

Summary of Testimony of Lisa Dyer, Executive Director, GPS Innovation Alliance

U.S. House of Representatives Committee on Energy and Commerce

Subcommittee on Communications & Technology

“Where Are We?

Examining Positioning, Navigation, and Timing Capabilities in the United States”

June 4, 2026, 10:15 a.m.

- GPS is one of America’s greatest innovations, promoting U.S. leadership in space and contributing more than \$1.4T to the U.S. economy. It has transformed the U.S. military.
- A lucrative, robust, and innovative commercial, complementary space- and terrestrial-based PNT industry already exists and is currently serving users in the United States.
- The U.S. space-based positioning, navigation, and timing (PNT) industry alone consists of more than 850 suppliers, including more than 275 small businesses, in 45 states.
- Nuance and technical details are absent from “what’s next in PNT” discussions. We lack common definitions, which prevents us from solving challenging PNT issues.
 - Terrestrial systems do not support the U.S. military’s worldwide mission or benefit global aviation and maritime operations – key industries that deliver significant economic returns to the United States and advance national security by providing mission-critical logistical support to the Department of Defense/War.
 - GPS signals working with other technologies integrated into internet-assisted smartphones can alert and help guide emergency services to your indoors location. A free mobile app called accesSOS does just that.
- Congress’ leadership and involvement are essential to modernize the nation’s PNT capabilities and ensure the most robust systems are integrated into regulated industries.
 - To preserve U.S. leadership in space, our nation must ensure that GPS is the global leader in PNT systems. With more funding, it is primed for modernization.
 - The “whole of government,” including the Federal Communications Commission (FCC) and the Department of Transportation (DOT), lack budget and personnel to address PNT issues impacting the U.S. economy and critical infrastructure.
- GPSIA offers these recommendations to the U.S. Congress:
 - Advance GPSIA recommendations submitted to the Defense Subcommittees of the House and Senate Appropriations Committees and House and Senate Armed Services Committees to integrate modern PNT capabilities that benefit all users.
 - Ensure the FCC and the DOT have adequate resources to enforce the laws that protect regulated and mandated safety systems and advance modern PNT.
 - Recommend that the FCC approve Xona’s application to operate an L-band radionavigation-satellite service constellation in the United States.
 - Support efforts to field and integrate complementary space systems providing frequency diversity to L-band GPS systems, including in regulated industries.



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Before the

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Chairman Guthrie, Ranking Member Pallone, Chairman Hudson, Ranking Member Matsui and distinguished members of the Subcommittee, thank you for the opportunity to testify today about Positioning, Navigation, and Timing (PNT) technologies and services in the United States. My name is Lisa Dyer, and I am the Executive Director of the GPS Innovation Alliance¹ (GPSIA). GPSIA² is a trade association for the PNT industry that includes the U.S. Global Positioning System, or GPS, and commercial satellite designers and manufacturers as well as companies that engineer and manufacture PNT receivers and devices.

It is an honor to share my experience and expertise with you. I have led GPSIA for the past three years. I previously worked in San Francisco on artificial intelligence policy and in fundraising, supply chain management, and growth marketing for a startup. I served as a government civilian at the U.S. Department of State, advancing U.S. business interests overseas, to include leading the programming for the 2017 Global Entrepreneurship Summit; coordinating policy discussions concerning technical and other intelligence operations; and evaluating export control policy and commercial satellite regulations. I also served as an Air Force acquisitions officer, managing satellite, reconnaissance aircraft, and drone sensor and data technology programs.

This hearing is timely, as our nation prepares to celebrate its 250th Anniversary and we reflect on its many achievements.

GPS represents one of America’s greatest innovations. Nearly every constituent in each of your districts relies on GPS multiple times per day, in ways known and unknown to them. GPS has also transformed the way the U.S. military thinks strategically and acts tactically. As noted by

¹ GPS Innovation Alliance member companies include Apple, Deere & Company, Garmin, General Dynamics, Lockheed Martin, NovAtel a part of Hexagon, Trimble, TrustPoint, and Xona.

² The GPSIA promotes GPS, other GNSS, complementary space-based PNT systems, and their receivers and devices. GPSIA is firmly committed to protecting these technologies from harmful interference. GPSIA champions innovation, creativity, and entrepreneurship, which bolster the vital contributions of GPS, GNSS, and PNT-enabled technologies to public safety, critical infrastructure, and the global economy.

the National Security Space Association, “GPS enabled precision strike has altered policy, strategy, doctrine, operations, concepts, and weapons systems”³.

Since it became fully operational in 1995, GPS has not experienced a single system-wide outage. This unparalleled track record is a testament to American ingenuity and dedication, from the thousands of military and civilian engineers who designed and built the system, to those modernizing the system, and to the people in the U.S. Air Force and now U.S. Space Force who continue to operate GPS today.

The U.S. economy also benefits from this congressionally authorized and appropriated, Department of Defense/War- and Department of Transportation-managed program. According to a 2019 National Institutes of Standards and Technology (NIST) report⁴, GPS has returned more than \$1.4 trillion in economic benefits to the United States – and that number is based on data that is nearly a decade old. With the explosion in the numbers of receivers and devices sold since 2017, the new mobile app economy, and emerging industries such as drone delivery and autonomous vehicle operations, its economic impact has only grown.

GPS also represents one of America’s greatest gifts to the world. President Reagan’s Administration announced it would make GPS signals free and available to the global aviation community to “enhance the security of international aviation”⁵ following the tragic downing of Korean Airlines Flight 007 by the Soviet Union, which took the lives of 269 people, including U.S. Representative Larry McDonald. President Clinton’s decision to end “Selective Availability” in 2000 resulted in making higher precision applications available to people everywhere⁶. Congress later codified that GPS signals remain “free of direct user fees”⁷.

The U.S. Congress and Presidents Reagan and Clinton could not have foreseen the innovative commercial market they unleashed with these policy decisions. More than six billion GPS-enabled devices and receivers are in operation today globally, and that number is expected to exceed nine billion by 2033⁸. The system’s global, 24-hours-a-day, seven-days-a-week availability means that Congressional and staff delegations and other Americans living, working,

³ See Marc J. Berkowitz, *America’s Asymmetric Vulnerability to Navigation Warfare: Leadership and Strategic Direction Needed to Mitigate Significant Threats*, National Security Space Association (Jul. 18, 2024), <https://nssaspace.org/wp-content/uploads/2024/07/NAVWAR-FINAL.pdf>

⁴ *Economic Benefits of the Global Positioning System (GPS)*, RTI International ES-1 (Jun. 2019), https://www.nist.gov/system/files/documents/2020/02/06/gps_finalreport618.pdf.

⁵ *See Statement by Deputy Press Secretary Speakes on the Soviet Attack on a Korean Civilian Airliner*, Ronald Reagan Presidential Library & Museum (Sept. 16, 1983), <https://www.reaganlibrary.gov/archives/speech/statement-deputy-press-secretary-speakes-soviet-attack-korean-civilian-airliner-1>.

⁶ *See Selective Availability*, National Coordination Office for Space-Based Positioning, Navigation, and Timing, <https://www.gps.gov/systems/gps/modernization/sa/> (last visited Apr. 19, 2025).

⁷ See 10 U.S.C. § 2281, <https://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title10-section2281&num=0&edition=prelim>, which directs the Department of Defense to operate GPS for military, civil and commercial users.

⁸ *EUSPA EO and GNSS Market Report*, European Union Agency for the Space Programme 21 (Jan. 2024), <https://www.euspa.europa.eu/sites/default/files/documents/EUSPA%20Market%20Report%202024.pdf>.

and traveling overseas have access to GPS-enabled PNT signals when and where they need them. Aviation and maritime industries rely on GPS for performance-based global navigation and timing signals that enhance communications and safety. GPS signals uniquely capture the constant changes in the Earth's shape, gravity field, and its location in space. This information is fed into the National Spatial Reference System⁹, the nation's official source for map coordinates which is used in myriad applications, from establishing Congressional districts to navigating successfully to your destination. GPS also enables the U.S. military to extend its reach internationally, whether supporting key allies, helping people impacted by natural and man-made disasters, or in conducting operations.

American ingenuity and dedication are seen throughout the PNT industry. We are fortunate to have a rich history of exceptional engineers and entrepreneurs who have developed world class receivers and devices that deliver useful information and services to the American public. These entrepreneurs have integrated GPS and dozens of complementary, operational PNT signals from space- and terrestrial-based PNT systems into receivers and devices¹⁰, from those that fit into your pocket or on your wrist to those installed on farm and construction equipment, in crewed and uncrewed aircraft and vehicles, and integrated into satellites and Department of Defense/War weapons systems. Timing signals synchronize the world's financial systems, electrical grids, and telecommunications infrastructure. And America's innovators are operating and developing commercial complementary satellite PNT systems that are delivering new services and signals to consumers around the world today and will continue to in the future.

GPS and today's operational complements represent real systems, and Americans' daily lives and livelihoods depend on and benefit from them. The space-based PNT industry alone consists of more than 850 suppliers across the United States, more than 275 of which are small businesses, in 45 of your states, delivering systems and components for Americans who depend on PNT-enabled systems and services.

My testimony today emphasizes that ***this Subcommittee, its full Committee, and the entire U.S. Congress continues to have a vital role in advancing America's PNT capabilities through its oversight functions and appropriations authorities.*** These five points further emphasize why Congress' leadership and involvement are essential:

- 1) ***To preserve U.S. leadership in space, our nation must ensure that GPS is the global leader in PNT systems¹¹.*** In recent years, other nations have invested significant

⁹ See National Ocean Service, National Oceanic and Atmospheric Administration, *What is the National Spatial Reference System?* <https://oceanservice.noaa.gov/facts/nsrs.html>, (last visited Jun. 1, 2026).

¹⁰ See Letter from John Raquet and William Burruss to Marlene H. Dortch, Sec'y, FCC in WT Docket No. 25-110 (filed Mar. 31, 2025) (appending white paper entitled "More is More: Using Multiple Global Navigational Satellite Systems to Improve Geolocation Accuracy, Performance, and Resilience"), <https://www.fcc.gov/ecfs/document/10331505428967/1> ("More is More").

¹¹ See White House, Memorandum on Space Policy Directive 7 (Jan. 15, 2021), <https://trumpwhitehouse.archives.gov/presidential-actions/memorandum-space-policy-directive-7> ("SPD-7").

resources in their own versions of GPS. From 2018 – 2020, China launched its entire third generation of BeiDou satellites in three years. During that same time, a single U.S. GPS satellite was launched. China’s satellites transmit signals from two orbits, whereas GPS operates from a single orbit. Europe has pioneered authentication signals into its Galileo system, offering counterspoofing capabilities for certain use cases. GPS III satellites offer eight times greater anti-jamming capabilities for military users, and GPS IIF satellites will offer 63 times greater anti-jamming capabilities for military users. This third generation of GPS satellites do not offer anti-jamming or counterspoofing capabilities for civil, commercial, and scientific users.

While there are recognized benefits for using multiple satellite constellations, including increased location accuracy, faster signal acquisition, faster rejection of “bad” signals, and comprehensive geographic coverage, it is vital for the U.S. to continue to prioritize improvements to GPS. GPSIA submitted recommendations to the Defense Subcommittees of the House and Senate Appropriations Committees, and the House and Senate Armed Services Committees earlier this week on how to make investments to promote global leadership of GPS and U.S. commercial space-based PNT systems.

GPS signals have built their sterling reputation for high levels of availability, integrity, continuity, and accuracy. According to the Federal Aviation Administration (FAA), GPS as a system, namely the satellites and the ground station monitoring and maintaining the health and welfare of the satellites and signals, operates at a 99.9999% availability rate¹². The constellation consists of 32 satellites, eight more than the minimum 24 satellites required to provide global coverage, offering on-orbit resiliency. The Wide Area Augmentation System, operated by the FAA, is a freely available satellite signal that serves the entire National Airspace System and is integrated into many commercial receivers and devices. It enhances the accuracy and monitors the integrity of GPS signals for safety-of-life and other applications¹³.

That said, GPS as a system is ripe for rapid modernization. Eight of the 32 satellites are operating on a “single string,” meaning they are one system or subsystem failure away from becoming nonoperational. The ground station is undergoing a new software upgrade

¹² Numerous reports are available to the public. *Welcome to the William J. Hughes Technical Center WAAS Test Team*, Federal Aviation Administration, <https://www.nstb.tc.faa.gov/> (last visited May 29, 2026).

¹³ *Satellite Navigation - WAAS - How It Works*, Federal Aviation Administration, https://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/techops/navservices/gnss/waas/howitworks (last visited Apr. 20, 2025); *WAAS Ground Segment*, European Space Agency, https://gssc.esa.int/navipedia/index.php/WAAS_Ground_Segment#:~:text=The%20WAAS%20Ground%20segment%20is,WRS%20stations%20collect%20GPS%20data (last visited Apr. 20, 2025).

following the Space Force’s April 17, 2026, decision¹⁴ to cancel an upgrade that was more than a decade behind schedule and experienced a critical “Nunn-McCurdy” breach¹⁵. This important, long overdue decision opens the door for rapid GPS modernization and for the U.S. Space Force to take a comprehensive approach to integrating complementary, commercial satellite PNT systems into military operations, as these companies continue to serve commercial users.

2) ***A lucrative, robust, and innovative commercial, complementary PNT industry already exists and is currently serving users in the United States and worldwide***^{16,17}.

While several operational PNT systems enhance GPS capabilities or may operate independent of GPS, a U.S. space-based or terrestrial “alternative” that replicates both GPS’ core technical attributes and its Nuclear Detonation Detection System¹⁸ secondary payload does not exist¹⁹.

GPSIA asserts that space is the preferred domain for complementary PNT systems, due to its global availability and resiliency. By contrast, terrestrial systems have limited reach, are vulnerable to manmade and natural disasters,²⁰ and may leave out or delay the availability of technological solutions for people living in rural, less populous areas. Terrestrial PNT systems do not offer solutions that support the U.S. military’s worldwide mission or benefit worldwide aviation and maritime industries operations – key industries that deliver significant economic returns to the United States and advance national security by providing mission-critical logistical support to the Department of

¹⁴ USSF terminates program for the Global Positioning System Next Generation Operational Control System (Apr. 20, 2026), <https://www.spaceforce.mil/News/Article-Display/Article/4465024/ussf-terminates-program-for-the-global-positioning-system-next-generation-opera/> (last visited May 29, 2026).

¹⁵ Mike Gruss. *Air Force declares Nunn-McCurdy breach on GPS ground system* (June 30, 2016), Space News, <https://spacenews.com/air-force-declares-nunn-mccurdy-breach-on-gps-ground-system/> (last visited May 29, 2026).

¹⁶ See, e.g., *Best Practices for Resilient PNT Supporting Critical Infrastructure*, U.S. Department of Homeland Security (Sept. 2024), https://www.dhs.gov/sites/default/files/2025-02/25_0220_st_pnt_best_practices_ci.pdf; *Analyzing a More Resilient National Positioning, Navigation, and Timing Capability*, Homeland Security Operational Analysis Center xx – xxi (May 17, 2021), https://www.rand.org/content/dam/rand/pubs/research_reports/RR2900/RR2970/RAND_RR2970.pdf

¹⁷ GPSIA determined at least 17 complementary space, terrestrial, and non-technologically based PNT capabilities are in use today.

¹⁸ See, e.g., U.S. Department of Energy, *NNSA delivers enduring space-based nuclear detonation detection capability* (Mar. 22, 2018) <https://www.energy.gov/nnsa/articles/nnsa-delivers-enduring-space-based-nuclear-detonation-detection-capability>; *Detecting Nuclear Explosions*, Space Academy, <https://www.spaceacademy.net.au/watch/nudet/nds.htm> (last visited Apr. 20, 2025).

¹⁹ Multiple reports have shown that no system can provide a perfect backup for GPS. See, e.g., *Complementary PNT and GPS Backup Technologies Demonstration Report*, U.S. Department of Transportation 12 (Jan. 2021), https://www.transportation.gov/sites/dot.gov/files/2021-01/FY%2718%20NDAA%20Section%201606%20DOT%20Report%20to%20Congress_Combinedv2_January%202021.pdf; *Analyzing a More Resilient National Positioning, Navigation, and Timing Capability*, Homeland Security Operational Analysis Center xx – xxi (May 17, 2021), https://www.rand.org/content/dam/rand/pubs/research_reports/RR2900/RR2970/RAND_RR2970.pdf (“HSOAC Report”).

²⁰ See, e.g., Chris Smith, *iPhone Emergency SOS saves family from Maui wildfires – this was their terrifying chat* (Aug. 10, 2023), <https://bgr.com/tech/iphone-emergency-sos-saves-family-from-maui-wildfires-this-was-their-terrifying-chat/>; Mary Beth “Mouse” Skylis, *These Hikers Were on the Appalachian Trail When Hurricane Helene Hit* (Oct. 4, 2024), <https://www.backpacker.com/news-and-events/news/appalachian-trail-hurricane-helene/>.

Defense/War. Nor is it efficient or cost effective for receiver and device manufacturers to integrate a patchwork of multiple terrestrial systems, particularly when complementary PNT systems are already providing added resiliency and their customers live, travel, and work internationally.

The U.S. complementary commercial satellite PNT industry continues to expand, particularly in low Earth orbit (LEO). Iridium operates the first operational, space-based complementary LEO PNT system in the United States. It has over 70 partners and employees across 25 states. TrustPoint is building a U.S. commercial LEO PNT system in C-band designed to provide secure, resilient, and complementary capability to GPS through orbital, signal, and frequency diversity. The company currently has three satellites on orbit, four more in development, and expects to begin commercial service in 2027²¹. TrustPoint has already mobilized a domestic industrial base of 27 suppliers across the United States supporting more than 137,000 American jobs. Xona is broadcasting an entirely new signal alongside GPS, bringing high-power signals to users without additional hardware. It is scaling domestic satellite manufacturing in California, launching six satellites this fall and multiples more next year.

- 3) ***Proposals for new PNT systems are incomplete and will not benefit users unless they have a plan to integrate these signals into devices, receivers, satellites, and weapons systems. Those capabilities must then be provided to users.*** Signal integration is more complex than it sounds. Receiver and device size, weight, and power requirements influence antenna and chipset selection, as does signal availability, integrity, accuracy, and continuity. The viability of the solution – namely, what benefits does it provide to the user that they do not already have, given its costs – represents additional considerations manufacturers must consider. Regulatory requirements influence technical considerations in certain public safety applications, such as 9-1-1 systems and crewed and uncrewed transportation systems, and factor into decisions to integrate new signals. Standards development, whether for aviation and other regulated industries or for use in commercial applications, requires contributions from in-demand experts and takes time. Licensing or contractual arrangements must be negotiated. And the “new” system must undergo testing, including cybersecurity testing, before it can be offered to users.

A common question posed is whether GPS works indoors, particularly during emergency situations. GPS signals working with other technologies integrated into internet-assisted smartphones²², can alert and help guide emergency services to your indoors location. One

²¹ Sandra Irwin, *TrustPoint sets 2027 target for initial rollout of LEO-based navigation services* (Dec. 9, 2025), Space News, <https://spacenews.com/trustpoint-sets-2027-target-for-initial-rollout-of-leo-based-navigation-services/>.

²² *Supra* at 10.

of the most interesting, existing services is a free app called accesSOS²³. Originally developed for the deaf and hard-of-hearing communities, it now also serves non-English speaking users and anyone who is unable or does not want to make a call. It first identifies your GPS-derived location, and an easily navigable user interface allows you to add details about the type of emergency; whether you or the victim are indoors, outdoors, or are mobile; specify precisely where you are located such as floor and apartment number; and add other pertinent details such as door codes. accesSOS represents just one of many apps that draws from your smartphone's GPS/PNT and other technologies to provide solutions, including lifesaving emergency services, to users.

4) ***The “whole of federal government” involved in PNT, including the Federal Communications Commission (FCC) and the Department of Transportation, lack sufficient budget and personnel resources to adequately address issues grounded in and marked by geopolitical competition, technical innovations, and public safety.***

Congress made it clear that “Federal law prohibits the operation, marketing, or sale of any type of jamming equipment that interferes with authorized radio communications, including cellular and Personal Communications Services (PCS), police radar, and Global Positioning Systems.”²⁴ Yet localized jamming and spoofing continue to impact U.S. industries and Americans. One publicly available website indicates that more than 55,000 reported localized interference events affected commercial aviation in 2025, which represents a 24% increase over 2024 data²⁵. While many of these incidents took place overseas and were in proximity to conflict zones, some occurred outside of conflict zones. These incidents impact American aircraft manufacturers, airlines, Americans flying on board affected aircraft, and any aircraft whose destination is in the United States. The maritime industry has been similarly impacted.

These unchecked incidents are contrary to the spirit of President Reagan’s intent to enhance the security of international aviation through the provision of GPS. They violate International Civil Aviation Organization and International Maritime Organization regulations. The U.S. government must be prepared to enforce the laws that protect regulated and mandated safety systems. Failing to act against interference is not a regulatory abstraction — passenger/crew safety and U.S. economic impacts demand action.

²³ See accesSOS, <https://accessos.io>.

²⁴ See *Jammer Enforcement*, Federal Communications Commission (Apr. 2020), <https://www.fcc.gov/general/jammer-enforcement>.

²⁵ See *55,000+ GPS Interference Events in 2025*, FlySafe.Zone (Apr. 2026), <https://flysafe.zone/data/gps-interference-incidents-2025/>.

In response to these growing numbers of incidents, GPSIA sent a letter to Secretary Hegseth and Secretary Duffy²⁶ in September 2025, outlining recommendations for how the “whole of government” could address GPS jamming and spoofing, ranging from no cost solutions to accelerating regulatory processes, to technological improvements to GPS, as well as advancing the integration of commercial satellite PNT systems into the transportation industry. A copy was provided to other relevant Trump Administration officials, including the FCC Chairman and Commissioners whose agency has an important enforcement mandate and leadership role in addressing these incidents.

Laws and regulations that prohibit jamming and spoofing should be enforced while space-based technological innovations are implemented that can position GPS and the commercial satellite PNT industry as the world’s leading, preferred solutions for military, civil, commercial, and scientific users. Additional resources are required to achieve these vital goals, which GPSIA outlined in papers submitted to the Defense Subcommittees of the House and Senate Appropriations Committees and the House and Senate Armed Services Committees earlier this week.

In addition to addressing nefarious harmful interference, the FCC has another important role to play, and one that this Subcommittee knows well: ensuring that in- and adjacent band spectrum remains free from harmful interference, particularly for incumbent users such as GPS and PNT systems. Spectrum allocated for Radionavigation-Satellite Service, Aeronautical Radionavigation Service, and Mobile Spectrum Service are important to GPS- and PNT- enabled applications. High precision applications also rely on other parts of the radiofrequency spectrum to deliver services to the agriculture, construction, and mining industries. The FCC’s continued vigilance in ensuring spectrum remains free from harmful interference remains a key priority.

- 5) ***Critical nuance and technical details need to be inserted into “what’s next in PNT” discussions.*** The PNT industry is grounded in nuance and technical details. While this level of granularity can take time to evaluate, it is essential to examine when considering the uses of federal resources, whether to allocate scarce spectrum or to determine whether proposed systems will bring tangible benefits to users, given costs²⁷. These details also allow the nation to correctly identify and solve challenging PNT issues.

Numerous essential questions remain unanswered:

²⁶ See [GPSIA Recommendations: Letter to Secretary Hegseth and Secretary Duffy](#) (Sept. 5, 2025).

²⁷ It is essential to factor in costs to incumbent systems that may be affected by spectrum allocations when calculating total costs of proposed systems.

- What are the agreed upon definitions of “complementary,” “resiliency,” “alternative,” and “backup” PNT systems and capabilities?
- With the commercial marketplace and industries already installing and operating “backup” and “fallback” systems²⁸, is there actually a problem for a new backup to solve?
- What technical attributes will determine when the United States has reached “peak resiliency,” whether market driven or federally resourced?
- Given the numbers of complementary systems in operation today, do shortfalls exist in any or some combination of the P, the N, or the T?
- Given the diverse range of use cases, what signal continuity, integrity, accuracy, and availability are required for each?

One critical question overarches all these points: What have users come to expect from the services enabled by today’s GPS and complementary PNT systems, and will any systems being marketed or developed meet or exceed their expectations? Americans should not have to settle for less technologically advanced and capable PNT systems.

To advance U.S. leadership in PNT, GPSIA offers these recommendations:

- 1) Congress should advance GPSIA recommendations submitted to the Defense Subcommittees of the House and Senate Appropriations Committees and the House and Senate Armed Services Committees, regarding modernizing GPS satellites and ground stations; accelerating the provision of military GPS user equipment to users and weapons systems; and laying the groundwork to establish a program of record to purchase commercial space-based PNT services and data integration into U.S. military operations;
- 2) Congress should ensure that the FCC and the Department of Transportation have adequate resources to improve interagency coordination, increase enforcement of laws and regulations to minimize and deter jamming and spoofing incidents in the United States, lead “whole of government” approaches to implementing GPSIA recommendations for addressing jamming and spoofing occurring outside of conflict zones²⁹, and modernizing PNT systems;
- 3) Congress should recommend that the FCC approve Xona’s application³⁰ to operate a radionavigation-satellite service constellation in the United States, clearing the pathway for homegrown innovation to demonstrate that new capabilities can be rapidly delivered; and

²⁸ *Supra* at 16.

²⁹ *Supra* at 26.

³⁰ See Request for Application for Launch-and Operational Authority for a Radionavigation-Satellite Service Constellation, Xona Space Systems, Inc., ICFS File No. SAT-LOA-2023-0711-00165, Legal Narrative at 1 (filed July 11, 2023).



- 4) Congress should support efforts to accelerate the authorization, testing, integration, and procurement of qualified U.S. commercial space-based PNT systems that provide frequency diversity complementary to L-band GPS, ensuring innovative PNT capabilities are quickly fielded for national security, critical infrastructure, and highly regulated autonomous systems applications.

Conclusion

Congress' actions will play a key role in determining whether the United States leads globally in PNT, both today and in the future. I look forward to answering questions posed by this Subcommittee and discussing solutions that prioritize the way your constituents live, work, and play – including in highly regulated systems designed to protect public safety. The GPS Innovation Alliance stands ready to assist you and the whole of the federal government as you take on this vitally important and monumental mission.