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## THIRD UNITED NATIONS CONFERENCE ON THE EXPLORATION AND PEACEFUL USES OF OUTER SPACE

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**Committee II**  
Agenda item 8  
**Status and applications of space science and technology**

### Technical Forum

#### Conclusions and proposals of the Workshop on Global Navigation Satellite Systems

1. The objective of the Workshop on Global Navigation Satellite Systems, organized by the European Tripartite Group (the European Commission, the European Space Agency and the European Organization for the Safety of Air Navigation), was to demonstrate how navigation and positioning technology could help solve problems of regional or global significance, given that global navigation satellite systems (GNSS) are considered one of the key technologies in stimulating economic and social development, especially in developing countries. The Workshop also served to contribute to education and awareness about satellite navigation technology in global user communities.
2. The Workshop noted that two satellite navigation systems existed at present, the Global Positioning System (GPS) of the United States of America and the Global Orbiting Navigation Satellite System (GLONASS) of the Russian Federation, which were originally developed for military purposes and currently do not fully meet civilian user requirements. The international user communities (transport, timing, geomatics, agriculture and disaster management and so on) were becoming increasingly convinced of the need to develop a global navigation satellite system that provided a safer, more reliable navigation and positioning service for civil use. That implied improving the performance of the current service in terms of accuracy, integrity, continuity and reliability.
3. The main conclusions of the Workshop are noted below:
  - (a) International cooperation at both the political and the technical level is needed for the successful implementation of satellite navigation and positioning technology. System provider nations, potential contributor and end-user States, industry, service providers, users and international organizations need to cooperate closely to ensure the provision of a safe, seamless global satellite navigation and positioning system;
  - (b) Since it is universally accepted that differences in the pace of development around the world should not lead to incompatibility between elements of navigation and positioning

systems, it is intended to achieve full compatibility and inter-operability of regional satellite navigation systems throughout the implementation process;

(c) A public-private partnership approach is recommended in Europe as the way forward for infrastructure and service development. Industry has also been examining ways to provide value-added services and applications. A strong institutional framework has been put in place to enable industry and users to benefit from satellite navigation;

(d) In selecting new or upgrading existing technology, many States (especially from the developing world) are facing difficulties in securing financing. Different innovative approaches, supported by cost/benefit analyses and solid business cases, have proved to be helpful in convincing banks and other lending institutions to invest in the aviation infrastructure;

(e) In order to increase awareness in developing nations of the benefit of GNSS, the Committee on the Peaceful Uses of Outer Space should consider the expansion of the United Nations Programme on Space Applications to include support for appropriate workshops, seminars and internships in conjunction with other relevant international organizations and institutions such as the members of the European Tripartite Group, the International Civil Aviation Organization, the International Maritime Organization, the World Bank and the European Bank for Reconstruction and Development. Service provider nations should accept the responsibility for funding such new activities;

(f) Issues related to a general GNSS liability and certification regime commensurate with the expectations of users should be developed, notwithstanding the increased role of the private sector in the provision of GNSS services;

(g) Satellite navigation services require protected frequency bands. It is therefore recommended that public and private sector frequency spectrum experts within the GNSS community urge their respective Governments to adopt a common approach to spectrum issues before the World Radiocommunication Conference in the year 2000. This should serve to maximize the protection and use of spectrum for current and future GNSS services.

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