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Alexandria, VA 22312

Ms. Marlene H. Dortch
Secretary
Federal Communications
Commission 45 L Street, NE
Washington, DC 20554

5 Dec 2025

VIA ELECTRONIC SUBMISSION

Re: Notice of Ex Parte for Promoting the Development of Positioning, Navigation, and Timing Technologies and Solutions (WT Docket No. 25-110)

Dear Ms. Dortch:

On December 3, 2025 I met with Commissioner Trusty and Nellie Foosaner, Acting Legal Adviser in Commissioner Trusty's office, to discuss national and global positioning, navigation, and timing issues.

We discussed the topics outlined on the attached slide deck and I answered the Commissioner's and Ms. Foosaner's questions.

If you have any questions or require further information, please feel free to contact me directly.

A handwritten signature in blue ink, appearing to read "Dana A. Goward".

Mr. Dana A. Goward
President
Resilient Navigation and Timing Foundation
Dgoward@RNTFnd.org 800-522-6948

The Resilient Navigation and Timing Foundation is a public benefit scientific and educational charity (501(c)3 registered in Virginia

“How do we protect America’s GPS and PNT?”*

Governance & Leadership

Meeting with FCC Commissioner Trusty

Wednesday, 3 December 2025

*Theme question at PNT Leadership Summit 9 Sept 2025, Baltimore, MD

Bottom Line Up Front

- **PNT is important and we are vulnerable**
- **Governance in US is too distributed and unfocused**
 - Not a problem in many other nations
- **Need Whole of Government Approach**
 - More uncoordinated actions will make things worse.

Responding to the Commission's concerns

As set forth in WT 25-110



- Essentiality of PNT for Critical Infrastructure, Military/ Golden Dome, Wireless infrastructure
- GPS ubiquity & unique vulnerability
- Offset risks, threats to national, economic, and homeland security
 - Mishaps & natural events
 - Malicious actors
 - Rising global competitive asymmetry (China, Russia)

GPS resilience-related **shortfalls**:*

- High vulnerability to jamming, spoofing
- As implemented, often creates a single point of failure
- Accuracy in increasing number of applications
- Needs authentication to counter spoofing
- Minimal interference detection & location
- Little service indoor, underground, other environments

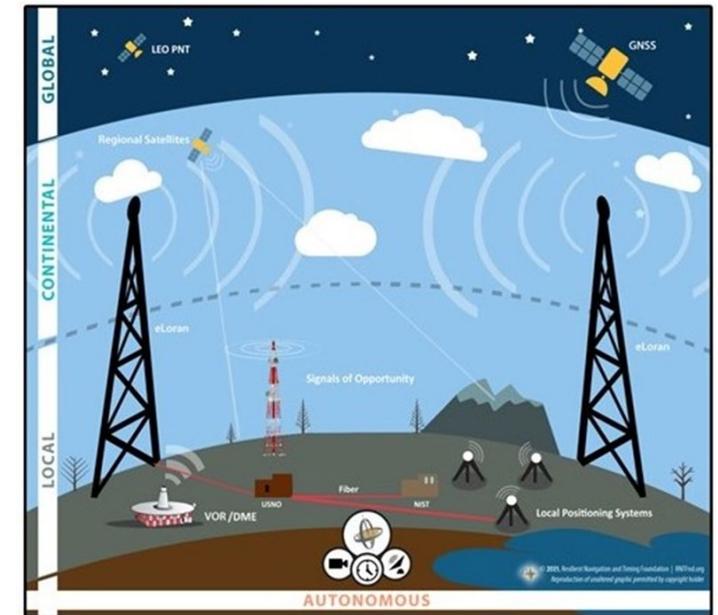


*Partial list paraphrased from Federal Radionavigation Plan 2021

Resilient National PNT Core Architecture*

For timing, asserts three complementary means:

- Space-based GNSS
- Terrestrial Broadcast
- Fiber (using standard OTT such as IEEE PTP1588)



Graphical source: RNT Foundation

Efficient, diverse R-PNT delivery. These three mutually reinforce, avoid single points of failure, efficiently scale, and standardizes timing back up of US & allied PNT-dependent assets & supply-lines, interests inside CONUS and globally.

*"Complementary Positioning, Navigation, and Timing (PNT) and GPS Backup Technologies Demonstration Report" DOT Jan 2021

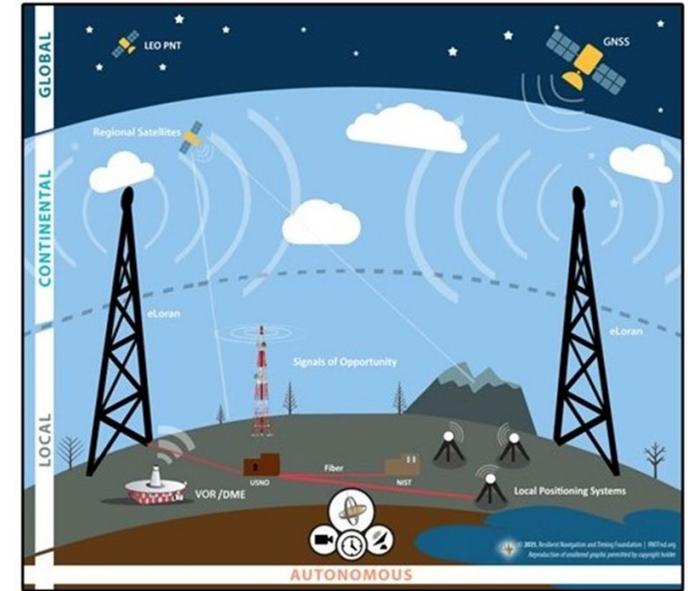
Resilient National PNT Core Architecture

Utility-level PNT

- Widely available
- Easily adopted
- National, economic, homeland security
- Govt leadership/PPP

Specialized PNT (current state)

- Builds on, integrates with core architecture
- High demand users
- Commercial services
- Market forces



“Until we solve the governance issue, (resilient) PNT in this country isn’t going anywhere.” *

ADM Thad Allen, USCG (ret)
Chair, National Space-based PNT Advisory Board



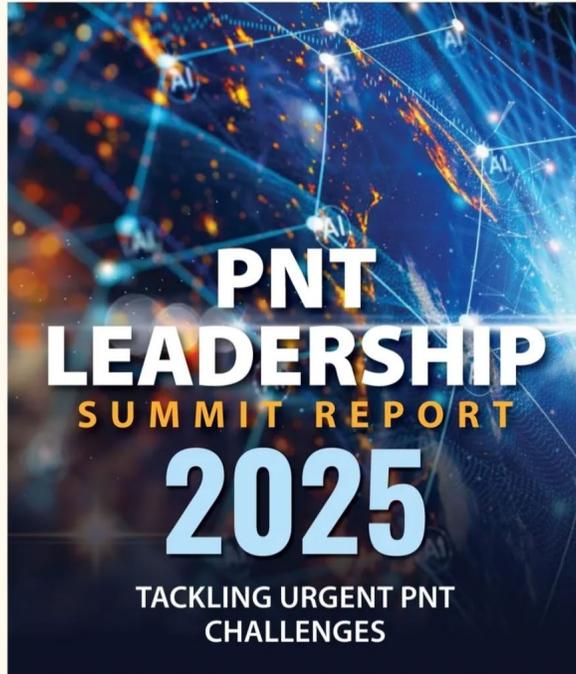
* Governance as the central issue was identified in several reports from Advisory Board and at the Sep 2025 PNT Leadership Summit in Baltimore, MD

November/December 2025 | Engineering Solutions from the Global Navigation Satellite System Community | www.insidegnss.com

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Published by Autonomous Media

RELATED PNT TECHNOLOGIES



STATE OF PLAY | Escaping the constraints of backwards compatibility with SDRs
BEYOND GNSS | Redefining terrestrial precision positioning and timing with Locata's TimeLoc
WASHINGTON VIEW | Assessing the risk of overreliance on GNSS and the danger of inaction

“Governance, in other words, is the foundation. Everything else depend on getting it right here.”

“The summit’s most surprising agreement was not technical. It was institutional. The gap is less about invention and more about locus. When responsibility is scattered, risk is inherited and amplified rather than reduced.

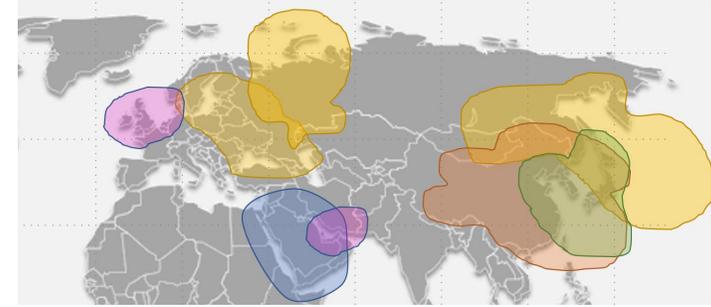
Governance: National Space-based PNT ExCom *

- Co-chairs: Dep Sec DoW, Dep Sec Transportation
- Members: USG departments & agencies
 - Meets typically twice per year
 - Lacks independent funding or authority
- Fulfills an important, but limited coordination role
- Provides group's recommendations directly to the EOP



*SPD-7 signed by Pres. Trump 15 Jan 2021

PNT Governance Internationally *



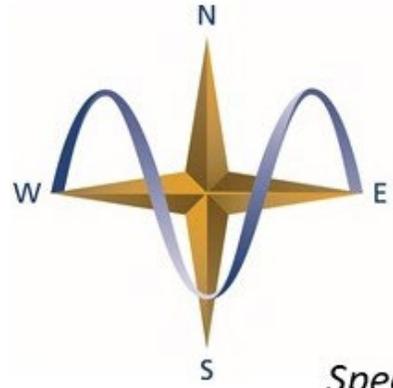
United Kingdom:	National PNT Office, Dept of Science, Innovation, & Technology
France:	European Space Agency, Paris Observatory, & Metrology Institute
South Korea:	Korea Space Agency, Oceans Ministry, Institute of Stds & Science
China:	National Space Administration, National Time Service Center
Russia:	Roscosmos, Internavigation Research & Tech Cen, Metrology Agency
Saudi Arabia:	Supreme Space Council, Public Investment Fund
UAE:	State Security Agency

*Nations that have or are building architectures with space, terrestrial broadcast, and fiber.

We urge the Commission to...

- Adopt a Whole of Govt Approach
 - DoT as Civil Lead: Deep PNT legacy, knowhow, policy leadership
- Funding Methodology (ideas, examples)
 - Empower, coordinated state and local government (e.g., BEAD Grants)
 - Spectrum Reallocation Fund – Continuation of a successful FCC model
 - ~1% to fund public sector upgrade, FCC administee to ensure accrues public benefit
 - Acts as powerful catalyst for added private sector investment, including US's global interests
- Fair and open competition





RESILIENT
NAVIGATION
and TIMING
FOUNDATION

Speaking Up for GPS/GNSS Users

www.RNTFnd.org

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