THE SIREN

FRG Talks Emergency Management Standards

The Integrated Justice Information Systems (IJIS) Institute held its National Symposium on information sharing & safeguarding (IS&S) for justice, public safety and homeland security on January 19-21 in Arlington, Virginia. This annual event offers a unique opportunity to hear from state and local government officials and federal government leaders on IS&S and national priority initiatives, and it brings together industry, non-profit, academia and government leaders to network and collaborate in a non-sales environment.

This year one of S&T FRG's program managers, Denis Gusty, shared the podium with industry and non-profit representatives to talk about S&T's efforts to drive the development of emergency data messaging standards. The panel began with Gusty's presentation of the SafeCom Interoperability Continuum, which guides the Emergency Data Exchange Language (EDXL) standards development work.

As uninteresting as it may sound, standards are critical to the emergency response personnel. In the case of EDXL's Hospital Availability Exchange (HAVE) standard, using a standardized messaging format makes it easier for first responders to access data on hospital status, such as bed capacity or services they provide. The HAVE standard was tested in the field during the 2010 Haiti earthquake recovery effort. Three hundred thousand injured Haitians needed urgent care, and with the total destruction of Haiti's infrastructure, relief workers needed a way to communicate with emergency responders, volunteers and medical staff about locating or finding functioning health facilities. Thanks to the HAVE standard, responders and aid workers were able to quickly build a solution to communicate with foreign relief workers regarding hospital locations, the availability of beds and the types of care it could provide.

Gusty explained that IJIS provides a useful platform for government representatives to share their story with the industry. "We depend on vendors to use the standards we develop. We need to talk with them so they can build our standards in their products. Using standards will make it so much easier for first responders when they use these products," Gusty said.

Founded in 2001, IJIS works closely with the industry demonstrating how standards can address some of the challenges first responders face on a daily basis.

Video Spotlight

Homeland Security
Science and Technology

FRG Year in Review

Our Year in Review campaign is still in full swing! FRG had a banner year last year, and we want the masses to hear all about it—straight from the mouths of our division leads. Four articles have been posted on FirstResponder.gov so far: a 2015 summary from [FRG Director Dan Cotter](#), a recap of transitioned technologies now available to first responders from [R-Tech's Division Director Greg Price](#), a spotlight on a year of partnership cultivation from [OIC's Division Director John Merrill](#) and a SAVER Program recap from [SAVER's Program Manager Brian Warner](#). Four additional articles are coming soon, with related video inter- views, photo galleries, social media posts and more—and we'll offer sneak peeks into what's on the horizon for 2016. These articles will highlight the Next Generation First Responder program, National Urban Security Technology Laboratory, Information Applications and Standards Division and the new International Forum to Advance First Responder Innovation. We look forward to your feedback!

New Effort Gives First Responders a Unified, Global Voice

To respond more effectively, safely and efficiently to both small and large scale emergen-cies, the world's first responders need technologically advanced tools and equipment. In an effort to provide first responders in the U.S. and abroad the tools they need, FRG has joined its international partners in the creation of the [International Forum to Advance First Responder Innovation (Forum)](#).

[The Forum](#) will provide a first-of-its-kind united global voice for the world's first responders, and will work closely with industry to influence the technologies developed for first re-sponders worldwide. The Forum is composed of representatives from the United States, Australia, Canada, European Commission, Finland, Germany, Israel, Japan, Mexico, Neth-erlands, New Zealand, Spain, Sweden and the United Kingdom. Participating countries will have an opportunity to pool resources for addressing and resolving responder technologi-cal challenges, allowing for more research and development to be accomplished in a shorter period of time.

As part of the ongoing outreach efforts for this project, [@dhsscitech](#) hosted a Twitter chat to discuss the importance of international partnerships for first responders, and the impact on industry and the global technology market on February 23. Stay tuned for more infor-mation and outreach regarding this effort.

Internet of Things Comes to S&T

The constant flow of information among people, machines and devices has created the impressive platform of communications or Internet of Things (IoT). Federal agencies agree that the endless capabilities of IoT can make the world a safer place, while reducing cost and improving efficiency.

FRG hopped on the IoT train, aiming to provide better response times by creating an efficient flow of data and information among first responders during emergency situations. FRG's IoT pilot phase 1 focused on information sharing and interoperability. Key questions that experts from around the world tried to find answers for included how each component interacts with each other and how the right data is sent to the right person during an incident.

On January 13 during a demonstration at S&T, led by FRG's Information Application and Standards Division Director Jeff Booth and FRG partners from the Integrated Justice Information Systems (IJIS) Institute, the Open Geospatial Consortium (OGC) and a team of international technology performers demonstrated various IoT sensor technologies. The team demonstrated how they can be integrated to provide the first responder community with real-time situational awareness during critical incidents. The team shared their findings and emphasized the importance of industry using open standards so their sensors can provide immediately identifiable, accessible, interoperable and useful information across all first responder teams.

The demonstration showed how the project is designed to integrate and exchange data from a variety of proprietary sensor types, including Smart shirt and SmartWatch (physiological monitoring), vehicle geospatial position (location and orientation) systems, mobile video cameras, laser rangefinders, plume models and others. The IoT sensor integration team demonstrated the use of these technologies in a real-world-type incident scenario where multiple first responder domains—fire, law enforcement and emergency medical—discovered and applied diverse commercially available sensors and platforms to provide situational awareness. With IoT pilot phase 2 underway, the team is looking forward to focusing on integrating the sensor technologies with a communication 'hub' as part of the Next Generation First Responder (NGFR) Apex program.

NGFR Prepares for Integration Event

The NGFR Apex program will conduct its first integration event – known as the Spiral 1 Demo – this spring, highlighting the ways that various technologies can come together to improve communications and situational awareness among first responders in the field. The NGFR team is preparing to run a live exercise that will integrate the IoT technologies, including physiological and environmental sensors, geospatial mapping, video streaming and voice and data communications.

"With the increased focus on Internet of Things, we are redefining the rules of engagement for how industry can plug in and advance mission response for first responders in new ways," said OIC Division Director John Merrill. "We are sharing the NGFR architecture and they can choose where to specialize."
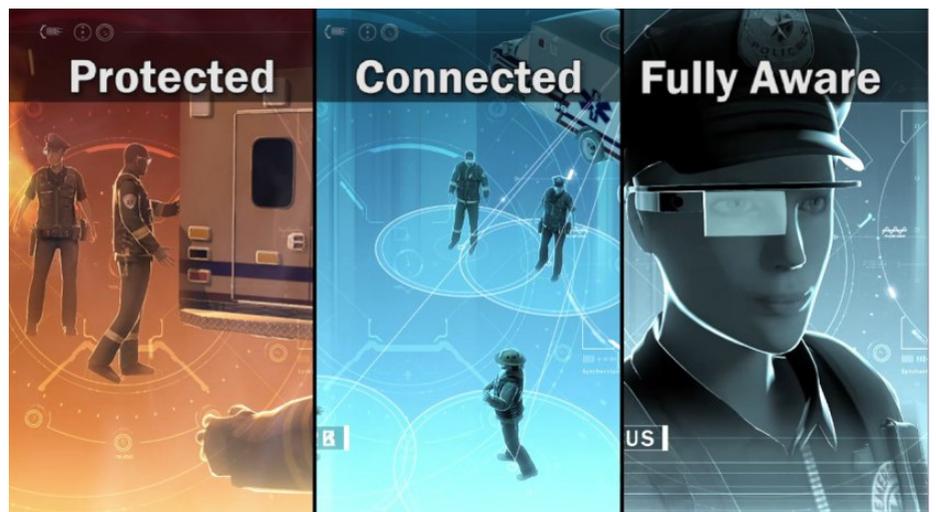
Closing the Distance for Firefighters

FRG recently put its Firefighter Accountability and Proximity (FFAP) System to the test in Pennsylvania with the help of the Herman Volunteer Fire Company (VFC). The FFAP beacon is a ranging device that can measure the distance and elevation of the wearer to find a firefighter quickly when he or she is in trouble. The FRG's R-Tech division alongside the National Urban Security Technology Laboratory (NUSTL) conducted an Operational Field Assessment (OFA) of the FFAP technology developed by project performer TRX Systems.

The Herman VFC tested the device in an indoor and outdoor setting by seeing how well teams would utilize the new system. NUSTL will prepare the OFA report and FRG will post the report on firstresponder.gov. TRX plans to implement some of the feedback received during the OFA into the final design, and then build and deliver 100 production model units to FRG. FRG aims to distribute these 100 units to the responder community to use in their operational environment for further feedback.

Working to Counter Violent Extremism

In December, one of FRG's division directors, Dr. Richard Legault and Program Manager Dr. Kathleen Deloughery traveled to the Netherlands to meet with international partners from Australia, Canada, New Zealand and the United Kingdom (UK). The purpose of this trip was to formalize opportunities for cooperative programs regarding evaluations of Countering Violent Extremism (CVE) policies and research. Specifically, Legault and Deloughery participated in the Kanishka Project Symposium titled "Building on International Research Partnerships to Understand and Address Violent Extremism and Terrorism." In addition, representatives from the University of Maryland's National Consortium for the Study of Terrorism and Responses to Terrorism (START) Center of Excellence gave presentations on "Profiles of Individuals Radicalized in the United States" and "Family and Community Capacity."

Along with representatives from the DHS Office of Community Partnerships (OCP), Legault and Deloughery conducted follow-up meetings with Australia, New Zealand, Canada and the UK. They solidified a quadrilateral program of work to study the impact of narratives and counter-narratives on individual and group radicalization, which led to a consensus among all five countries on specific verbal project agreements.

Outcomes of discussions led to verbal commitments on potential international cooperative programs in early 2016. This initiative has grown from the outcomes of the Five Research & Development (5RD) CVE Workshop that S&T hosted in July 2015. This CVE engagement represents a new model for international partnership within S&T; it is the multilateral program plan for international cooperative activity. This model for multilateral partnership will build on the strength of engaging our foreign partners, while reducing the amount of resources needed for implementation.

For questions, comments or suggestions, please email: first.responder@hq.dhs.gov.