

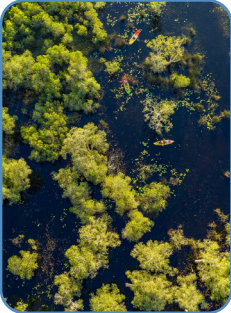
Tech Scouting Coordination Working Group

29 August 2023 Summary of Reports

Technology Scouting Team
Technology Scouting and Transition Division
Office of Science and Engineering
Homeland Security | Science and Technology

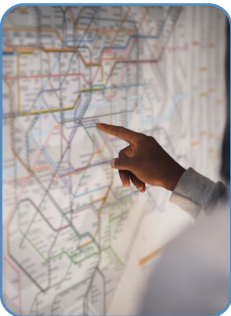
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Active Scouting Requests



Quantum Sensing for Discovery of Objects Obscured by Dense Foliage or Water

- **Component:** TCD
- **Solution Technologies:** TCD is exploring current state-of-the-art quantum sensing to support components such as USCG and CBP; ideal solutions should be portable and able to be launched or carried or delivered from an airborne platform and should have a detection range of 100-200' through dense foliage or 1000' at maximum operating depth, and sensors of interest include both magnetometry and gravimetry solutions



Mobile Asset Tracking in GPS-Denied Areas

- **Component:** TCD
- **Solution Technologies:** TCD is seeking COTS tracking capabilities to develop a digital twin-sensor platform to supplement and enhance emergency communications for security operations in indoor, GPS-denied areas such as transportation terminals, arenas, or government buildings; solutions should be able to geolocate assets and differentiate between assets, provide dynamic sharing capabilities to track assets en route as well as on-scene, and should be small, preferably wearable, and gyro-based



Computer Aided Dispatch (CAD) Analysis for FPS

- **Component:** FPS
- **Solution Technologies:** Seeking to identify existing CAD systems or products to help gather data, automate reporting, and interface with dispatch logs; communication capabilities should enable notification to and from all officers within responding range of a call and should transmit notifications to officers' mobile terminals or laptops, system should interface between existing incident management log systems and merge information not currently logged online and should be scalable nationwide to accommodate dispersed operations, and solutions should be able to transmit geospatial data

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Active Scouting Requests (cont)

AI Training



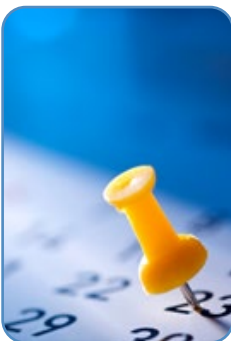
- **Component:** TCD
- **Solution Technologies:** TCD is interested in tailored, reoccurring training on artificial intelligence and machine learning (AI/ML) to provide in three tiers to DHS personnel with integration into annual training along with AI/ML auditing for technology trends; ideal training format is an interactive curriculum such as videos or augmented reality (AR), and delivery format can be either in-person or online, can include self-education or homework components, and should be traceable against pending training requirements

Video Analytics for Anomaly Detection



- **Component:** TCD
- **Solution Technologies:** TCD is seeking to support critical infrastructure owners and operators by providing video analytics capabilities to supplement and enhance security operations by enabling identification, alerting, and tracking for potential hazards and activity of concern; solutions should support persistent surveillance and temporary deployment, should prioritize edge computing capabilities, and should be able to integrate data in to a preexisting video system to analyze, capture data, and sequence camera feeds

Combatting VPN Geo-location Spoofing



- **Component:** CBP
- **Solution Technologies:** CBP is seeking to identify and combat technologies that spoof VPN and geo-location capabilities to ensure that CBP appointments at ports of entry are only being booked within designated geofenced areas to reduce backlog and ensure appointment access for qualified candidates; solutions should focus on intervention and prevention of spoofing activity, should be sourced from US-based companies, and should preferably be COTS solutions ready for deployment, although solutions currently in development are also of interest

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Active Scouting Requests (cont)

Automated Language Translation



- **Component:** FEMA
- **Solution Technologies:** FEMA is seeking automated language translation capabilities to include approximately 15 languages able to support timely Alert, Warn, & Notification (AWN) audio and text messages during emergencies; solutions should be compliant and able to integrate with software currently in use, should help communicate AWN messages to persons with access and functional needs (AFN), and should preferably fully automated, although hybrid solutions with a "human in the loop" are also of interest to ensure translation accuracy

Develop a National System to Allow All FPS Law Enforcement Officers to Process and Transmit Fingerprints



- **Component:** FPS
- **Solution Technologies:** ORA is seeking a solution to allow FPS/LEOs to collect and transmit fingerprints from detainees in the field where access to formalized booking locations and equipment is not available; solutions must support tenprint fingerprint capture along with PII and must support submission to the FBI's Criminal Justice Information System and should ideally be deployable as an application on existing devices, but field kits or tablet-sized solutions are also of interest

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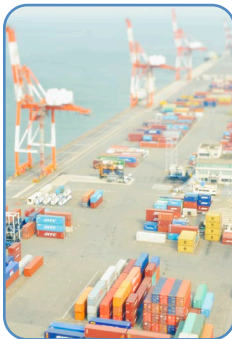
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Recently Completed Scouting Requests



Directed Energy Vessel Stopping Device

- **Component:** MCS
- **Solution Technologies:** Maritime Safety and Security (MSS) is seeking current and emerging non-lethal technologies able to stop small, fast-moving, non-compliant vessels (NCVs) using sound and directed energy; solutions should be small boat capable and personnel portable for a primary intended application of surface use of force, with potential for aerial use, and include types of non-lethal energy such as focused acoustics, lasers, and high-power RF technologies



Mobile Tactical Coastal Detection

- **Component:** MCS
- **Solution Technologies:** MSS is seeking low-cost, rapidly deployable technologies to provide on-scene monitoring of threat vectors and vessel traffic in areas not served by large-scale sensor networks to optimize asset allocation and patrol schedules and to coordinate multiagency responses; solutions should be portable and operate mounted to a vehicle or be regularly redeployed, should offer a range of detection as close to a fixed system as possible, should be covert or otherwise camouflaged, and should be capable of monitoring shoreline areas from land-based coastal operations



Oil Spill Response Equipment

- **Component:** MCS
- **Solution Technologies:** MSS is seeking current and emerging oil spill response equipment to support recovery of hazardous materials, as current systems are in urgent need of recapitalization with advanced technological effectiveness and efficiency; solutions should include containment, removal, and mitigation and present analysis of existing efforts along with a broader look at ongoing R&D efforts to improve safety and response times, reduce human exposure to oil spills, and work more efficiently in remote areas

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Recently Completed Scouting Requests (cont)

Fixed-Position Radiation Instruments



- **Component:** NUSTL
- **Solution Technologies:** Fixed-position radiation instruments to be installed in and around NYC to assist in identifying and tracking radioactive plumes; may require multiple detectors to provide a measurement range (≤ 0.01 mR/hr to ≥ 1 R/hr), should be ruggedized for outdoor, all-weather environments, ready for immediate deployment, able to capture radiation and power data capture ranges, compatible with the hardwired ethernet system feeding into NYPD's command-and-control center