

**Response to:**

Office of the Secretary (OST), U.S. Department of Transportation (DOT)  
Request for Information (RFI) Demonstration of Backup and Complementary  
Positioning, Navigation, and Timing (PNT) Capabilities of Global Positioning System  
(GPS)

**By:**

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**Attention:**

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InfiniDome Ltd

InfiniDome Ltd is pleased to respond to the U.S. Department of Transportation (DOT) Request for Information (RFI) seeking innovative approaches to demonstrate backup and complementary Positioning, Navigation, and Timing (PNT) capabilities of the Global Positioning System (GPS). We supply the first truly commercial cyber solution to protect Position, Navigation and Timing of critical infrastructure, autonomous vehicles, drones and Unmanned Aerial Systems (UAS), banking and money transfers and ships at sea. Our solutions are in production now, deployed globally and ready for immediate purchase.

*1. A description of the technology and CI application(s), including cybersecurity and other security measures inherent in the system, and if the technology is for timing only, location only, or both timing and location.*

GPSDome technology by InfiniDome protects the Position, Navigation and Timing of GPS systems in any application. InfiniDome technology couples our propriety RFIC and software with Controlled Reception Pattern Antennas (CRPAs) to detect spatial diversity, timing, phase and power differentials in signals received at an unprecedented level of accuracy for the size, weight and power of our modular and commercially available system. InfiniDome exploits the fact that jamming and spoofing signals arrive from different directions and in different strengths than desired satellite signals. Hostile or suspicious signals can be identified, reported and attenuated. Our proprietary ASIC performs accurate, real time phase shifting and with our proprietary algorithm implemented on a DSP we have unmatched reaction time in a novel solution that combines a digital and analog approach. Our adaptive signal processing uses an antenna array of two to four (2-4) antennas to create a spatial filter that minimizes hostile signals while granting bonafide signals access to the receiver.

*2. Identify the TRL for the proposed technology.*

GPSDome 1.01 is at TRL 9 and currently sold to government, military and commercial customers globally to protect GPS L1.

*3. Identify whether the vendor is willing to participate in the demonstration by providing material (hardware and user equipment when applicable), engineering (technology*

*deployment, configuration, and data collection support), and logistical support during the preparation and execution phases of the demonstration.*

InfiniDome is willing to support a demonstration of our GPS cyber security and provide all hardware, engineering and logistical support to make a compelling case with one week notice to allow for travel.

*4. Identify whether this support is contingent on the government providing some funding.*

InfiniDome is willing and immediately able to demonstrate our GPS cyber security to the Department of Transportation at no cost to the government.

*5. Provide information about the needed infrastructure (e.g., power, network, etc.) that would be necessary to deploy the vendor technology at a DOT-furnished demonstration site.*

Our GPSDome 1.01 product is an “in-line” retrofit to any GPS system and requires a minimal .8W power that can be supplied by direct feed from the system or supplied battery. The GPS network is already provided. The only other requirement for a demonstration is the system that will be protected, a hostile signal generator and permission to operate a jammer or spoofer. InfiniDome can provide our own 5W or 10W jamming and spoofing devices if authorized.

*6. Identify any constraints on participation, e.g., lead-time, demonstration timelines, funding, infrastructure (HVAC, power, shelter, and equipment space, etc.).*

An InfiniDome technology demonstration is straight forward and requires no support from the government. Several such demonstrations can be seen on the company website at [www.gpsdome.com](http://www.gpsdome.com)

*7. Identify radiofrequency bands and transmit power levels in terms of peak Effective Isotropic Radiated Power (EIRP). This is needed during the planning phase depending on the selected demonstration site(s).*

The only transmitters and signal generators that are required for a demonstration are the GPS signals that are already transmitted by the Global Positioning System and the hostile jamming and spoofing signals that threaten the Position, Navigation and Timing systems of critical infrastructure, autonomous vehicles and other timing and synchronization applications relevant to the Department of Transportation.

*8. Identify where the technology is currently deployed and in use, if applicable. Provide location, date of deployment, and if the deployment is available for examination.*

GPSDome 1.01 is sold commercially now and deployed to: protect the navigation systems of the Israeli Defense Force drones that patrol the border with Gaza (Sep 2018), the timing and synchronization of banking and wire transfers from one of Israel's largest banking chains (Feb 2019), the position and navigation of ships in the Mediterranean (Mar 2019) and the position, navigation and timing systems of commercial drones that provide security and surveillance in applications in the United States (May 2019). We are supporting the Federal Aviation Administration (FAA) Integrated Pilot Program (IPP) in order to set standards on how drones will co-exist with commercial aircraft (underway since Jul 2018). We have received positive evaluation from US government organizations and top tier defense companies and have been working for the last six months to complete proof of concept demonstrations with customers.

Our low cost, 155 gram (or 75 gram without housing) solution requires only .8W and can be retrofit into a GPS system in a matter of minutes. It would be a pleasure to demonstrate InfiniDome technology to the Department of Transportation.

Respectfully submitted,

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InfiniDome Ltd