DHS Science and Technology Directorate
2018 NGFR – Harris County Operational Experimentation

Integrating First Response Technology

When responding to an emergency, first responders depend upon their technology to protect our communities and save lives. Often, these technologies are either outdated or lack the ability to operate seamlessly, occasionally hindering responders from efficiently completing their mission.

To address this gap, one of the principal initiatives of the Department of Homeland Security (DHS) Science and Technology Directorate (S&T) is to create a standards-based network that can rapidly adapt to changing environments and promote open standards that require technologies to integrate with ease. The DHS S&T Next Generation First Responder (NGFR) Apex Program has collaborated with performer partners and first responders to identify technology capability gaps through a series of integration demonstrations that address these gaps in responder technology.

Grant County TechEx

In June 2017, DHS S&T partnered with first responders from Grant County, Washington to assess the capabilities of several NGFR technologies to support their public safety operations. This effort, known as the Grant County – DHS S&T NGFR Technology Experiment (TechEx), deployed a system of responder technologies in notional scenarios and facilitated integration of physiological and location sensors, situational awareness systems, drones, datacasting and deployable communications into a cohesive public safety solution in a rural setting.

The TechEx provided sufficient realistic opportunities to assess various technologies and integration with existing systems. The evaluation team was able to verify that the architecture implemented and configured in Grant County was easy to install, easy to use and provided capabilities that were valued by first responders. As a result, NGFR produced the NGFR Case Study series. This series serves to aid public safety agencies to assess and implement first responder technologies that will assist responders in deployable communications, location tracking, video sharing, physiological monitoring and situational awareness.

A final analysis of the TechEx was published in a consolidated After Action Report that highlighted the scenarios, results of the exercise and lessons learned.

An image of a dashboard to illustrate geo-location services used during the Grant County Tech Ex.

Harris County OpEx

This year, DHS S&T will host the 2018 NGFR – Harris County Operational Experimentation (OpEx). The NGFR – Harris County OpEx will take place from December 3-7, 2018, at the Port of Houston in Houston, Texas, and will integrate first responder technologies to enhance the mission-response capabilities of Houston-area responders and the U.S. Coast Guard.

During the OpEx, DHS S&T will evaluate how DHS-developed technologies, commercial technologies and legacy public safety systems integrate using open standards, and how those integrated capabilities increase responder safety and efficiency. DHS S&T will provide participating responders with solutions that use guidelines found in the NGFR Integration Handbook to integrate into existing Harris County and City of Houston applications and processes.

To make the 2018 NGFR – Harris County OpEx successful, DHS S&T invites industry, academia, Federally Funded Research and Development Centers and other government organizations to address innovative technology solutions for integration, testing and evaluation. OpEx participants will have exposure to Harris County (the third most populous county in the U.S.) and City of Houston (the fourth most populous city in the U.S.) leadership, the U.S. Coast Guard, and other technology development organizations. These ongoing collaborations will help build relationships between partners that may prove advantageous for the future of emergency response.

OpEx Results

Results from the 2018 OpEx will be used to provide public safety agencies with guidance in acquiring and fielding similar interfaces and solutions.

Homeland Security
Science and Technology

To learn more about the NGFR – Harris County OpEx, contact the Next Generation First Responder Apex Program at NGFR@hq.dhs.gov.