

Combat Training Center Upgrades Support Army Chief's Vision



Photographs by Dennis Steele

By Scott R. Gourley

An opposing force (OPFOR) vehicle from the 11th Armored Cavalry Regiment prepares for an attack during a direct-action training rotation at the National Training Center (NTC), Fort Irwin, Calif.

Recently, GEN Raymond T. Odierno, Chief of Staff of the Army, sent an email to the entire force in which he described a number of “strategic priorities” designed to ensure that the Army remains “ready to accomplish the range of military operations we are directed to perform” (Letters, ARMY Magazine, December 2013).

In the case of one of those priorities, “A Ready and Modern Army,” Odierno’s guidance includes a goal to “rebuild the Army’s combined arms maneuver and wide area security capabilities employing our CTCs [combat training centers] to challenge and certify Total Army formations in a comprehensive and realistic decisive action training environment.”

Clockwise from right: an NTC observer-mentor watches a dismounted team clear an objective; another observer-mentor prepares to reset a soldier's multiple integrated laser engagement system with his handheld device; a soldier stands watch in one of the NTC's military operations in urban terrain (MOUT) cities; and controllers operate cameras to record training in a MOUT city.



Coincidentally, just two weeks after Odierno's email to the force, the Army achieved a significant milestone toward meeting that guidance with the completion of the initial product verification test for its CTC instrumentation system Range Communication System project, an effort that will initially enhance two critical CTC elements—the National Training Center at Fort Irwin, Calif., and the Joint Readiness Training Center at Fort Polk, La.—to facilitate the challenges and training identified in his command guidance.

Referring to that guidance, COL Vincent Malone, U.S. Army Program Manager for Training Devices (PM TRADE), said, "For the past 12 years, the Army has been focused on preparing its units for combat operations, and the CTCs have evolved to support them in their mission readiness exercises. The CTCs have been focused on preparing units for a specific action but primarily focused on the wide-area security aspects of their operations in

support of Operation Iraqi Freedom and Operation Enduring Freedom. What the Chief of Staff of the Army is outlining here, however, is a need to shift the emphasis back to combined arms maneuver as well as wide-area security."

Malone acknowledged part of the associated changes required at the CTCs includes a need to expand instrumented combined arms maneuver areas to accommodate decisive action brigade combat team rotations with a third maneuver battalion now "in the box."

"We look at CTCs as a system of seven different subsystems, with five of those riding on two primary subsystems: the Range Data Management System and the Range Voice Communications System," he said. Those two subsystems are known as the Range Communication System.

"That Range Communication System is going to replace the legacy voice and data communications systems and the over-the-air network backbone—by that we mean the towers that are out there," Malone said. "We entered into the engineering and manufacturing development phase in November 2012, when we awarded a contract to Northrop

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Grumman to design and develop a commercially based 4G LTE [Long Term Evolution] voice and data communications system for both the National Training Center and the Joint Readiness Training Center.”

Greg Schmidt, vice president and general manager, Training Solutions Division, Northrop Grumman Technical Services, said, “Northrop Grumman’s approach establishes an innovative and affordable communications infrastructure required for the U.S. Army combat training centers. This design increases training realism, timeliness of training performance feedback, and reliability—all crucial factors to ensure our soldiers remain mission ready.”

“We’ve developed commonality among components of the live training systems and increased communications coverage,” said Nick Tenn, CTC instrumentation system program manager, Northrop Grumman Technical Services. “This work improves the combat trainer’s situational awareness, analysis and feedback capabilities while providing for technology insertion and growth. This will also allow us to maintain interoperability with the current joint and other service training systems.”

Describing additional industry participation, Malone said that Northrop Grumman’s major subcontractor, AT&T, will modernize the towers, putting in a commercial 4G LTE network. In addition, handheld devices that are very similar to commercial cell phones will be used.

Acknowledging the Army “wasn’t expecting this proposal from industry when it came in,” Malone expressed shared excitement about the potential it brings to the U.S. Army Program Executive Office for Simulation, Training and Instrumentation.

“We saved a good amount of money in the developmental phase,” he said, “and we are optimistic that this is going to give us the potential to save sustainment dollars going forward, because there is a need to replace those systems that are out there, especially those voice communication end-user devices. We will be able to leverage whatever commercial technology is out there as long as it rides on the backbone that we are establishing at the combat training centers with that 4G LTE system. We will be able to procure whatever is the latest and greatest end-user device that meets the needs of the combat training centers, and we feel that we will be able to do that at a substantially lower price than if we were to continue to procure the military-specific devices.”

While expressing significant optimism over the lower development costs and anticipated reductions in system sustainment costs, Malone was cautious about the need “to balance that, because for the first time we will have an operational cost that we didn’t have before, in that we are going to have to pay for that data service, as you would with any commercial data plan. So we have to look at balancing the data needs of the users out there while keeping those costs low enough so that we do in fact save dollars across the system.

“But we’re very optimistic about this,” he said. “We’re watching it closely. We also believe that the paradigm shift is a potential model for future development.”

The Army and its industry team completed the design for the Range Communication System and conducted the critical initial product verification test (IPVT) in Orlando, Fla., in late October 2013.

“Because part of this program is to go in and modernize the network infrastructure at the CTCs, it didn’t really make sense for us to make that commitment to the infrastructure at the CTCs before we really gave that milestone decision authority, Dr. [James T.] Blake [U.S. Army program executive officer for simulation, training and instrumentation (PEO STRI)], an opportunity to review the maturity, effectiveness and suitability of the overall system,” Malone said. “We located a large, wooded environment in the Orlando area with fields interspersed where there was an existing 4G LTE communications network, and we conducted the IPVT there. We brought in all the prototype systems that had been developed to date and tested them out in an operational-like environment. It wasn’t at the CTCs, which would have been optimal, but given the investment



Right: An 11th ACR OPFOR vehicle commander scans the horizon for training unit movement. Below: A training unit Bradley fighting vehicle advances.



that would have been required to put an infrastructure in there before we made a decision on whether we were going to go that route, it was the most cost-effective manner for us to move forward and evaluate the system."

Although conducted in Orlando, the IPVT was supported by soldiers from the 11th Armored Cavalry Regiment—the opposing force unit at Fort Irwin—as well as observer-coach trainers from both the National Training Center (NTC) and the Joint Readiness Training Center (JRTC), elements of U.S. Army Test and Evaluation Command, representatives from U.S. Army Training and Doctrine Command Capability Manager-Live, PM TRADE, and industry partners.

"The test consisted of a series of both scripted and unscripted scenarios, very similar to those conducted during the force-on-force training at the NTCs," Malone said. Although he was still waiting for final IPVT results as of early December 2013, he said, "Overall, the user representatives and other Army representatives on the ground during the test were satisfied with the capability that the Range Communication System program will bring to the CTCs. They gave us very positive feedback during the

IPVT itself, so we did not see any show-stoppers indicating that we would not be able to move forward with the Milestone C decision meeting."

PEO STRI is the Milestone C decision authority to approve the program moving forward into low-rate initial production (LRIP). Following a successful Milestone C decision briefing in December 2013, Malone reported receipt of authorization to enter into the production and deployment phase.

Assuming full funding in fiscal year (FY) 2014, the initial operational capability remains on schedule for the third quarter of FY 2015 for the NTC and the third quarter of FY 2017 for the JRTC.

Asked to elaborate on some of the capabilities that the new system would provide to soldiers at the CTCs, Malone pointed to the requirement to "provide a minimum of

95 percent coverage of the entire training area at NTC and JRTC." The expanded coverage would include a significant increase in the number of instrumented entities on the CTC battlefields.

"In doing so, it will help to support the shift to decisive action training events at the CTCs with the larger brigade combat team structures," he said. "Each of the CTCs will be equipped with 6,000 dismounted entities, 5,000 vehicle entities and 5,000 voice communication systems. Each will also receive 350 observer-coach trainer devices and 1,650 live-fire target engagement systems. So overall, it is probably going to double the number of instrumented entities that we have out at the CTCs and provide greater fidelity and feedback to the units on exactly what happened on the battlefield."

In a message for warfighters, Malone said, "The Army is moving forward with its modernization efforts for the CTCs in support of the Chief of Staff of the Army's strategic priority to maintain a ready and modern force. We are going to modernize the CTCs to ensure that they support both combined arms maneuver and wide-area security capabilities to ensure that we challenge and certify the total Army formations in a comprehensive and realistic decisive action training environment." ★