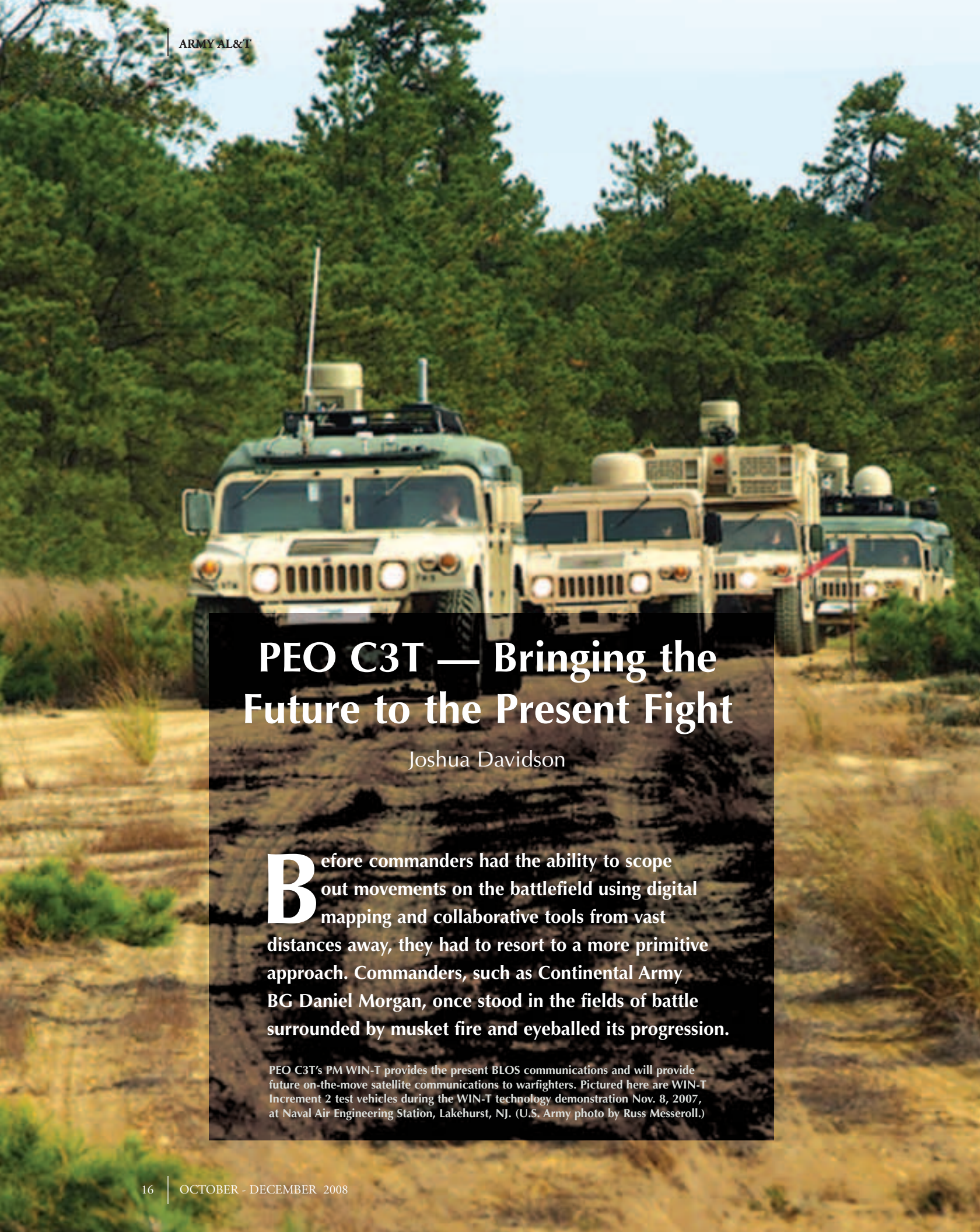

PEO C3T — Bringing the Future to the Present Fight

Joshua Davidson

Before commanders had the ability to scope out movements on the battlefield using digital mapping and collaborative tools from vast distances away, they had to resort to a more primitive approach. Commanders, such as Continental Army BG Daniel Morgan, once stood in the fields of battle surrounded by musket fire and eyeballed its progression.

PEO C3T's PM WIN-T provides the present BLOS communications and will provide future on-the-move satellite communications to warfighters. Pictured here are WIN-T Increment 2 test vehicles during the WIN-T technology demonstration Nov. 8, 2007, at Naval Air Engineering Station, Lakehurst, NJ. (U.S. Army photo by Russ Messeroll.)

"Morgan got a chance to actually see the battlefield," said Dr. Ricardo Herrera, a historian of the Combat Studies Institute at the Combined Arms Center, Fort Leavenworth, KS. "But if the battlefield was larger, generals had to rely on their aides galloping out and reports coming in from their brigade or division commanders. They also had to rely on themselves, frequently riding the line, getting an idea of what was going on, and sensing the battlefield, much as commanders do today."

Command Post of the Future (CPOF)

The CPOF is one tool that has relegated into the Army's history, for many, the practice of mapping one's whereabouts using a grease pencil and acetate map overlay. The former Defense Advanced Research Projects Agency project is a digital collaboration tool that provides commanders with a real-time battlefield picture showing data embedded onto a map. That information can be quickly moved into a 3-D view, or sorted and analyzed in tabs. It also allows for real-time collaboration among separate systems and voice-over-Internet protocol communications.

"CPOF provides real-time access across long distances for battle update briefings, battle update assessments, and commanders' operations order briefs," said COL Carlos Costa, S6 of the 5th Brigade/75th Division. "It puts the commanders in the fight without them having to be there. They can manage more because they are remote, but virtually engaged."

Mission and Systems

The Army's Program Executive Office Command, Control, and Communications Tactical (PEO C3T), headquartered at Fort Monmouth, NJ, is responsible for bringing these mission-enhancing tools into today's fight. The organization, whose total annual budget exceeds $6 billion, has more than 2,300 employees including core military, core civilian, U.S. Army Communications-Electronics Command (CECOM) Life Cycle Management Command (LCMC) matrix, and support contractors.

System support efforts in PEO C3T are led by its Battle Command Network and Support Directorate (BCN&SD), which provides the digital systems engineers (DSEs) and field support representatives who provide close assistance and troubleshooting to system users. During a unit's training exercise, DSEs help resolve issues, set priorities, repair boxes, and provide over-the-shoulder training and system explanations. Many deploy to *Operations Enduring* or *Iraqi Freedom (OIF)* to support the same unit with which they trained. Civilians provide technical and training support, along with expedient resolutions to system issues. "Everyone is in the fight," Costa said. Serving as the communications officer of a unit charged with providing system training to Soldiers before they deploy to Iraq, Afghanistan, and Guantanamo Bay, Cuba, Costa has interfaced with a large contingent of the PEO C3T civilian support staff.

The BCN&SD is assigned to Project Manager Command Posts (PM CP), which, aside from garnering an esteemed reputation for leading the Army's fielding of tactical radios, was recently assigned to lead the PEO C3T's system integration initiative. Efforts to consolidate disparate systems have provided commanders with actionable data at an increasingly more expedient rate. "Commanders have more data than ever before. The integration of these systems is imperative to enhance their effectiveness," Costa said.

PEO C3T's CPOF is a digital collaboration tool that provides commanders with a real-time battlefield picture showing data embedded onto a map. The information can be quickly moved into a 3-D view, or sorted and analyzed in tabs. (U.S. Army photo.)

The Net Zero Plus Joint Capabilities Technology Demonstration on May 27, 2008, at the National Training Center, Fort Irwin, CA, showcased PM MEP's vast technologies across DOD, from small generators to solar power. (U.S. Army photo by Richard Mattox, PEO C3T.)

Training System Users

The unit in which Costa serves uses PEO C3T systems, such as Maneuver Control System (MCS), CPOF, and Force XXI Battle Command Brigade-and-Below-Blue Force Tracking (FBCB2-BFT), during virtual, closed training environments at installations, such as McGregor Base Camp, NM, and Fort Lewis, WA. There, Soldiers use those types of systems to build and manage their battlefield common operational picture, which provides separate users with a view of various aspects of the battlefield. Tactical Operations Centers are replicated, battle drills are emulated, and Soldiers are conditioned to "train as they fight." Before they deploy to theater, Soldiers are given an introduction to numerous systems. System experience is obtained during their mission readiness exercises.

The virtual and accurate depiction of the battlefield the Army and its 5th Brigade/75th Division provides serves to combat any apprehension toward using the capabilities. "Realistic training like ours helps them get in the fight and experience the strength and value of these systems," Costa said. "Time and usage helps them get there sooner rather than later."

Battle drills, standard operating procedures, and after action reviews are just some of the methods used to train system users to stay focused on the task at hand in the heat of battle. Repeated drills are performed "until it is the way they think and act without [consciously] thinking of it," Costa said. The units drill and train extensively to identify improvised explosive devices (IEDs) and resolve such attacks. Intelligence capabilities are used to track IEDs and investigate patterns and methods of prevention.

PMs and Product Directors (PDs)

PEO C3T's project and product management offices play a key role in the design, acquisition, fielding, and support of fully integrated and cost-effective command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR). Assigned to the organization are PM Battle Command (BC); PD Counter-Rocket, Artillery, and Mortar (C-RAM); PM Mobile Electric Power (MEP); PM CP; PM Warfighter Information Network-Tactical (WIN-T); and PM FBCB2. PD Network Operations-Current Force (NetOps-CF) was recently assigned to PM WIN-T. Also included in the PEO are the Special Projects Office (SPO)/Northeast Regional Response Center (NRRC), Systems Engineering and Integration (SE&I) Directorate, Operations and Business Management Office, Human Resources Office, and Chief Knowledge Office.

PM BC's products allow warfighters to plan and execute fires, disseminate intelligence, plan logistics, and collaborate and share battlefield information in a whiteboard-like environment. The C-RAM system senses RAM, launches, and warns surrounding troops. It then intercepts and destroys the RAM threat in flight.

PM MEP's role is to modernize a standard family of MEP generator sets for each service within DOD. Its mission is to be coordinated through an interservice effort to develop, acquire, and support MEP generator sets from small, 0.5-kilowatt (kW) manportable generator sets to large, 920-kW prime power generating systems.

PM WIN-T provides the present beyond-line-of-sight (BLOS) communications and will provide future on-the-move satellite communications to warfighters. PD NetOps-CF products are used to maintain and troubleshoot the Army's network.

PEO C3T's FBCB2-BFT, shown here, provides a graphical representation of friendly vehicles and aircraft on a topographical map or satellite image of the ground. (U.S. Army photo.)

FBCB2-BFT provides a graphical representation of friendly vehicles and aircraft on a topographical map or satellite image of the ground. Since the Army's preparation for *OIF*, the SPO/NRRC has been a premier Army organization in supporting the digitization efforts of the global war on terrorism and homeland security efforts.

PEO C3T Processes

PEO C3T has originated processes such as Single Interface to the Field (SIF) and Unit Set Fielding (USF) to streamline Army approaches toward fielding and reporting system-related issues respectively. The SIF concept and portal provide the warfighter with a single entry point for support of any system managed by the CECOM LCMC. Accessing the SIF portal guides warfighters to the assistance they need and links them to mission-essential information pertaining to areas such as fielding and training, which is also shared by organizations throughout the Army.

USF is a 5-phase process that manages the planning and implementation of fielding and reset for all major tactical Army C4ISR capabilities. The U.S. Army and, specifically, the CECOM LCMC organizations, simultaneously provide warfighters with everything they need to perform their combat mission. This means providing Army BC Systems, communications systems, power, network, and enablers, all at the same time.

PEO C3T has originated processes such as SIF and USF to streamline Army approaches toward fielding and reporting system-related issues respectively.

The BC as a Weapons System (BCAWS) process will serve to synchronize the fielding of capabilities across the Army community. "The focus of the BCAWS initiative is on managing the readiness of battle staff, their BC systems, and associated trainings for CPs and command groups by reporting the status of each as weapons systems," said BG Nickolas Justice, Program Executive Officer C3T, in a recent article. "Through monthly reports submitted by unit commanders to the Headquarters, Department of the Army, the Army can conduct a full examination of equipment status and training levels related to its fielded equipment. The goal is for a standardized solution for BC systems to be fielded across the force."

Shown here is PEO C3T's Single Channel Ground and Airborne Radio System advanced system improvement program radio, the primary voice control radio for Soldiers at battalion level and below. (U.S. Army photo by Jason Bock.)

A key SE&I initiative was the establishment of a Technology Gap Panel to realign the PEO C3T technology transition priorities and to subsequently help guide the U.S. Army Communications-Electronics Research, Development, and Engineering Center and science and technology communities to align their investment strategies.

Sometimes, Costa will run across a Soldier or two with the talent to think out-of-the-box and create new ways of using these systems as their training progresses. "These young Soldiers come to the fight with knowledge of computers and video games and passion," he said. "These Soldiers drive change through their passion and excitement."

GEN David H. Petraeus, Commander of Multi-National Force-Iraq, once echoed a similar sentiment when asked about CPOF and the Army's communications pipe, WIN-T Increment 1. "WIN-T Increment 1 will clearly give better transport and bigger pipes, which will enable CPOF to do more than it already can," said Petraeus, when he was interviewed during the PEO C3T Army Battle Command and Enable System-of-Systems test held in May 2006. "That will enable innovative commanders and Soldiers with initiative to continue to find new ways to use this very powerful application to exploit the capabilities that it represents."

Despite the digital capabilities organizations like PEO C3T provide, many close to the organization still recognize the need for commanders to stay physically close to the fight, just as BG Morgan did. "Commanders can't do it all from the rear, or electronically," Herrera said. "They've got to get out there and get a feel for what's happening."

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