



ACTION TEAM X:
GNSS



ACTION TEAM ON GNSS: Status of work and recommendations for UNISPACE III+5 Review

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BACKGROUND

- Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III): July 1999, Vienna, Austria
- "The Space Millennium: Vienna Declaration on Space and Human Development" (Vienna Declaration)
 - ♦ GNSS related recommendation:
"To improve the efficiency and security of transport, search and rescue, geodesy and other activities by promoting the enhancement of, universal access to and compatibility of space-based navigation and positioning systems"





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ESTABLISHMENT OF GNSS ACTION TEAM

- 12 Action Teams in total have been established by UN Committee on the Peaceful Uses of Outer Space (COPUOS)

Action Team Nr. 1 (Environmental Monitoring Strategy); Action Team Nr. 9 (Knowledge-sharing)
Action Team Nr. 2 (Management of Natural Resources) Action Team Nr. 10 (GNSS)
Action Team Nr. 4 (Weather and climate monitoring) Action Team Nr. 11 (Sustainable Development)
Action Team Nr. 6 (Public health) Action Team Nr. 14 (Near-Earth objects)
Action Team Nr. 7 (Disaster management) Action Team Nr. 17 (Capacity building)
Action Team Nr. 18 (Awareness increase)
Action Team Nr. 32 (Innovative funding sources)

- Recommendation on GNSS: one of the UNISPACE III recommendations that have been assigned highest priority by Member States of the United Nations

GNSS Action Team chaired by the United States and Italy





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PARTICIPATING COUNTRIES & ORGANIZATIONS

- 33 countries (membership open to Member States of the UN)

Australia	China	Iran	Mongolia	Republic of Korea
Austria	Colombia	Iraq	Morocco	Russian Federation
Belarus	Czech Rep.	Italy	Pakistan	Saudi Arabia
Brazil	France	Japan	Philippines	Syria
Bulgaria	Germany	Lebanon	Poland	Turkey
Canada	Hungary	Malaysia	Portugal	United States of America
Chile	India	Mexico		

- 12 organizations
 - ◆ ESCAP, ITU, ESA, European Commission, Eurocontrol, CGSIC, EURISY, AIAA, IAIN, BIPM, FIG, IGS (ICAO also participated in one of the meetings.)





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TERMS OF REFERENCE

1. Purpose
2. Relevant Activities
3. Work Plan
4. Product
5. Schedule of Meetings





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PURPOSE

1. Survey current international and regional efforts to achieve a seamless multi-modal satellite based radio navigation and positioning system throughout the world
2. Assess current institutional models of international cooperation and coordination and identify those with potential applicability to evolving GNSS systems and services and GNSS users' interests
3. Propose specific recommendations for the UN, Member States and other international organizations on actions that should be taken to promote GNSS user interests, increase the level of awareness, improve the quality and to facilitate utilization of GNSS services, particularly in developing countries
4. Propose specific recommendations on global coordination and cooperation





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RELATED ACTIVITIES

1. National and international meetings and conferences concerning GNSS applications
2. GNSS Regional Workshops organized by the UN Programme on Space Applications
3. UN/OOSA-AIAA International Workshop on Space Cooperation, Working Group on GNSS, Seville, Spain, March 2001
4. Regular meetings of CGSIC and its International Sub-Committee
5. Relevant meetings of the ITU, including WRC-2003, IMO and ICAO
6. Relevant meetings of the EU and ESA





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WORK PLAN

1. Compile information on national & international outreach activities designed to promote the use of GNSS for sustainable development, economic growth and scientific research
2. Compile information on the level of awareness and capacity of developing countries to use GNSS services and application
3. Conduct an inventory of and identify gaps in meeting the requirements of developing countries for GNSS services and applications





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WORK PLAN (continued)

4. Consider ways in which organs of the UN system, NGEs and international organizations and UN Member States could play a role in filling these gaps
5. Request other UN agencies to report on their use of GNSS to meet their respective mandates
6. Evaluate the results of the UN Regional GNSS Workshops organized by the UN Programme on Space Applications with a view to identifying common themes





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CONDUCT OF WORK

- Meetings:

- ◆ 1st meeting: 30 November 2001, Vienna, Austria
- ◆ 2nd meeting: 25 January 2002, Rome, Italy
- ◆ 3rd meeting: 27 February 2002, Vienna, Austria
- ◆ 4th meeting: 4 June 2002, Vienna, Austria
- ◆ 5th meeting: 15 November 2002, Vienna, Austria
- ◆ 6th meeting: 18 February 2003, Vienna, Austria
- ◆ 7th meeting: 10 June 2003, Vienna, Austria
- ◆ 8th meeting:* 8-12 December 2003, Vienna, Austria

** to be held as a joint meeting with GNSS experts participated in the UN/USA Regional Workshops and International Expert Meeting on GNSS held in 2001-2002*

- E-mails and web board (<http://forum.itu.int/~gnss>)





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PRODUCT

- **Report to COPUOS**
 - ◆ Information on relevant national and international activities on promoting use, access to and quality of GNSS services
 - ◆ Proposals for specific recommendations for COPUOS and other relevant UN entities, non-governmental entities as well as UN Member States and international organizations concerning development, coordination and increased use of GNSS, particularly for the benefit of developing countries.





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HIGHLIGHTS OF THE REPORT: Needs of developing countries

- **Institutional Needs**
 - ◆ Awareness increase among decision- & policy makers: need for political support
 - ◆ Capacity building
 - ◆ Possible establishment of an international GNSS entity
 - ◆ Continuation of UN Workshops
- **Technical Needs**
 - ◆ Ionospheric effects
 - ◆ Future developments of GPS & Galileo and various augmentations
- **Resources and Financial Needs**
- **Training and Education**





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HIGHLIGHTS OF THE REPORT: Institutional Models for International Cooperation

1. Coordination

- ◆ Coordination among GNSS service providers: GNSS Coordination Board
- ◆ National/Regional planning and governance
- ◆ User support and information dissemination

2. Dissemination of GNSS system status information; timely notification of service denial or degradation through intentional or unintentional interference

- ◆ User Information Centres to be established by individual service providers
- ◆ Single portal of web sites (possibly to be hosted by UNOOSA) to serve as "International GNSS User Information Centre"

3. Collection of user needs and demands regarding GNSS

- ◆ "International GNSS User Information Centre"
- ◆ Regional workshops with participation of GNSS Coordination Board representatives





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HIGHLIGHTS OF THE RECOMMENDATIONS

1. Institutional Framework to Service Providers

- ◆ Creation of a GNSS Coordination Board
- ◆ Development of User Information Centres and web sites

2. Institutional Framework to the UN Office for Outer Space Affairs

- ◆ Continue regional workshops
- ◆ Support the establishment of national & possibly regional GNSS planning and coordination groups
- ◆ Commission an assessment of current institutional models
- ◆ Stimulate capacity building for GNSS education and training
- ◆ Assist in the promotion of the use of GNSS





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HIGHLIGHTS OF THE RECOMMENDATIONS SPECIFIC TO GNSS APPLICATIONS

1. Aviation

- ◆ Encourage research activities related to the development of ionospheric models
- ◆ Consider implementation of a "One African Sky" concept in the upper end route similar to the "Single European Sky" initiative currently underway in Europe
- ◆ UN/OOSA and ICAO to continue to encourage adoption of GNSS within the African continent





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HIGHLIGHTS OF THE RECOMMENDATIONS SPECIFIC TO GNSS APPLICATIONS (CONTINUED)

2. Surveying, mapping and Earth sciences

- ◆ Establish a continental reference for Africa (AFREF)
- ◆ Expand the development of integrated differential GNSS “full scale accuracy” infrastructure with well-defined unified standards at regional levels (e.g. EUPOS in Europe)
- ◆ Increase the density of the Continuous Operating Reference Station (CORS) for the SIRGAS area of Latin America





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HIGHLIGHTS OF THE RECOMMENDATIONS SPECIFIC TO GNSS APPLICATIONS (CONTINUED)

3. Management of natural resources and protection of the environment

- ◆ Global information exchange network related to precision agriculture
- ◆ Demonstration projects in the area of agriculture and health
- ◆ Disease vector mapping projects in Africa using GNSS





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INPUTS FOR UNISPACE III+5 REVIEW

- October 2004: UN General Assembly will review the progress made in the implementation of UNISPACE III recommendations (UNISPACE III+5 Review)
- COPUOS is preparing its report for UNISPACE III+5 review
- 1st draft of the COPUOS report to the General Assembly will be reviewed by the Scientific and Technical Subcommittee in February 2004
 - ◆ Report includes inputs to be provided by the action teams





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CONTRIBUTIONS OF ACTION TEAM ON GNSS TO THE UNISPACE III+5 REVIEW

- In addition to its full report to COPUOS, the Action Team will submit:
 1. Summary version of the report (within 16 pages)
 2. Template (maximum 2 pages)
 - 3 major findings
 - Recommendations for further action (3 major recommendations)
 - Implementation already initiated
 - Indication of impediments to implementation
 - Benefits to be derived from the implementation
 - Progress made by the Action Team
- Information provided in the template will be used for the preparation of the report of COPUOS to the General Assembly





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WORK TO BE ACCOMPLISHED AT THE WORKSHOP

- Finalization of the full report
- Finalization of the summary version of the report
- Initial steps toward implementing some of the recommendations of the Action Team
 - ◆ Discussions of the draft terms of reference of a GNSS Coordination Board (GCB)

