



# **16. ICG4 Report**

## **EUREF TWG Meeting Padua, Oct. 13, 2009**

Johannes Ihde

Federal Agency for Cartography and Geodesy



## **The Fourth Meeting of the International Committee on Global Navigation Satellite Systems (ICG) was held in Saint Petersburg, Russian Federation from 14 to 18 September 2009**

**ICG had been established on a voluntary basis as an informal body to promote cooperation on matters of interest related to civil satellite-based positioning, navigation, timing and value-added services, as well as the compatibility and interoperability of global navigation satellite systems, while increasing their use to support sustainable development, particularly in developing countries.**



## Members

**China, Italy, Japan, the Russian Federation, the United States of America, the European Community and the European Space Agency (ESA) EU, as well as the following international organizations: the Civil Global Positioning System Service Interface Committee (CGSIC), EUPOS, EUREF, IBIPM, FIG, IAG, IERS, the International Association of Institutes of Navigation (IAIN), IGS, and the Office for Outer Space Affairs (UNOOSA.**



## Meeting goals

- **Continue reviewing and discussing developments in global navigation satellite systems (GNSS) and to allow ICG members, associate members and observers to consider matters of interest.**
- **ICG also addressed GNSS science and innovative technology applications and future commercial applications.**



## The Working Group D (WG D) on interaction with national and regional authorities and relevant international organizations



### WG-D Session

#### Part 1: Task Force on Geodetic References

- Introduction by chairs: objectives of Task Force, John M. Dow, Matt Higgins
- The International Terrestrial Reference System (ITRS) as a global standard, Claude Boucher, IAG, France
- The International Terrestrial Reference Frame (ITRF), Zuheir Altamimi, IGN/IERS, Paris France
- Presentations on provider system geodetic references (GPS, GLONASS, Galileo, COMPASS)
- GPS Geodetic Reference System WGS 84, Barbara Wiley, National Geospatial-Intelligence Agency, USA



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### WG-D Session

#### Part 1: Task Force on Geodetic References

- Russian National Geodetic Reference System Update, Gleb Demyanov, Research Institute of Geodesy, Aerial Photography and Mapping, Russia
- CGCS 2000, Dr. Yang Yuanxi, CNSA, China
- Conformity of GLONASS retro-reflectors for Laser Ranging to International Laser Ranging Service, Viktor Shargorodsky, Research Institute of Precision Device Engineering, Russia
- Galileo Geodetic Service Provider Prototype: an approach to the Galileo Geodetic Reference Frame GTRF, Zuheir Altamimi, on behalf of the GGSP Consortium.



## Part 2: Task Force on Time References

- Introduction by chairs: objectives of Task Force, Felicitas Arias, Włodzimierz Lewandowski
- Fundamentals on UTC - Relationship between GNSS times, Felicitas Arias, Włodzimierz Lewandowski
- GPS time and its steering to UTC(USNO), Ed Powers
- Russian State Timing Service and GLONASS“, Nicolay Koshelyaevsky, Research Institute of Physic-Technical and Radio-Technical Measurement, Russia
- Definition and implementation of Galileo System Time, J. Delporte, CNES, France
- IRNSS/GAGAN timing infrastructure in India, Włodzimierz Lewandowski on behalf of Suresh Kibe, ISRO, India



## Part 3: Other WG-D contributions

- DGNSS in Moldava, Maria Ovdii, EUPOS, Moldava
- QZSS joint demonstration campaign – proposal, Satoshi Kogure (5 min)
- Comments on WG-D Work Plan





## **The Working Group D (WG D) on interaction with national and regional authorities and relevant international organizations**

**successfully initiated the work of its Task Forces to develop processes to align and maintain Geodetic and Timing references, which are fundamental to interoperability of GNSS for users. It was also agreed to hold additional workshops in between the annual ICG meetings.**