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**Committee on the Peaceful
Uses of Outer Space
Scientific and Technical Subcommittee
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Draft report

Addendum

V. Recent developments in global navigation satellite systems

1. In accordance with General Assembly resolution [79/87](#), the Subcommittee considered agenda item 7, entitled “Recent developments in global navigation satellite systems”, and reviewed matters related to the International Committee on Global Navigation Satellite Systems (ICG).
2. The representatives of China, France, India, Italy, Japan, Mexico, Pakistan, the Republic of Korea, the Russian Federation and the United States made statements under agenda item 7. A statement was also made by the representative of New Zealand in that country’s capacity as Chair of the eighteenth meeting of ICG. During the general exchange of views, statements relating to the item were also made by representatives of other member States.
3. The Subcommittee had before it the following:
 - (a) Note by the Secretariat on the eighteenth meeting of the International Committee on Global Navigation Satellite Systems ([A/AC.105/1327](#) and [A/AC.105/1327/Corr.1](#));
 - (b) Report of the Secretariat on activities carried out in 2024 in the framework of the workplan of the International Committee on Global Navigation Satellite Systems ([A/AC.105/1328](#));
 - (c) Report on the United Nations workshop on the applications of global navigation satellite systems and related space technologies in support of responses to urban sustainability challenges ([A/AC.105/1329](#)).
4. The Subcommittee noted with satisfaction that the eighteenth meeting of ICG and the thirtieth meeting of the Providers’ Forum, organized jointly by Australia and New Zealand, had been held in Wellington from 6 to 11 October 2024. The Subcommittee noted that the nineteenth meeting of ICG would be hosted by the Republic of Korea.
5. The Subcommittee noted that the Global Positioning System (GPS) of the United States remained a reliable pillar throughout the world and that the United States continued its work to ensure that GPS remained compatible and interoperable



with other global and regional systems that provided similar services. In addition, the United States had continued to upgrade the capability of and the service provided by GPS through the integration of the newest generation of satellites, known as GPS Block III.

6. The Subcommittee noted that the service provided by the Global Navigation Satellite System (GLONASS) of the Russian Federation operated on the basis of open access navigation signals in the L1 and L2 radio frequency bands. In addition, GLONASS satellites had been broadcasting the third open access signal in the L3 radio frequency band.

7. The Subcommittee noted that the BeiDou Navigation Satellite System constellation of China had been further improved and provided global positioning, navigation and timing services. In addition, China's StarNet low-orbit navigation augmentation system had been providing precise single-point positioning and navigation information enhancement services and thus further enhancing the global service performance of the BeiDou system.

8. The Subcommittee noted that France had participated in the development and operation of the European Satellite Navigation System (Galileo) and the European Geostationary Navigation Overlay Service (EGNOS). The Subcommittee also noted that the Open Service Navigation Message Authentication service and the Early Warning Satellite Service would be upcoming services of the next Galileo satellite constellation.

9. The Subcommittee noted that the Lunar GNSS Receiver Experiment (LuGRE) was a demonstration of technology led by the National Aeronautics and Space Administration of the United States and the Italian Space Agency resulting directly from the work enabled by ICG. The LuGRE experiment had established a foundation for enhanced interplanetary navigation and communication systems that would support future space exploration missions.

10. The Subcommittee noted that India was conducting two satellite navigation programmes, namely the GPS-aided Geostationary Augmented Navigation (GAGAN) system, a satellite-based augmentation system, and the Indian Regional Navigation Satellite System, also known as Navigation with Indian Constellation (NavIC).

11. The Subcommittee noted that the Quasi-Zenith Satellite System (QZSS) of Japan, also known as "Michibiki", was currently providing three types of services: a service complementing GPS that transmitted ranging signals from satellites; a high-accuracy service that augmented GNSS by providing error corrections through QZSS; and a messaging service to contribute to disaster risk reduction.

12. The Subcommittee noted with appreciation that Pakistan and the Republic of Korea had reported on the status and development of their satellite system programmes and that Mexico had been focusing on bringing GNSS technology to the widest possible user community.
