



SPACE-BASED POSITIONING  
NAVIGATION & TIMING  
NATIONAL COORDINATION OFFICE

UNCLASSIFIED

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

**56th Civil GPS Service Interface Committee Meeting  
Portland, Oregon**

**Harold W. Martin III  
Director  
National Coordination Office**

UNCLASSIFIED



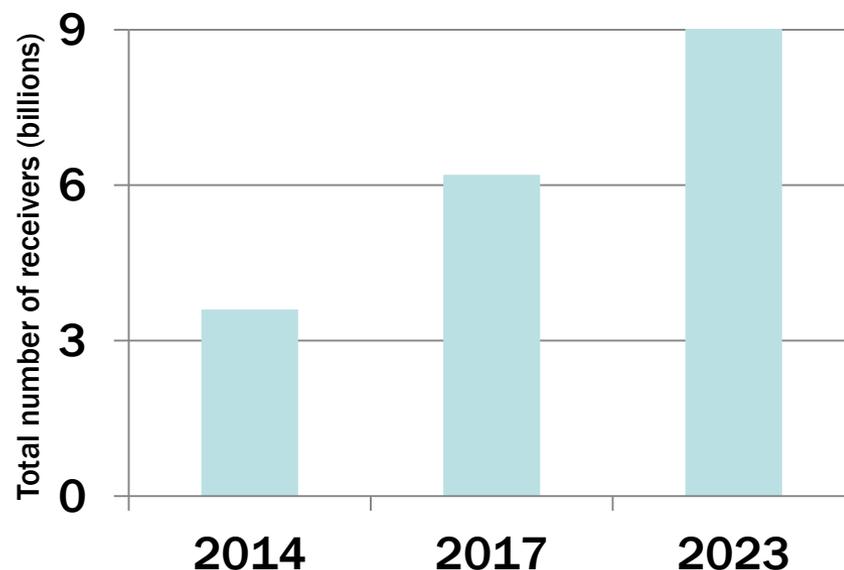
# A New User Growth Phase



## European GNSS Agency estimates:

- Numbers of 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, 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

## Total GPS Devices Globally



\*\* European GNSS Agency (GSA), GNSS Market Report 2015. Includes one or more devices that use both GPS and one or more other GNSS

**GPS Global Use is Growing**



# 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**

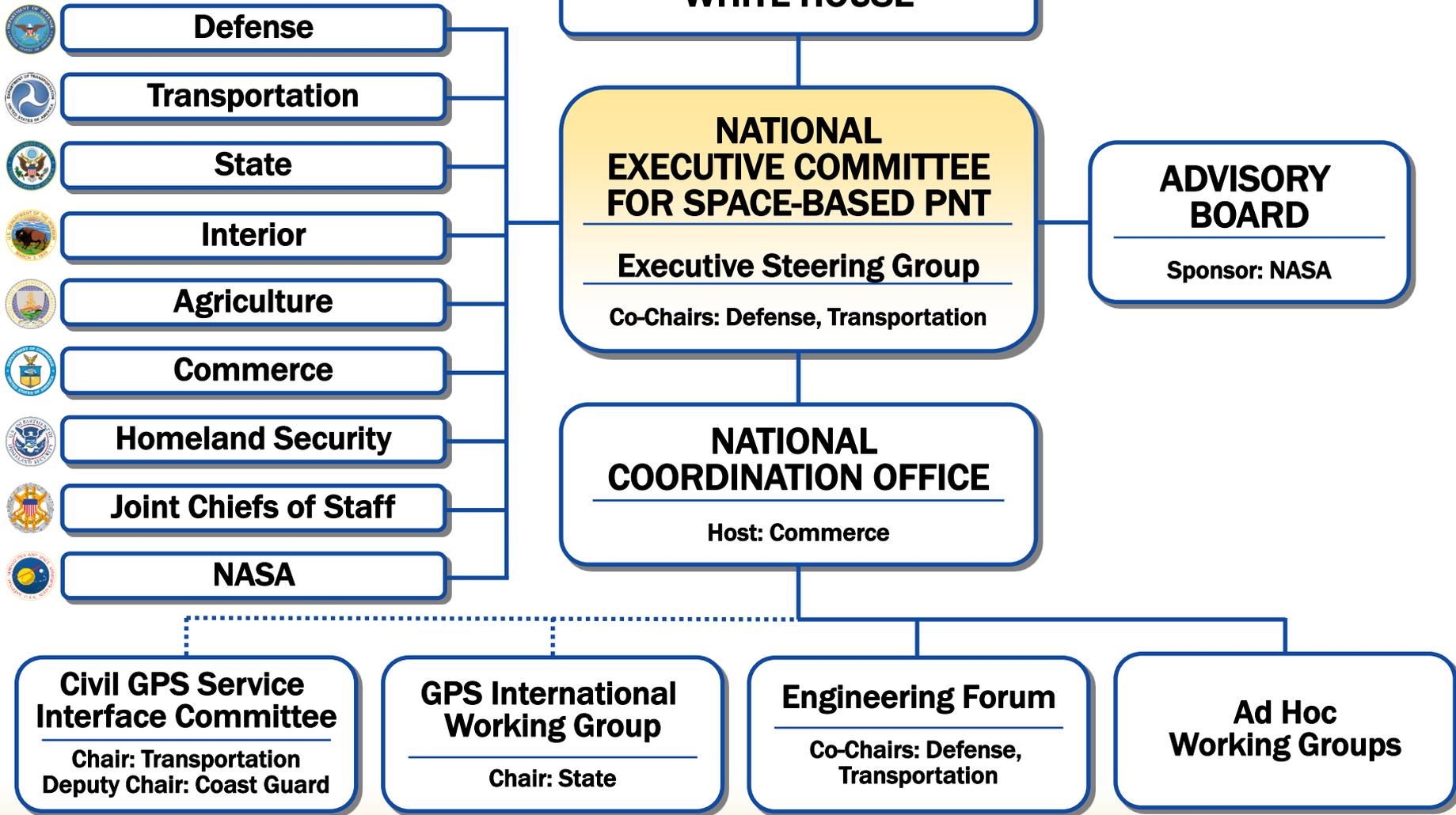


# U.S. Policy

***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, promote transparency in civil service provisioning and enable market access
- 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
- Protect radio-navigation spectrum from disruption and interference

# National Space-Based PNT Organization





# EXCOM Strategic Focus Areas



- **GPS Sustainment and Modernization**
- **International Cooperation**
- **Spectrum Management**
- **Critical Infrastructure**
- **PNT Resilience / Complimentary PNT**
- **Outreach**



# Thank You!

Stay in touch with [www.gps.gov](http://www.gps.gov)!

- “GPS Bulletin” Newsletter published by NCO
- Anyone can subscribe or get back issues

## Contact Information:

National Coordination Office for Space-Based PNT  
 1401 Constitution Ave, NW – Room 2518  
 Washington, DC 20230  
 Phone: (202) 482-5809  
[www.gps.gov](http://www.gps.gov)

***GPS: Accessible, Interoperable, Precise***

Headlines: Space Bill Addresses PNT, DHS Demonstrates Precision Timing Technology at NYSE

## GPS BULLETIN

Information for Policymakers from the National Coordination Office for Space-Based Positioning, Navigation, and Timing (PNT)

May 3, 2016

### Space Bill Addresses PNT

On April 14, Rep. Jim Bridenstine (R-OK) introduced the American Space Renaissance Act.

Section 103 of the bill is titled "Positioning, Navigation, and Timing." According to the Congressman, the provision "Expresses a sense of Congress on the importance of positioning, navigation, and timing (PNT) for national security and economic prosperity. Requires the Secretary of Defense to provide a strategy to ensure DOD PNT leverages the best available signals from alternative PNT systems. The strategy will address issues associated with monitoring and verifying accuracy, integrity, availability, security, and reliability of foreign PNT signals."



Section 104 cites the National Executive Committee for Space-Based PNT as a model for establishing a new National Executive Committee on Weather.

[Learn more at GPS.gov](http://www.gps.gov)

### DHS Demonstrates Precision Timing Technology at NYSE



On April 20, DHS announced the successful demonstration of Enhanced LORAN (eLoran), a precision timing technology, for financial transactions at the New York Stock Exchange (NYSE). Recognizing the challenges of space-based signals and the importance of having multiple timing sources, eLoran is one technology being considered to provide a complementary timing solution to existing GPS technology.

Precise and synchronized timing of financial transactions is critical to markets worldwide and is mandated by regulation in the European Union and is increasingly required in the United States. Today, precision timing capabilities are provided primarily by GPS. However, GPS's space-based signals are low-power and susceptible to possible disruptions. GPS signals are also difficult to receive indoors and in urban canyons.

The live demonstration at the NYSE was hosted by Juniper Networks, Harris Corporation, and UrsaNav, under a cooperative agreement with DHS. Over 60 industry and government representatives attended, including senior officials from DHS, DOT, DOD, Treasury, and DOE. The ensuing discussion highlighted the over-reliance upon GPS for precise timing, the threat of a loss of civil GPS services, possible impacts to the U.S. critical infrastructure and the economy, and a common interest in developing resilient timing solutions for our nation's critical infrastructure.

[view press release at DHS.gov](http://www.gps.gov)