

Urban Search and Rescue (USAR) Technology Showcase Vendor List



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ASCENT SOLAR is a U.S. manufacturer of copper indium gallium selenide solar technology on flexible, plastic substrate using a unique manufacturing process designed to achieve the highest level of efficiency, durability and weight savings. Ascent develops solar solutions to address mission-critical needs in the defense, emergency, space and aerospace markets, providing these sectors with maximum operational resilience and efficiency. We will be showcasing our portable power solutions at Shaken Fury, including our XD-12 and FL-14 portable USB Solar chargers, our XD-48 Large-format Battery/Radio charger, a UAS Solar wing, and our Micro-modules for use with Sensor applications. Rugged and durable "Shatter-proof" module continues to generate power even when damaged (MIL-STD 810G tested); provides power from dawn-to-dusk and also in lowlight conditions; best power-to-weight ratio—ideal for military and emergency where Size, Weight and Power (SWaP) is of utmost concern.

AUSPION is a developer of wireless power transfer systems, capable of using radio waves to send power through the air over distance, enabling smartphones, computers, security cameras, robots and drones to function without electric wires or charging cables. The company will demonstrate the transfer of meaningful electric power over a distance of 3-10 feet from a generator unit to a smartphone-sized recovery unit, including the ability to concentrate power at the recovery unit as well as safely shut off the transfer of power in response to obstructions or movement of the apparatus.

FIELD FORENSICS, INC. manufactures field portable devices to detect explosives, narcotics, TICs/TIMs and other threat materials including: HandyRam IITM, a handheld Raman spectrometer for detection of all categories of chemical threats; DABITTM, DABIT 3XTM and Fen-HerTM for narcotics and differentiation of illicit opioids; ELITETM, IDEXTM and ULTRATM for detection and identification of explosives; BioScreenerTM for biological agent screening; and tests for CWA detection. FFI products are used worldwide by elite police, military and security organizations, and used by the US Military, CBP, FBI, and state governments around the U.S.

IMAGE INSIGHT, INC.'s patented GammaPix™ technology provides a low-cost, pervasive detector network to monitor for ionizing radiation. GammaPix Radioactivity Detection Software takes advantage of the inherent sensitivity of digital cameras to gamma radiation. This software allows millions of unmodified and internet-connected fixed and mobile cameras to detect gamma rays. The GammaPix Command Center fuses the detection devices into a coherent monitoring network. Communication is supported over WiFi and cell networks. Radioactivity and location data collected from mobile and fixed cameras are saved at Image Insight's secure central server and are viewable on any networked device. It also provides access to the GammaPix Training Simulator for live Virtual Constructed training scenarios.

PLUM LABORATORIES, LLC is the inventor, designer and manufacturer of a line of portable, secure and robust communications units known as Plum Cases or Plum PAKS. These units range in capabilities from having 4 Wi-Fi networks for 128 concurrent connections, up to, eight Wi-Fi networks accommodating up to 248 users. In addition to having automatically chosen multiple cell carrier connections, units can also come equipped with both static and dynamic satellite fail-over options. Plum Cases are currently used by DHS, FEMA, the U.S. Air Force, Navy and Coast Guard, as well as Veterans Affairs, NASA, the FBI and many others.

ROBOTIC RESEARCH's WarLoc™ sensor is a GPS/GPS-denied Localization system for first responder teams with an IMU providing 6-Degree of Freedom positioning in X-Y-Z planes in GPS-denied environments. The WarLoc™ device is typically worn on the boot of a first responder/warfighter. The tracks of all team members are currently displayed on an Android Device, but this can be changed to a Toughbook or an NVIDIA Shield (Operator Control Unit – OCU). The WarLoc™ design is extremely flexible, being able to be quickly configured to be boot mounted, embedded within the heel of the boot, or worn on a canine harness.



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SMART CITY INTERNET OF THINGS INNOVATION (SCITI LABS) is a DHS Science and Technology Directorate (S&T) initiative that leverages cutting-edge Smart City and Internet of Things (IoT) technologies to enhance public safety in communities across the country. SCITI brings together key government and private sector partners to identify new and existing technologies that both meet first responders' operational needs and enhance commercial buildings, ensuring the nation's critical infrastructure and those who protect it are secure and resilient. S&T established the SCITI Labs initiative in collaboration with the Center for Innovative Technology, TechNexus and Smart City Works to focus on applying new and existing technologies to public safety needs, with an emphasis on extensive validation and go-to-market support through industry partners. In its first year, the SCITI Labs partnership funded development and initial testing of several prototype technologies in three overarching program areas. Moving forward, the ultimate goal is to make Smart Cities and IoT capabilities commercially available for industry, public safety and national security partners by 2020.

AIRGILITY: Working at the intersection of aerodynamics, advanced manufacturing, electric propulsion, software and artificial intelligence, Airgility designs vertical takeoff and landing (VTOL) autonomous unmanned aerial systems (UAS) for the military, public and commercial service sectors. Whether delivering medical supplies, conducting search and rescue, or protecting borders, Airgility creates modular designs that are rapidly prototyped, built and combined with unique lifting body and tilt wing designs. Currently, Airgility is developing a product focused on search and rescue missions for indoor GPS-denied environments. This same platform can be used for a variety of other missions and their modular plug and play system allows a variety of different payloads depending on the mission.

ONE ENGINEERING's HALO platform allows for AI/neural network-based 3D imaging, navigation, and machine reasoning in a GPS denied and confined environment. The system consists of a lightweight, flexible body that is fully shielded for indoor use. It is ruggedized and waterproof.

THIRD INSIGHT's plug-and-play software platform gives commercial, off-the-shelf (COTS) drones the ability to navigate autonomously in GPS-denied environments, while providing real-time 3D imaging and intelligent support to field agents and remote operating centers. Current Search and Rescue drones require an experienced pilot for maneuvering and inspection, which limits their use at scale. Third Insight's ECHO platform enables a single operator to manage multiple autonomous drones for a variety of missions and use cases. ECHO drones can be tasked with 3D mapping, identifying signs of life, or tracking targets of interest through buildings and cluttered, outdoor spaces; One Engineering is a small, veteran owned, innovative company that specializes in the development of unmanned systems and advanced digital flight control laws supporting aviation industry partners and STEM education outreach programs. Their in-house manufacturing capabilities, control systems, and flight test expertise make us uniquely suited to develop innovative platforms that insure mission success.

SPECOPS GROUP INCORPORATED is a global corporation that supplies and develops equipment for first responder and military applications. SpecOps Group, a veteran-operated entity, is headquartered in Sarasota, Florida. The SpecOps team will feature its remotely operated X3 Life Detection system, formerly called FINDER, which detects humans by their heart rate and respiration through walls, voids, thresholds and in debris fields. SpecOps will also deploying its miniature, handheld, short range life detection system known as the Cyclops 20/20. These two devices were designed and manufactured in Sarasota, Florida by engineers and first responders.

TRX SYSTEMS' NEON application delivers mission-critical 3D mapping, location, and tracking of sensors and personnel operating in GPS-denied environments to improve situational awareness, command effectiveness, and safety for Defense, Public Safety, and Industrial users. TRX, based in Maryland, uses sensor fusion and dynamic mapping of structural and RF features to provide seamless personnel location and tracking indoors and out. Based on more than 10 years of development, testing, and validation, with significant user community support, NEON has now been deployed to hundreds of organizations.

