendments to the Working Groups draft recommendations; (iii) to address any other matters; (iv) to compose a temporary drafting group on the preparation of the Providers' Forum report.</i>
13:00 – 15:00	Opening Remarks and Review of the Providers Forum Agenda
	Open Service Information Dissemination
	Service Performance Monitoring
	Spectrum Protection: Interference Detection and Mitigation
	Multi-GNSS Demonstration Project in the Asia/Oceania Region
	ICG Information Centres: Regional Centres for Space Science and Technology Education (affiliated to the United Nations)
	Potential Areas of Coordination between ICG and the international organizations
	Other matters
<i>15:00 – 15:20</i>	<i>Coffee Break</i>
15:20 – 16:20	Meeting with the Working Groups Co-Chairs <i>Attended by only the Providers and the co-chairs of the Working Groups. The primary purpose is: (i) to identify issues for discussion in the working groups; and (ii) to consider their reports on the status of the implementation of the agreed recommendations from the previous ICG meetings.</i>
16:20	First meeting of the Providers' Forum <i>(continued as needed)</i>
17:00	Adjourn

20 – 24 October 2025

PLENARY SESSIONS OF THE INTERNATIONAL COMMITTEE ON GLOBAL NAVIGATION SATELLITE SYSTEMS (ICG)

Monday, 20 October 2025	
<i>Venue: Paradise Hotel Busan, 296 Haeundae Beach Road, Haeundae-gu</i>	
<i>Time: Busan Local Time (UTC + 9 hours)</i>	
08:00 – 18:00	On-site Registration
09:00	OPENING SESSION AND OFFICIAL WELCOME <i>Chairperson: Byoung-Sun LEE, Republic of Korea</i> - John LEE, Korea AeroSpace Administration (KASA), Republic of Korea - Sharafat GADIMOVA, United Nations Office for Outer Space Affairs
	FIRST PLENARY SESSION OF ICG <i>Chairperson: Byoung-Sun LEE, Republic of Korea</i> <i>Attended by all. The primary purpose is for the GNSS system and augmentation providers to present the status and plans for their systems, and an opportunity for the ICG members, associate members, observers and invited observers to provide updates on recent developments in their organizations and associations regarding their GNSS services and applications. All presenters will identify issues for discussion in the ICG plenary sessions and/or the ICG working groups meetings.</i>
	Adoption of Agenda
09:10	Providers System and Service Updates
09:10	Global Positioning System (GPS) update, <i>Harold MARTIN, United States of America</i>
09:30	Galileo system update, <i>Juan Pablo BOYERO, European Commission</i>
09:50	BeiDou Navigation Satellite System, <i>Xiaochun LU, China</i>
10:10	(virtual) Global Navigation Satellite System (GLONASS) update, <i>Svyatoslav ZHILENKO, Russian Federation</i>
10:30	Navigation with Indian Constellation (NavIC) and GAGAN system update, <i>Anand DWIVEDI, India</i>
10:50	Status Update on the QZSS Quasi-Zenith Satellite System (QZSS), <i>Motohisa KISHIMOTO, Japan</i>
11:10 – 11:30	<i>Group Photo/Coffee Break</i>
11:30	Presentations by Members, Associate Members, Observers and Invited Observers on Matters of Interest to ICG
11:30	Korea Positioning System (KPS) and Korea Augmentation Satellite System (KASS) updates, <i>Sujin PARK and Kyungwon LEE, Republic of Korea</i>
11:50	An update on SouthPAN, <i>Vincent ROOKE, Australia and Matt AMOS, New Zealand</i>

12:10	Navigation activities in Italy- 2025 update, <i>Mauro CARDONE and Giancarlo VARACALLI, Italy</i>
12:30	ESA update on Vision on the Future of Navigation, <i>Marco FALCONE, European Space Agency</i>
12:50	Progress on ESA's GENESIS - a Mission to the entire World, <i>Erik SCHOENEMANN, European Space Agency</i>
13:05 – 14:00	<i>Lunch Break</i>
14:00	Presentations by Members, Associate Members, Observers and Invited Observers on Matters of Interest to ICG (continued)
14:00	United Arab Emirates' LEO PNT Plan, <i>Alia ALRASHDI, United Arab Emirates</i>
14:20	Japan LNSS and LEO PNT Status Updates, <i>Masaya MURATA and Elena GALLETTI, Japan</i>
14:40	Celeste: Status Update on ESA's LEO-PNT IOD, <i>Roberto Prieto CERDEIRA, European Space Agency</i>
14:55	Using GNSS at the Moon with the Lunar GNSS Receiver Experiment (LuGRE), <i>Joel J. K. PARKER, NASA, United States</i>
15:10	Status of ESA Moonlight, NovaMoon and Lunar Pathfinder Programmes, <i>Javier VENTURA-TRAVERSE, European Space Agency</i>
15:25 – 15:45	<i>Coffee Break</i>
15:45	Presentations by Members, Associate Members, Observers and Invited Observers on Matters of Interest to ICG (continued)
15:45	Galileo Open Service Navigation Message Authentication (OSNMA), <i>Ignacio FERNANDEZ HERNANDEZ, European Commission</i>
16:00	Impact of new service proposals of WRC-27 on GNSS services in S-band, <i>Pravin PATIDAR, Dhaval UPADHYAY, Vijay Singh BHADOURIA, India</i>
16:15	(virtual) Assessment of PPP over Indian region, <i>Puneet Kumar AGRAWAL, India</i>
16:30	(virtual) Status update, <i>Roberto CAPUA, Radio Technical Commission for Maritime Services</i>
16:40	Maritime aspect of GNSS, <i>Osamu MARUMOTO, International Maritime Organization</i>
16:50	Progress towards a continuous Coordinated Universal Time without leap seconds, <i>Patrizia TAVELLA, International Bureau of Weights and Measures</i>
17:05	COSPAR's Contribution to the Scientific Applications of GNSS, <i>Adrian JÄGGI, Committee on Space Research</i>
17:15	ICAO initiatives and activities related to GNSS R, <i>Alnadaf MUNA, International Civil Aviation</i>
17:30	Statement, <i>Hasan ABBAS, Pakistan</i>
17:35	(virtual) SUPARCO's GNSS activities, <i>Ifthikhar KHAN, Pakistan</i>
17:45	GNSS activities, <i>Elena PAYNE and Mark BRAMMER, United Kingdom</i>

18:00	<i>(virtual) A Robust Global Geodesy Supply Chain, Nicholas BROWN, United Nations Global Geodetic Centre of Excellence (UN-GGCE)</i>
18:15	Adjourn
18:30 – 20:00	Welcome Reception
Tuesday, 21 October 2025	
08:00 – 18:00	On-site Registration
09:00 – 10:30	APPLICATIONS AND EXPERTS SEMINAR (PANEL DISCUSSION): RESILIENT GNSS <i>Chairperson: Republic of Korea</i> <i>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.</i>
09:00	<i>(invited) Resilient GNSS, Dr. Bradford PARKINSON, Edward Wells Professor, Emeritus, Aeronautics and Astronautics (Recalled), Co-Director, Center for Position, Navigation and Time, Stanford University, United States</i>
10:00	<i>Toward a Sovereign PNT Architecture for Global Resilience, Pyo Woong SON, Republic of Korea</i>
10:10	<i>ESA Contributions to PNT Resilience, Joerg HAHN, European Space Agency (ESA)</i>
10:20	<i>(virtual) Satellite-based PNT Architecture and its Key Technologies, Xia REN, China</i>
10:30 – 10:50	<i>Coffee Break</i>
10:50 – 13:00	WORKING GROUPS MEETINGS (Parallel Sessions)
	WG S – Systems, Signals and Services <i>Co-chairs: Jeffrey AUERBACH, United States and Igor LARIN, Russian Federation</i> WG B - Enhancement of GNSS Performance, New Services and Capabilities <i>Co-chairs: Nilesh M. DESAI, India, Xinuo CHANG, China and Daniel BLONSKI, European Space Agency</i> WG C – Information dissemination and capacity building <i>Co-Chairs: Sharafat GADIMOVA, United Nations Office for Outer Space Affairs and Junpyo PARK, Republic of Korea</i> WG D – Reference Frames, Timing and Applications <i>Co-chairs: Richard GROSS, International Association of Geodesy, Camille MARTIRE, International GNSS Services and Ryan KEENAN, International Federation of Surveyors</i> WG L – Lunar Positioning, Navigation and Timing <i>Co-chairs: Ye TIAN, China, Masaya MURATA, Japan, Joel PARKER, United States and Javier VENTURA-TRAVESET, European Space Agency</i>

13:00 – 14:00	<i>Lunch Break</i>
14:00 – 15:40	Working Groups Meetings – Parallel Sessions (continued)
15:40 – 16:00	<i>Coffee Break</i>
16:00 – 18:00	Working Groups D and L Joint Session on Lunar Reference Frame and Timing: <i>Interoperability and transformations</i> <i>Co-chairs: Patrizia TAVELLA, International Bureau of Weights and Measures and Joerg Hahn, European Space Agency</i>
	- Perspective of Lunar exploration and timing in Korea, <i>Sung-Woo Kim and Myoung-Sun HEO, Republic of Korea</i> - LunaNet Perspectives on Reference Frames and Time Systems, <i>Suzuna OKAMOTO, Japan and Cheryl GRAMLING, United States</i> - ESA's contribution to Reference Frames on Earth and projection towards Moon, <i>Erik SCHOENEMANN, European Space Agency</i> - News from IAG IAU working group JWG 1.1.3: Lunar reference frames, <i>Krzysztof SOŚNICA, International Association of Geodesy</i> - Realizing reference frame for the Moon: lessons learned from ITRF, <i>Zuheir ALTAMIMI, International GNSS Service</i> - BIPM/CCTF work on the definition of Lunar Time, <i>Patrizia TAVELLA, International Bureau of Weights and Measures</i> - Defining a time scale for the Moon, <i>Pascale DEFRAIGNE, International Bureau of Weights and Measures</i> - Theoretical framework for establishment of lunar reference time, <i>Dongshan YIN, China</i>
18:00	Adjourn
Wednesday, 22 October 2025	
08:00 – 13:00	On-site Registration
09:00	Working Groups S and L Joint Session
10:00	Working Groups S and D Joint Session
11:00 – 11:20	<i>Coffee Break</i>
11:20	(in parallel) Working Groups Meetings (continued)
12:30 – 13:30	<i>Lunch Break</i>
14:00 – 18:00	Technical Tour
Thursday, 23 October 2025	
09:00	Working Groups Meetings – Parallel Sessions (continued)

10:30 – 11:00	Coffee Break
11:00	SECOND PLENARY SESSION OF ICG <i>Chairperson: Byoung-Sun LEE, Republic of Korea</i> <i>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 18th Meeting of ICG. Presentations will include any draft recommendations to ICG.</i>
11:00	- Presentation by WG B and Discussions
11:35	- Presentation by WG C and Discussions
12:10	- Presentation by WG D and Discussions
12:45 – 13:45	Lunch Break
13:45	- Presentation by WG S and Discussions
14:20	- Presentation by WG L and Discussions
14:55 – 15:30	Coffee Break
15:30 – 18:00	SECOND MEETING OF THE PROVIDERS' FORUM <i>Chairperson: Xiaochun LU, China</i> <i>Attended by only the Providers. The primary purpose is to discuss any draft recommendations to ICG from the working groups and to develop response or suggest amendments to the draft recommendations.</i> (in parallel) Meeting of Members, Associate Members, Observers and invited observers (as needed)
18:00	Adjourn
Friday, 24 October 2025	
09:00	THIRD PLENARY SESSION OF ICG <i>Chairperson: Byoung-Sun LEE, Republic of Korea</i> <i>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.</i> Report of the chair of the 32nd meeting of the Providers' Forum
	Other matters: Membership (Member status in ICG): - Member Status of Pakistan in ICG (Note Verbal dated 4 January 2021) - Request for an Observer status in ICG by the United Nations Global Geodetic Centre of Excellence (UN-GGCE) (Letter dated 25 October 2024) - Request for an Observer status in ICG by the Secure World Foundation (SWF) (Letter dated 22 August 2025) (virtual) GNSS activities, Christopher JOHNSON, Secure World Foundation (SWF) Terms of Reference: Terms of Reference of the ICG

	Next meetings of the ICG: - 2026: 20th meeting of ICG (United States/India) - 2027: 21st meeting of ICG (Malaysia) - 2028: 22nd meeting of ICG
	Review and approval of the ICG-19 meeting conclusions: Joint Statement
	Concluding Remarks
<i>13:00 – 14:00</i>	<i>Lunch Break and Adjourn</i>