# DHS Science and Technology Directorate
## Smart City Internet of Things Innovation (SCITI)

### Smart City Innovation: Where Commercialization Meets Public Safety

In urban environments, first responders (e.g., law enforcement, fire and emergency medical services) and the associated commercial sector have a common objective: public safety. Smart City and the Internet of Things (IoT) technologies hold the promise of bringing those partners together. The U.S. Department of Homeland Security (DHS) Science and Technology Directorate (S&T) established the Smart City IoT Innovation (SCITI - pronounced 'CITY') solutions lab in collaboration with the Center for Innovative Technology, TechNexus and Smart City Works. The initiative focuses on the integration of new and existing technologies applied to public safety needs with an emphasis on extensive validation and go-to-market support through industry partners. In order to advance and integrate technologies and implement a streamlined process for getting these capabilities commercialized and available to users, selected technologies need to be useable, affordable and scalable to suit the mission needs of responders and industry. The goal is to have Smart City and IoT capabilities commercially available for industry and the first response community by 2020.

### Technology Integration, Demonstration and Validation: Market Viability

After a highly competitive selection process, 13 companies were selected to develop initial prototypes in the three capability areas listed below. Critical to the success of this effort are relationships with industry partners and infrastructure owners who will ultimately own the environment in which these technologies operate and be critical to technology adoption. Therefore, SCITI is holding industry and end-user technology showcases across the U.S. to introduce the technology providers to private sector partners and first responders in order to validate the capabilities and work with them to guide development, adoption and commercialization strategies.

SCITI aims to ensure these technology providers have market access, development capital and align technologies with commercial opportunities in broader infrastructure-related industries. To achieve this, the SCITI partners will work with first responders and commercial industry partners to identify the best business approaches for transitioning these technologies into daily use.

### Smart City and Internet of Things: Capability Areas

SCITI is exploring new capabilities to support first responders and the associated commercial sector in three areas.

**Autonomous navigation for indoor Unmanned Aerial Systems (UAS)** in support of search and rescue missions in difficult environments, such as tunnels or collapsed or damaged structures. Separate sensor prototypes are also sought for a Wi-Fi finder sensor for smartphone signals and a thermal sensor for detecting the heat signatures of people.

**Intelligent building sensor suite** (digital imagery, video, thermal or Wi-Fi finder) to be mounted on fixed indoor building features, such as smoke detectors or exit signs. Sensor detection will provide building operators or first responders with a mechanism to rapidly prioritize areas for search and rescue when events impact interiors and/or occupants.

**Body-worn interoperable platform** that integrates personal area network communications with third-party sensor packages. This Smart Hub will also communicate with non-body-worn sensors, such as intelligent building and Smart City IoT technologies. Responders would use it for situational awareness and to support enhanced mission-critical operations.







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To learn more about the SCITI, contact first.responder@hq.dhs.gov.