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July 20, 2026

The Honorable Richard Hudson

Chairman, Subcommittee on Communications & Technology
House Energy and Commerce Committee
United States House of Representatives
Washington, DC 20515

The Honorable Doris Matsui

Ranking Member, Subcommittee on Communications & Technology
House Energy and Commerce Committee
United States House of Representatives
Washington, DC 20515

Re: ATIS SYNC Committee Technical Report on Resilient Timing Architecture for 5G Communications Networks (ATIS-0900006)

Dear Chairman Hudson and Ranking Member Matsui:

On behalf of the Alliance for Telecommunications Industry Solutions (ATIS), we thank you for convening the June 4, 2026 hearing of the Subcommittee on Communications & Technology, "*Where Are We? Examining Positioning, Navigation, and Timing Capabilities in the United States.*" GPS resilience and the development of complementary Positioning, Navigation, and Timing (PNT) solutions are issues of critical importance to the telecommunications industry, and we are encouraged that the Subcommittee is giving this topic the sustained, bipartisan attention it deserves.

ATIS is a leading technology and solutions development organization representing 165 member companies across the global ICT sector, including network operators, equipment manufacturers, and technology providers. One of our technical bodies is the **Synchronization (SYNC) Committee**, which brings together industry expertise to develop standards and technical reports addressing synchronization and timing technologies for telecommunications networks. SYNC engages proactively with national, regional, and international standards development organizations, including the International Telecommunication Union – Telecommunications (ITU-T), on matters of network timing integrity and resilience.

The hearing raised important questions about the telecommunications sector's dependence on GPS for precision timing and synchronization, a vulnerability that the SYNC Committee has examined in depth. Telecommunications networks — including 5G — rely on GPS-derived timing signals to maintain

the nanosecond-level synchronization required for network operation, interference avoidance, and location-based services. A disruption to GPS timing, whether from jamming, spoofing, solar weather events, or other causes, poses direct risks to cellular network performance and continuity.

In September 2025, the SYNC Committee published ATIS-0900006, *Resilient Timing Architecture for 5G Communications Networks*. This technical report provides a telecommunications sector perspective on the challenge of GPS-denied environments and offers a series of architectural recommendations for building resilient timing infrastructure. Specifically, the report addresses:

- Distributed and centralized GPS timing architectures and their respective vulnerabilities;
- High Accuracy Time Transfer (HA-TT) architectures that reduce network dependency on GPS receivers by distributing precision timing from a centralized source using cesium or other atomic clock holdover technology;
- Enhanced Primary Reference Time Clock (ePRTC) technology, which uses learning algorithms to maintain timing accuracy to within 100 nanoseconds of UTC for up to 40 days without a GPS reference; and
- Autonomous time scale architectures based on hardened NIST/USNO timing bunkers, supplemented by signals of opportunity, both terrestrial and space-based, including Low Earth Orbit (LEO) satellites, eLORAN, Broadcast Positioning System (BPS), and two-way satellite time transfer, for long-term GPS outage protection.

The report concludes that the resilient timing architecture described could be shared across critical infrastructure sectors beyond telecommunications, including national security, power utilities, transportation, aviation, broadcast, financial services, and data centers — precisely the sectors the Subcommittee identified as most at risk from GPS disruption.

We respectfully transmit a copy of ATIS-0900006¹ for the Subcommittee's awareness and encourage your continued engagement on GPS resilience and complementary PNT policy. ATIS and the SYNC Committee stand ready to assist the Subcommittee in its ongoing work on this critical issue. Please do not hesitate to reach out to us.

Respectfully submitted,



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Cc: Michael Essington
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¹ <https://atis.org/resources/resilient-timing-architecture-for-5g-communications-networks/>.