



# *GNSS International Cooperation*

## **Civil GPS Service Interface Committee (CGSIC)**

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# *Overview*

- Global Trends
- GPS: Global Public Service
- International Cooperation
  - Europe (GPS-Galileo)
  - Russia, Japan, India, Others
  - International Committee on Global Navigation Satellite Systems (ICG)
- Summary



## ***Global Trends***

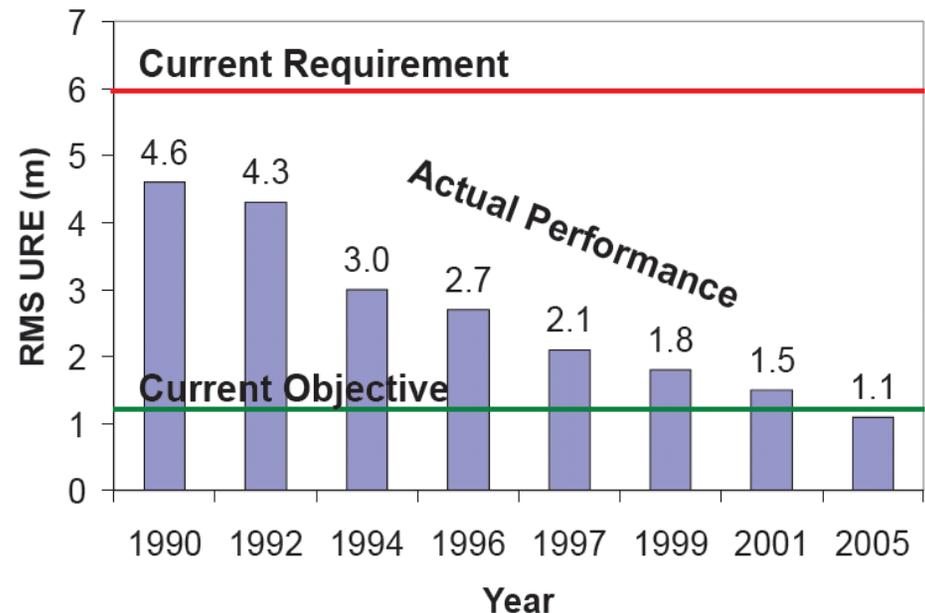
- Continued rapid expansion of GNSS use around the world
- Accelerated development of new civil applications for GNSS
- New systems being built or planned; number of space-based signal providers will grow from two (United States and Russia) at beginning of this decade to six or more by 2020



# *GPS: Global Public Service*

- GPS has become a global utility
  - Consistent, predictable, dependable performance
  - Commitment to modernization
  - Public domain documentation and policy continuity are designed to encourage use and innovative applications around the world

Continuing  
improvement in  
accuracy, consistently  
available





# *International Cooperation*

- **Past decade has been one of intensive diplomacy on GNSS issues**
  - 1996 - First State Department-led GPS team visits Tokyo
  - 1997 – Bid at WRC to share GNSS frequency band with other services narrowly averted
  - 1997 – First US-EU discussions on satellite navigation
  - 1998 to present – GNSS consultations with more than two dozen countries
- **Positive results of these efforts are beginning to come into view**
  - New satellite constellations and regional augmentations systems, while independently owned and operated, are being designed to be compatible and interoperable
  - Coordination mechanisms are being created to promote interoperability, promote GNSS use, and ensure a level playing field in the global marketplace





# *GPS-Galileo Cooperation*

- In 2004, United States and European Community signed landmark agreement on GPS-Galileo cooperation
  - Recognizes importance of compatibility/interoperability for all parties
  - Agreed to spectrally separate signals for military and civilian services
  - Agreed to implement a common, open, civil signal on both Galileo and GPS III
- Working Groups established to continue dialogue:
  - Compatibility & Interoperability
  - Trade & Civil Applications
  - Next-Generation GNSS
  - Security Issues
- Joint Handout on “GPS and Galileo... Progress Through Partnership” distributed at Munich Summit



June 26, 2004, press conference at U.S.-EU Summit in Ireland (U.S. Sec. of State Colin Powell, Irish Foreign Minister Brian Cowen, EU Vice-President Loyola De Palacio)



# *GPS-GLONASS Cooperation*

- **Discussions on US-Russia agreement on satellite navigation cooperation have been underway since late 2005**
  - Next meeting is planned for second half of 2007
- **Working groups are pursuing GPS-GLONASS interoperability**
  - Enhanced PNT availability through common open service civil signals
  - Cooperative search and rescue capabilities



## ***US-Japan Cooperation***

- Japan's status as a world leader in GPS applications and user equipment makes it an important partner
- Policy consultations and technical meetings on GPS cooperation have been held since 1996 between the United States and Japan
- Discussion topics include Japan's regional augmentation system (MSAS) and interoperability between GPS and Japan's planned Quasi-Zenith Satellite System (QZSS)
- Latest annual plenary and technical working group meetings held May 23-24, 2007, in Washington



## ***US-India Cooperation***

- Policy and technical consultations on GPS cooperation have been held since 2005 between the US and India
- One aim: ensure interoperability between GPS augmentation system WAAS and India's planned GAGAN augmentation system based on GPS
- Another important topic is research into ionospheric distortion and solutions
- US-India Joint Statement on GNSS Cooperation issued in February 2007 in Washington



## ***US-Australia Cooperation***

- **US and Australia signed Joint Delegation Statement on Civil GPS Cooperation in April 2007**
- **Developing enhanced mechanisms for notification of GPS satellite operational changes**
- **Promoting studies on compatibility and interoperability of GPS augmentation systems in the US and Australia**
- **Support for international mechanisms to promote use of GNSS such as the International Committee on GNSS (ICG)**



## ***International Committee on GNSS (ICG)***

- Emerged from 3rd UNISPACE Conference held in 1999
- Promote GNSS use, particularly in developing countries
- Encourage compatibility and interoperability among global and regional systems
- Unique mix of GNSS providers (US, EU, Russia, Japan, China, India) and international user groups
  - Focal point for international information exchange
- First meeting held in Vienna in November 2006
  - Agreed on terms of reference, work plan, and concept of “GNSS Providers Forum” to address common issues
- Next meeting in September 2007 in Bangalore, India



## *Summary*

- As new space-based GNSS are emerging globally, interoperability is the key to “success for all”
- Civil GPS modernization will meet growing demands to enhance its performance
- ICG will address GNSS providers and users’ concerns; active participation in the ICG Work Plan implementation will be the key to addressing common issues
- United States intends to continue to improve GPS’s performance and look for new opportunities to enhance GNSS cooperation with other nations



## *Contact Information*

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