U.S. Space-Based Positioning, Navigation and Timing (PNT) Policy Update

National Space-Based Positioning, Navigation, and Timing Advisory Board
Redondo Beach, California

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GPS Global Use is Growing

- Estimate: Number of GPS receivers globally 2014 - 3.6B*
  - 1 GPS device for every person on Earth by 2019, 9B by 2023

- GNSS receivers may grow faster than today’s estimates:
  - UAVs, Internet of Things, sensors, intelligent transportation systems, logistics tracking applications

- Estimates say over half of existing receivers already support 2 or more GNSS

- Multi GNSS “future” is here...Now

** European GNSS Agency (GSA), GNSS Market Report 2015. Includes devices that use GPS alone and GPS plus one or more other GNSS
GPS Enables Everyday Life

Applications

- Aviation
- Search and rescue
- Surveying & mapping
- Trucking & shipping
- Agriculture
- Offshore drilling

- Fishing & boating
- Military
- Scientific
- Timing
- Tracking
- Exploration

GPS is a Global Utility
The U.S. must maintain its leadership in the service, provision, and use of Global Navigation Satellite Systems (GNSS)

- Continuous, worldwide, free of direct user fees
- Encourage compatibility and interoperability with foreign GNSS services and promote transparency in civil service provisioning
- Operate and maintain constellation to satisfy civil and national security needs
  - Foreign PNT services may be used to augment and strengthen the resiliency of GPS
- Invest in domestic capabilities and support international activities to detect, mitigate and increase resiliency to harmful interference
EXCOM Strategic Focus Areas

• GPS Sustainment and Modernization
• International Cooperation
• Spectrum Management
• Critical Infrastructure
• PNT Resilience / Complementary PNT
• Outreach
Complementary PNT

• EXCOM looked at need for back up / complement to GPS
  – Assessment driven by many factors: from policy to technology
  – U.S. coverage for GPS outage from natural or man-made events
  – Assessed a broad mix of terrestrial RF and autonomous PNT technologies

• Current Activity: Identify Requirements
• Decision timeline supports FY18 investment decisions
• Public stakeholder comments obtained by Federal Register Notice
• Congressional Action?
Thank You!

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