



FORT BENNING, GEORGIA

MANEUVER CENTER OF EXCELLENCE

AEWE brings 4G smart phone technology to virtual battlefield

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Spcs. Jon Walden and Colin Eikenhorst operate a Phoenix 50H - Sense Through the Roof Unmanned Aerial System via a remote control from a rooftop at McKenna MOUT Site Sept. 22 at Fort Benning, Ga. The miniature helicopter contains multiple sensors to detect occupants within a compound. The Soldiers from A Company, 1st Battalion, 29th Infantry Regiment will conduct experiments using this technology, developed by Tialinx, during the Army Expeditionary Warrior Experiment at Fort Benning from Oct. 17 through Nov. 4. *Photo by Kristin Molinaro.*

FORT BENNING, Ga. –The same technology that powers high speed commercial cellular networks will be driving the voice, video and mission command capabilities for Spiral G during the Army Expeditionary Warrior Experiment here Oct. 17 through Nov. 4.

Although the Army has predicted for some time that smart phones will play an important role in the Soldier's job, it is yet unclear just how large a role theirs will be. During recent years, IT engineers at the Signal Center of Excellence at Fort Gordon, GA., have been pumping out iPhone and Andriod apps to satisfy today's tech-savvy Soldiers.

When it comes to information flow on the battlefield, AEWE's use of 4G as the vehicle to support tactical operations may provide insight into how an unprecedented amount of information available to the Soldier level can help shape the fight.

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At right and below, Sgt. Byron Arnold, of A Company, 1st Battalion, 29th Infantry Regiment, the Experimentation Force -- or EXFOR -- for AEWE's Spiral G demonstrates using the Nett Warrior System Sept. 22 at McKenna MOUT Site on Fort Benning, Ga. The Nett Warrior System provides networked situational awareness and command and control capabilities to ground forces. The Army Expeditionary Warrior Experiments will be held at Fort Benning from Oct. 17 through Nov. 4.

Photo by Kristin Molinaro.



“What we're doing here is validating a data and information projection concept and not a data transport technology,” said MAJ Philippe Persaud, Lead Technical Integrator for AEWE and telecom systems engineer at the Battle Command Battle Lab at Fort Gordon.

“Mobile data communication is the tactical requirement and a commercial 4G may or may not be the solution. AEWE will give us better insight into answering this question,” he said.

The types of information that will be delivered to Experimentation Force Soldiers over a closed 4G network during AEWE include video and data from more than 16 different technologies in Spiral G as well as mission command.

“We’re taking existing commercial communication technology and applying it in this experiment to provide (Soldiers) a path between them and the data services that enhance their tactical capabilities,” Persaud said.



In addition to commercial off-the-shelf technology, some enabling equipment will beef up the capabilities of the experiment’s communication device, like video distribution software – which will allow Soldier to access both real-time and archived video – and push-to-talk.

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“This will replicate the Army’s combat net radio voice architecture,” Persaud said. But unlike the existing SINCGARS – or Single Channel Ground and Airborne Radio System, a hub and spoke configuration that allows companies from the same battalion to listen in on the same frequency – the 4G with push-to-talk can replicate company level, platoon level and even individual Soldier level communication.

“The Soldier at the very bottom level with a mobile phone, who would normally not have access to even company comms can now get to the brigade level through this virtual combat net radio architecture that has been developed by the software industry,” Persaud said.

“The power of this is that now the Soldier has reach-back capabilities. With the current FM radios they have right now...if they want to go higher, they’re out of luck.”

By using this technology, AEWE aims to learn whether a freer flow of communication and information has the potential to increase the effectiveness, efficiency and lethality of the warfighter at the tactical edge. And to counter this, the experiment will outfit the opposing force with 3G technology to keep the virtual threat relevant, said Jason Rakocy, Project Manager for the Maneuver Battle Lab here, whose job is to manage all the technologies involved in the experiment.

A good portion of the more than 30 systems included in Spiral G experiments are not on the network. These are the technologies that fall under Soldier load, Soldier power, resupply and robotics.

With everything from joystick-controlled unmanned vehicle systems that can carry supplies or rucksacks to robots that fly and can “see” through walls, Spiral G will explore the operational utility of participating technologies capabilities and will help identify candidate technologies the Army may want to further evaluate.

“We can’t promise that any technology that participates in AEWE will be picked up by a program of record. That’s not what this experiment’s about,” Rakocy said. For a technology to become Army property, Rakocy said it would need to first go through the Army acquisition process, or a unit commander can submit an operational needs statement – or ONS – requesting a technology solution that bridges a capability gap in his area of operation.

“We’re trying to narrow that gap and give the warfighter what they’re requesting,” Rakocy said. All of the categories in Spiral G represent a capability that we currently don’t have in the force or we have and want to improve upon – like reducing the weight of a Soldier’s load and increasing the range of his or her weaponry, he said.

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By putting the technologies in the hands of the Soldiers to use during the Army Expeditionary Warrior Experiments, both the Army and the science and technology community gets invaluable Soldier feedback on the way ahead.

“Soldiers will tell you what they like and what they don’t,” Rakocy said. “And they will tell you what they feel will work best to help them complete their mission.”

For a list of all technologies participating in AEWE’s Spiral G, send an email request to jennifer.s.gunn@us.army.mil.

For more information on how to submit a technology to be considered for AEWE’s Spiral H, please go to <http://www.benning.army.mil/mcoe/cdid/MBL.htm>.

Editor’s note: This article was written by Jennifer Gunn and photos are by Kristin Molinaro, both of the Maneuver Center of Excellence Public Affairs Office. Permission to reprint these items is granted through the MCoE PAO.

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