Allowing First Responders to Practice Real-life Skills in Safe Environments

Realistic training scenarios arm first responders with the skills and confidence to respond effectively and efficiently during real-life incidents. Live field exercises provide hands-on training, but they are often costly, time consuming and infrequently offered. Virtual training modules provide an ideal alternative, offering responders the opportunity to strategize and practice responding with multiple disciplines and jurisdictions. The costs to develop a virtual training tool or modify an existing modeling or simulation game are prohibitive, however, keeping this type of training out of the reach of most of the first responder community.

Responder Input Critical to Scenario Creation

To address this need, the Department of Homeland Security Science and Technology Directorate (S&T) has developed a virtual environment that every jurisdiction within the country can access for training. S&T leveraged investments and technological advances made by the military, specifically the U.S. Army's prototype virtual environment called Enhanced Dynamic Geo-Social Environment (EDGE) Virtual Training.

S&T is using EDGE to develop a series of realistic environments based on direct first responder feedback. When asked which critical incidents would be ideal for training, responders overwhelmingly requested an active shooter situation. The first environment, now complete and available to response agencies, centers around a high-rise hotel. The second, which is nearing completion, is a school environment. Each environment allows for multiple scenarios to be conducted with varying levels of difficulty and will require users to successfully employ tactics, techniques and procedures to advance the response.

Virtual Environments are Accurate, Scalable

S&T and the Army created 3-D environments for each scenario, including accurate avatars, equipment and simulations of individuals and crowds. The environments are:

- *Scalable:* Users can train individually for single agency incidents or with responders from other agencies, disciplines and jurisdictions to prepare for a coordinated incident response.

Screen shot of the active shooter virtual training scenario

- *Efficient:* Training simulations allow a large number of responders to train repeatedly, both as individuals and in teams, and simultaneously.

Any responder with access to a computer and the internet can use the platform for free. After a successful pilot of the hotel environment with responders in Sacramento, California, S&T improved and upgraded the back end to allow for a more user friendly software deployment.

Technology Available to All Response Agencies via Transition Partners

S&T partnered with Cole Engineering Services, Inc.—EDGE platform developer—to provide a point of distribution for the software, which is free to all first responder organizations. Cole Engineering provides online EDGE training or they can mail a CD to first responder agencies. They also provide a help desk function for organizations setting up their own EDGE application; contact 877-**EDGE**-011 (877-334-3011) or www.cesiedgetraining.com for additional information.

The EDGE school environment training scenario is expected to be completed and available in summer 2018. Upgrades include improved after-action reporting and less-lethal response capabilities for law enforcement, to include stun guns and pepper spray. Future developments to the school will include fire and EMS response capabilities.

Homeland Security
Science and Technology

To learn more about S&T's EDGE Virtual Training, contact first.responder@hq.dhs.gov.

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