Global Positioning System

“Quo Vadis?”

9 March 2010

Anthony Russo, Director
National Coordination Office for Space-Based PNT
United States of America
Keys to the Global Success of GPS

• Program Stability and Performance
• Policy Stability and Transparency
• Private Sector Entrepreneurship and Investment
GPS stimulates productivity and increases efficiency in our economy.
GPS Constellation

- Very robust constellation
  - 30 space vehicles currently in operation
    - 11 GPS IIA
    - 12 GPS IIR
    - 7 GPS IIR-M
- 4 additional satellites in residual status
- 1 additional IIR-M waiting to be set healthy
- Global GPS civil service performance commitment met continuously since December 1993
International Augmentations

Differential GPS Networks

Satellite-Based Augmentation Systems

International GNSS Service

Global Differential GPS System
U.S. Policy Promotes Global Use of GPS/GNSS Technology

- No direct user fees for civil GPS services
- Open, public signal structures for all civil service
- Encourages open, market-driven competition
- Protection of radionavigation spectrum
- Service improvements for users worldwide
  - Published updated Performance Standards for SPS & WAAS
- Global compatibility and interoperability with GPS
U.S. Objectives in Working with Other GNSS Service Providers

• Ensure compatibility
  – Radio frequency compatibility
  – Spectral separation between M-code and other signals

• Achieve interoperability
  – Primary focus on the common L1C and L5 signals
  – Requires coordination on standards, reference frames and certification criteria

• Ensure a level playing field in the global marketplace

U.S. pursuing through both bilateral and multilateral cooperation
Private Sector Competition

- Competition in GNSS receiver/application markets leads to greater innovation, lower costs
- Fair competition means no preferential treatment for any particular companies
  - Equal access to markets and information
- Freedom of choice desired for end users
  - Standards and other governmental measures should not effectively mandate use of one GNSS over another
- U.S. agreements with other GNSS providers include language on fair trade and open markets
  - Working Group “B” established under GPS-Galileo Agreement to discuss non-discriminatory approaches to trade in civil applications markets
Summary

• U.S. Space-based PNT Programs, Policy Implementation and Diplomatic efforts are progressing well
  – Continuing to improve GPS and Augmentation Systems
  – International cooperation is a priority for the U.S.
    • Compatibility, Interoperability, Market-Driven Competition

• GNSS use continues to expand with many new applications emerging

As new space-based GNSS emerge globally, transparency in “signal and service provision information” is the key to “success for all”
For Additional Information...

GPS.gov

PNT.gov