



## **FOR IMMEDIATE RELEASE**

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### **Changing the Way Soldiers Communicate** *Enhancing Situational Awareness on the Tactical Edge*

FORT BELVOIR, Va. – July 29, 2013 – The U.S. Army Rapid Equipping Force (REF) completed the Counter Rocket Shooter System with Highly Accurate Immediate Response System (CROSSHAIRS) Enhanced Net Modernization Exercise last week to evaluate operational readiness and reduce risk before the system goes to theater and to the Network Integration Exercise (NIE) in the fall.

CROSSHAIRS Enhanced is a spiral, development effort funded by REF to expand on the basic CROSSHAIRS capability. The demonstration was conducted at the Product Director Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) and Network Modernization site.

CROSSHAIRS Enhanced provides a complete 4G LTE capability using a mobile server and other equipment designed to network all vehicles and Soldiers in a convoy. During the two-week exercise, vendors, scientists, engineers, and U.S. Army cadets simulated real world missions to characterize signal range capabilities and limitations, analyze power consumption, and provide end user feedback. The demonstration represents a major development in the U.S. Army's efforts to bring 4G LTE networking capability to soldiers in austere operating environments.

The exercise illustrates that Soldier feedback, received by the appropriate U.S. Army partners and boosted by rapid development and equipping, is pivotal in delivering game changing capabilities to the warfighter on the tactical edge in a short period of time.

The REF partnered with DARPA, to equip the original CROSSHAIRS systems to units in Afghanistan in 2010 and 2012. CROSSHAIRS is a modular set of capabilities that includes: direct fire detection and direction finding; a slew to cue capability using the existing common remotely Operated Weapon System (CROWS); and a command and control display that can be mounted on any vehicle platform. The system gives convoys the situational awareness required to make critical operational decisions, such as to engage an enemy or not based on positive identification of a combatant.

The initial feedback was positive, but also shed light on further operational needs.

“The feedback was, ‘Hey, CROSSHAIRS is great, but I need the same information and video feeds when I dismount,’” said REF Scientist Dr. Jesse Hester. “If a Soldier encounters a threat while on dismount patrol, they do not want to have to run back to the vehicle to see the CROSSHAIRS video. It would be much better if they could take cover in place and access the same situational awareness.”

Additionally, Soldiers requested the video feeds to be shared in all vehicles of the convoy.

In Nov of 2012, the REF began investigating commercial-off-the-shelf (COTS) and government-off-the-shelf (GOTS) equipment to provide an “on the go” network bubble and to deliver video feed to subsequent vehicles in a convoy and dismounted troops.

The suite they added includes 4G antennas, UAS signal processor, video integration and display units, networking equipment as well as the required power supply and air conditioning units.

Additionally, CROSSHAIRS enhanced provides a Maxx Pro vehicle configuration for additional convoy vehicles. The Maxx Pro will be outfitted with a 4G receiver, the video display unit, as well as a 4G router.

Finally, to address the dismounted troops, CROSSHAIRS enhanced provides up to twenty inter-squad, COTS smart phone receivers. Project Manager Soldier Warrior (SWAR) selected the Samsung Note II; however, the CROSSHAIRS Enhanced suite is technology-independent and will be compatible with any smart phone selected by the program manger.

Many U.S. Army partner organizations were working similar network modernization issues and partnered with REF on the Crosshairs Enhanced effort. Product Director C4ISR and Networking Modernization provided the venue and exercise planning. Project Manager Warfighter Information Network-Tactical (PM WIN-T) will be the future PM of the 4G system. PM SWAR provided the mobile phone software as part of Nett Warrior. Project Manager Close Combat Weapons System (CCWS) provided the Containerized Weapon System (CWS). Project Manager Night Vision/Reconnaissance, Surveillance, and Target (NVRSTA) provided the Cerberus system.

By working together, these partners were able to rapidly define the CROSSHAIRS Enhanced package upgrades, successfully integrate the COTs and GOTs solutions and conduct the mission-based exercise in less than 5 months.

“Without these partnerships, situational awareness data would remain in vehicles and at top levels and not pushed to the tactical edge, where it’s needed most,” said MAJ Ty LaStrapes, Science and Technology Director at the REF.

This marks the first success in a larger, long-term initiative, the Office of Secretary of Defense's Joint Capability Technology Demonstration (JCTD) called JOLTED-TACTICS.

JOLTED-TACTICS is an Internet Protocol (IP) based system designed to provide robust communications to tactical users. This system leverages innovations in Fourth Generation (4G) LTE Cellular technologies and mobile Ka band spread spectrum satellite communications to deliver megabits of data to mobile and dismounted teams armed with mobile devices such as smartphones or netbooks.

REF will deliver CROSSHAIRS Enhanced upgrade systems to units in Afghanistan in September 2013. Simultaneously, the package will participate in NIE 14.1 held at Ft Bliss, TX.

For additional information about the CROSSHAIRS Enhanced effort or the Rapid Equipping Force, call REF Public Affairs Officer, Kara Ewell, at 703-704-9433.

-30-

#### **About the Army's Rapid Equipping Force**

The Rapid Equipping Force, headquartered at Fort Belvoir, Virginia, rapidly supports deployed soldiers' needs to defeat an adaptive enemy. The REF works in daily partnerships with industry, academia, military leaders, and other government agencies to support warfighter requirements. The organization responds to immediate needs in the field and provides readily employable capabilities to enhance lethality and survivability. Using a combination of commercial and government off-the-shelf products and developmental technologies, the REF enables the Army to remain ahead of an adaptive enemy and to save soldiers' lives. Please visit us at [www.army.ref.mil](http://www.army.ref.mil).