

# THE SIREN



A First Responders Group (FRG) Newsletter

September/October 2015

## Next Generation First Responder (NGFR) at the White House



On September 14, FRG Acting Director Dan Cotter participated in [the White House Smart Cities](#) forum where he discussed "[Next Generation First Responder \(NGFR\)](#): Making Smart Cities Safer." Cotter spoke at the request of the White House Office of Science and Technology Policy. In a brief two-minute presentation, Cotter explained how the NGFR Apex program is working to make Smart Cities safer by designing new capabilities, adapting existing technology, and working to stimulate private sector innovation to ensure responders and the cities they serve are better protected, connected, and fully aware. NGFR will harness the power of Smart Cities – data analytics, Internet of Things sensors, public-private partnerships, predictive modeling, and more – to give responders the information they need to save lives and protect property.

The event focused on the opportunity for communities to harness the growing data revolution, low-cost sensors, and research partnerships to unlock new solutions to their pressing problems, from energy and sustainability to traffic congestion and crime. The event kicked off Smart Cities week held in Washington, D.C. on September 14-18, which brought together leading thinkers and practitioners from government, the research community, cities, civil society, and the tech sector to discuss multi-sector collaborations.

The full Smart Cities forum video is available to view on YouTube: <https://www.youtube.com/watch?v=78BBY2uv1X0>.

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*NGFR is making Smart Cities safer and smarter!*



**Homeland Security**

Science and Technology

## FRG in the News

[Ambulance design standard aims to improve safety](#)

[First Responders Group develops X-Ray Scanning Rover](#)

[DHS developing 3-D, real-time X-ray scanning rover to help first responders detect IEDs](#)

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[How The Department of Homeland Security Is Tapping Silicon Valley For Futuristic First-Responder Gear](#)

## Related Headlines

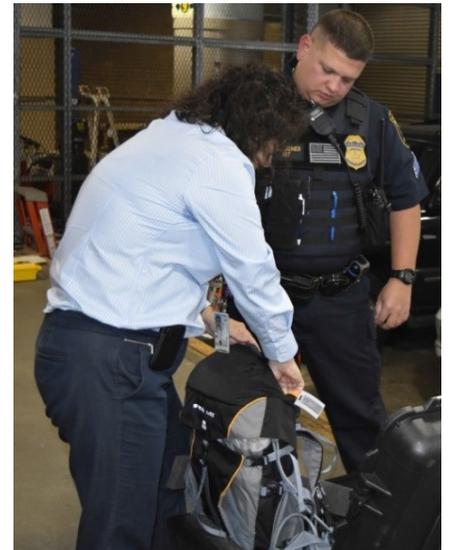
[How big data helps first responders](#)

[New Jersey Utilizes Technology to Improve Emergency Response](#)

## National Urban Security Technology Laboratory's (NUSTL) Assists with the New York City Papal Visit

[National Urban Security Technology Laboratory's \(NUSTL\) Performance Testing and Evaluation \(PTEN\)](#) program supported New York City's radiological and nuclear detection security efforts leading up to the arrival of Pope Francis. At the Amtrak Police Department's request, NUSTL tested and transferred radiation detection equipment to Amtrak law enforcement officers for use during the Papal visit from September 24 - 26.

The equipment transfer to the Amtrak Police Department included two backpack detectors and 15 personal radiation detectors (PRDs), which first responders wore to screen for the presence of radiation material in pedestrian and vehicle traffic. The Department of Energy's Radiological Assistance Program at Argonne National Laboratory provided the backpack detectors.



The Secretary of Homeland Security Jeh Johnson designated the Pope's visit as a National Special Security Event, which called for increased cooperation among local, state, and federal partners to establish a safe and secure environment.

The Amtrak Police Department is one of many first responder organizations to use PRDs and other radiation detection equipment tested by NUSTL. Since 2009, PTEN has tested and evaluated nearly 13,000 units, ensuring operational performance, and mission suitability for first responder use, which is important during high profile events.

## FRG Research Partners Receive Department of Commerce Silver Medal Honor Award

The U.S. Department of Commerce's (DOC) Public Safety Communications Research Program (PSCR), a communications research effort funded by FRG, recently received a DOC Silver Medal Honor Award.

The award recognized PSCR's efforts in: developing and using an innovative approach to measure building-penetration characteristics of radio signals; inventing and implementing a compact, radio signal measurement system; and developing an efficient and effective methodology for determining optimal configurations and designs for in-building communication systems for use by first responders.

Building walls reduce radio signal power in complex ways, creating difficult and sometimes life-threatening communication challenges for first responders. The research team investigated different building types and various ways to enhance coverage by long-term evolution (LTE) systems. Because the system could be mounted in a backpack, measurements could be conducted in places and circumstances that closely mimicked those of first responders moving through various building types during incident responses. Measurement results led to concrete recommendations for improving in-building performance of LTE communications equipment already in use. The results also identified the most critical needs for additional research.

The summary results of the research were shared with public safety communications professionals and a full report of the findings was published in a [National Telecommunications & Information Administration Technical Report](#).

Publication and dissemination of these findings will greatly benefit public safety organizations and the First Responder Network Authority, whose mission is to ensure the establishment of a first responder broadband network.

## FRG National Preparedness Month Outreach Campaign Reaches Thousands

FRG's National Preparedness Month outreach campaign reached key S&T stakeholders with potentially lifesaving information. Ten years after Hurricane Katrina, it is still important to raise awareness on how to take action against future disasters. FRG developed "preparedness tips" by aggregating information from other DHS agencies and local first responders, and then disseminated the information through [FirstResponder.gov](http://FirstResponder.gov), [Twitter](https://twitter.com), [Facebook](https://facebook.com), [YouTube](https://youtube.com), and [First Responder Communities of Practice](https://www.firstrespondercommunitiesofpractice.com). Our internal pet preparedness efforts featured 25 different S&T dogs, cats, rabbits, and turtles on social media!

Under the official National Preparedness Month slogan, "Don't wait. Communicate," we published five blog posts and one article to coincide with the weekly themes. Content highlighted a U.S. Department of Health and Human Services public health resource, a feature on coastal resiliency work conducted by our Centers of Excellence, FRG's own Wildland Firefighter Advanced Personal Protective gear, and social media guidance for emergencies from S&T's Virtual Social Media Working Group.

Our video tips on [YouTube](https://youtube.com), [FirstResponder.gov](http://FirstResponder.gov), [Facebook](https://facebook.com), and [Twitter](https://twitter.com) were the highlights of our integrated outreach campaign. We posted two Wireless Emergency Alerts (WEA) 30-second clips: [90 Characters Will Save Your Life](#) and [Emergency Messages, Right to Your Phone](#), together receiving over 1,000 views. FRG's Communications, Outreach, and Responder Engagement team also recorded video tips from responders from Fairfax County Fire and Rescue—everything from changing batteries in smoke/carbon dioxide detectors and seasonal preparedness advice to pet protection (with a cameo from Xander the search and rescue dog). These videos will also be used for future events.

Finally, FRG worked with the Federal Emergency Management Agency's (FEMA) PrepareAthon team to support two of their Twitter chats on September 22 and 23.

Our Twitter posts were retweeted 124 times and had an estimated total reach of 859,613 accounts. Our Facebook posts had 258 likes, were shared 88 times, and were seen by 9,901 accounts. Be sure to check out these posts and videos on our social media sites and [FirstResponder.gov](http://FirstResponder.gov)!



## Wireless Emergency Alerts (WEA): Three New Reports Shine Light on Disaster Preparedness

[The Wireless Emergency Alerts \(WEA\) Program](#) has recently published three new reports. The MITRE report concluded the role of social media should not be neglected during emergency situations. WEA messages play a growing role and are being passed on between friends during emergency situations on various social media platforms. The RAND Corporation and the Study of Terrorism and Responses to Terrorism (START) reports have offered insight into how varying WEA alerts might have an impact on its target audience.

The MITRE Corporation analyzed how social media platforms are used in response to or to further share WEA messages, and how public sentiment is expressed across social media platforms. MITRE's report offered two recommendations on how negative public sentiment could be addressed: first, Alert Originators could improve user understanding through education programs; and second, initiating engagement through social media may clarify information contained in the incoming WEA message.

A RAND Corporation report released in July 2015 explored how geo-targeting and message-diffusion behavior affect the overall success of alerting and what options the WEA system might offer for better effectiveness. The report recommended WEA can indeed be used to accurately send precise geo-targeted alerts to the public in large imminent threat areas (e.g., earthquakes), as well as very small areas (e.g., tsunami warnings).

The University of Maryland's National Consortium for START released a report in January 2015 investigated the effect message format, word order, and word choice have on a recipient's response to the message.

The START team's follow-on report released in August 2015 determined expanding to 280 character messages (compared with the current 90 character limit) did not contain sufficient crucial information to overcome the recipient's pre-alert and warning event perceptions. If Alert Originators were to expand their messages, it would be vital to contain information regarding the potential hazard (what happened), direction (what to do about it), and a clear timeline (when to do it). The START findings also suggested adding options such as apps and hyperlinks could be helpful, but including maps may not be as effective.

To learn more about the Wireless Emergency Alerts and the reports, contact [first.responder@hq.dhs.gov](mailto:first.responder@hq.dhs.gov).

## Department of Homeland Security (DHS) Science and Technology Directorate (S&T) Showcases its First Accelerator Program, EMERGE

On September 23, S&T hosted a [demonstration day](#) in San Francisco to showcase a wide range of innovative technologies discovered through its [first accelerator program—EMERGE](#). EMERGE targets entrepreneurs with innovative wearable technology ideas that can be adapted for first responder use.



"EMERGE is unique because it brings together – for the first time – innovators, public safety, and the investment community to find ingenious ways of solving the complex challenges that, as a nation, we face every day to keep our homeland safe and secure," said DHS Under Secretary for Science and Technology Dr. Reginald Brothers. "The demonstration of technology prototypes at the EMERGE Demo Day will help put creative solutions into the hands of first responders."

Throughout the day, EMERGE participants demonstrated their technology prototypes to members of the investment and industry community. Featured technologies included mouth guards that use bone conduction technology for communication, devices originally designed for sensory impaired users that can be used by first responders in challenging environments, a triage language translator for patients to communicate with first responders, and protective gloves with embedded equipment controls to remotely operate devices.

A panel discussion highlighted the importance of linking first responders' needs with innovators to develop novel solutions. EMERGE participants and investors had the opportunity to meet the San Francisco Police Chief, San Francisco Fire Department Chief, California Governor's Office of Emergency Services representatives, and accelerator program leaders. EMERGE is part of S&T's goal to tap into the innovation ecosystem. S&T offers EMERGE participants the opportunity to interact with more first responders to get their feedback, including trying the prototypes, helping with standards, and testing and evaluation.



The technologies demonstrated could mean added "eyes" and "ears" on the ground, increased data about responders and the environments in which they work, and cutting edge technology embedded in gear. Now that these technologies have been put in front of investors, S&T is hopeful that new technological solutions will soon be in the hands of first responders. Together we can solve age-old problems that have plagued the responder community.

A special thanks to the S&T team that led this effort: D'Arcy Morgan (lead for the EMERGE Program), Kathleen Kenyon, Craig Chambers, Mark Lister, and Mina Knight; and our EMERGE partners: Center for Innovation Technology, TechNexus, and Tech Wildcatters.

To learn more about the EMERGE, visit <http://www.dhs.gov/science-and-technology/accelerator> or [www.cit.org.emerge/](http://www.cit.org.emerge/).

### Helpful Links



For questions, comments or suggestions, please email: [first.responder@hq.dhs.gov](mailto:first.responder@hq.dhs.gov).