



# Modeling & Simulation Newsletter

**FALL 2009**

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## **Interview with LTG Robert P. Lennox**

**As the new Army G-8, what are your thoughts on being the new Proponent for Simulation Operations Battle Command Officer FA 57 and Functional Chief for civilian Modeling and Simulations Professional CP 36?**

It is great to rejoin the Army modeling and simulations (M&S) leadership team. Although functional area FA 57 Proponency and civilian career program CP 36 were recently transferred to the G-8, I am very familiar with both, from when I was the Army Deputy G-3. In that capacity, the Simulation Proponent and School worked for me, under the M&S directorate. I am extraordinarily impressed with the work that the entire Proponency team has done to create a great education program for both FA 57 and CP 36, to include an outreach program that encompasses Proponent M&S education via distant learning and onsite training and education. Much of these opportunities are available to the rest of the Army as well. Their website is a tremendous strategic communications tool where you can learn more about these education and training opportunities as well as being a vast resource and link to knowledge and information for the Army. Every aspect of what the Proponency team has done are models that other career fields can emulate.

### **How important is modeling and simulation to the total force and its impact of AFORGEN?**

Modeling and simulations is enormously important to the total force. I have observed M&S efforts throughout my entire career, modeling in particular, and have seen how it brought new previously unrecognizable insights, making very complex data or situations understandable. These are big attributes. Even after having observed and valued M&S during my career, it is more important now than ever, especially with compressed timelines between deployments. In today's environment, M&S can do an enormous amount to reduce the time that soldiers need to be in the field for training to develop expertise about their systems, and to develop confidence and competence in their fields. The use of the right kind of simulations exercise can dramatically reduce the impact on soldiers. The Chief of Staff of the Army loves for us to do these kinds of things.

**“The Battle Command Officer Integration Course, that was open to FA 57s primarily, and then opened to the rest of the Army, was a very adroit way of matching needs to education and capabilities.”**



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**How important is it to utilize M&S personnel effectively?**

In a relatively new career field such as M&S, leaders may struggle somewhat with knowing what to do with M&S soldiers and civilians in their organizations. Therefore, it is up to the FA 57s and CP 36s to be their own promoters, advertisers, and aggressively show leaders what they can do. For FA 57 officers, their expertise in battle command is a great entrée into a brigade combat team. Once you have that entrée, the door is open for you to show the commander other expertise you have and can provide to enhance his capability and readiness in the brigade. That is hugely important. Conversely, CP 36 civilians are generally in organizations that know, accept, and value their benefits to the unit. Therefore, I do not think that they have the same amount of salesmanship to do. Their level of competence and value is critical to the Army.

**How significant are cost avoidance possibilities afforded the force through collaboration, sharing and reuse of M&S tools, data and services?**

These functions are of great importance, especially in an era of potentially declining resources and increases in dwell time. The Chief of Staff of the Army wants units to use the Army's training centers more. There will be a limit on what can be done, given the kind of irregular warfare we are fighting, and how you can model it. Not all organizations may have access to irregular warfare full training set ups, with role players, and the right kind of environment. The right kind of simulations will expose you to the training opportunities you need, without having to deploy. In an era of potentially declining resources this could be hugely beneficial.

**How pervasive is M&S throughout the entire Army (training, operations, acquisition, analysis, testing, experimentation, and intelligence)?**

My background has been in combat developments and air defense artillery. In those fields, modeling that shows the importance of what you want to acquire and why you want to acquire it is very important. Anyone with only passing experience in acquisition understands how important and critical M&S is to this field. As a career air defender, you understand how much it costs to operate. For example, you cannot afford to fire missiles that cost three million dollars on a frequent basis. Therefore, simulations are the backbone of training. As systems become more sophisticated, the role of simulations is hugely important. When coupled with the irregular warfare environment we are in, M&S can be a real difference maker, if you have the right tools available. These are very important attributes in training, intelligence, and acquisition career fields.

**What M&S capability does the Army need in its current insurgency fight?**

A desired product would be an irregular warfare model with enough leverage that allows you to challenge leaders at different levels. For example: a brigade commander focused model that would reward a commander for behaviors that we think are correct, both kinetic and non-kinetic in a theater



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of action; and similar products that help a corps commander and a division commander. At this point, we have a product that could help a company commander and platoon leader, because this is really a company's fight. This product simulates the situations and decision making that our lowest leaders need to make in order to be successful in irregular warfare, one that puts stress on them to make decisions between right and wrong and show them the ramifications of their actions. Models that can do that will be extraordinarily beneficial.

**How robust of M&S capability is needed for the current or the future fight?**

These are critical questions for the Army to fix. Questions such as, what is the right amount and do we have the right career development path for those officers? We have good examples in Iraq and Afghanistan and as we continue to gather information and learn, it will help shape future decisions. This was the genesis of putting an FA 57 officer in the brigade combat team and watch the high payoff. We will learn as we go. It is a tradeoff between how much expertise you need and how much general skills you need. If the officers pay benefits, there will be more demand for them. If the CP 36s pay benefits in their organizations, there will be more demand for them. That will work itself out. If we are doing the right job in educating, positioning, and matching skill sets and jobs, it will answer itself.

**The best thing to do is to talk to people within the career field who have recent experience and fully understand what that career field entails.**

**How adaptable does the M&S community need to be, to the needs of the Army?**

The M&S community needs to be extraordinary adaptable and you want to build those skill sets in, both from the Proponency Office identifying that we need this capability at this level, at this location, and the ability to adapt our education system so that our officers and civilians are prepared for the jobs they are about to enter. We want them to be successful in those jobs. We want to be able to match the right rank, skill set, and experience in an officer or civilian to the positions they fill.

**Can you describe any personal example when modeling and simulation solved complex problems?**

I have seen numerous examples. During my time in the Joint Staff in the late 1990s, we were involved with land attack cruise missile and the genesis of developing capability for it. We had a family of models with a ton of input including using models that show the six degree of freedoms of how a missile might fly through space based upon the characteristics of the missile. We placed it inside a force-on-force model so that you are able to come out with insights, in this very complex fight, that you ordinarily may not have. Additionally, I have seen it in combat development a number of ways as we looked at the right mix of forces you should have, how much you should spend on missiles versus units, where should you position those units, how many aspects of launchers you should have. This is



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critical in combat development. Also, in training situations, simulations in my career field are extraordinarily important. For example, in OIF-1 we deployed fifty patriot batteries, almost the entire patriot force, throughout the Middle East. Complex simulations allowed us to determine where to situate those units, where best to place them, both politically and operationally. Those are some of my personal examples when M&S helped solve very complex problems.

**Can you describe positive dealings with FA 57 officers or CP 36 civilians in solving problems?**

As I mentioned, M&S Proponency worked for me when I was in HQDA G-3. I watched the leadership, Roger Samuels, in terms of developing the right education, and the Proponency issues to meet the needs of units in the field. The Battle Command Officer Integration Course, that was open to FA 57s primarily, and then opened to the rest of the Army, was a very adroit way of matching needs to education and capabilities. I was very impressed with the Proponent leadership. Also, I observed a number of leaders, both FA 57s and CP 36s actively pursue common solutions, to get Army positions on the complex roles of Army modeling and simulations, in order to focus expenditures where they really need to be instead of expending a little for everybody, but prioritize and aim expenditures in needed locations. My dealing with the modeling and simulation Proponency Office and the M&S Directorate has been very powerful.

**What advice do you offer to senior captains and majors in making career decisions?**

I think a question they may have is whether you stay with your operational career field, your support career field, or do you look for a technical career field such as FA 57. The best thing to do is to talk to people within the career field who have recent experience and fully understand what that career field entails. If you desire to go into a career field that will not deploy, FA 57 is not the career field for you. They are intimately involved with deploying units, focused on training units and improving the capabilities of the organization. By talking to people in a given career field, you discover the reality of life for that career field and what are the opportunities. The next step is to be honest with yourself, by determining whether or not you will be happy doing those kinds of things, understanding that the choices you are making today have ramifications for your opportunities in the future both positive and negative. Once you are fully informed, make the choice that makes you the happiest, because if you are satisfied with your career choice, you will maximize your contributions to the Army.

**What closing comments you have for the M&S Community?**

I commend the leadership of the M&S community. The activities I have seen during the last eighteen to twenty months have been phenomenal. I know that people have wanted to do more and go faster, but I have been very impressed with what I have seen. Today, we have FA 57s and CP 36s throughout the force, making a difference. We have a great education plan and good leadership of the team. From top to bottom, I have been very impressed with the entire M&S community.

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## **Proponent Update**

*Mr. Roger S. Samuels*

*Mr. Samuels is Chief, Simulation Proponent and School*

There have been significant organizational and personnel changes this year in the Army Staff and involving the Simulation Proponent and School. As many of you are aware, in April 2009, by direction of the Deputy Under Secretary of the Army, our directorate transitioned from the Deputy Chief of Staff G-3/5/7 to the Deputy Chief of Staff G-8/Center for Army Analysis (CAA). Organizationally, our Directorate still maintains all of our current Army roles, missions, and functions as the Army Modeling and Simulation Office in CAA. With two divisions, both the Simulation Proponent and School, and the Modeling and Simulation Division, we continue to perform all Army responsibilities in AR 5-11 Management of Army Models and Simulations; AR 600-3 The Army Personnel Proponent System; and AR 690-950 Career Management.

In May 2009, significant senior personnel changes occurred as we obtained the approval and the designation of two Functional Area 57 (FA 57) and Civilian Program 36 (CP 36) Proponent positions in the Army G-8. The Deputy Chief of Staff G-8 is now the designated FA 57 Proponent and the CP 36 Functional Chief. LTG Robert P. Lennox (a former Assistant DCS G-3/5/7) became the new Deputy Chief Staff G-8 on 30 October 2009 and is now the lead for both our military and civilian programs. The second very important senior Proponent position established in May 2009 was the designation of the position of Director CAA, Mr. E.B. Vandiver III, as the Executive Agent for both FA 57 and CP 36. With the designation and establishment of both these Proponent positions, we now have the most senior military and civilian leadership at any point in our history!

As Chief, Simulation Proponent and School, I am the FA 57 Functional Proponent and the CP 36 Functional Chief Representative. I continue to manage and execute all missions and functions of FA 57, CP 36, and the Simulation School under G-8/CAA leadership. This year we have continued to train, develop, provide, and sustain exceptional modeling, simulation, and battle command professionals. CP 36 professionals have an understanding and ability to employ current and emerging capabilities of modeling and simulation and its many applications; have knowledge and experience in the multi-disciplinary skill sets used by modeling and simulation professionals across all domains and communities; are subject matter experts in one or more M&S areas; effectively develop and employ current and emerging modeling and simulation environments; assist leaders at all levels in defining requirements for models, simulations and systems; and are actively involved in developing new Army modeling and simulation technologies and capabilities. FA 57s fully understand the application and principles of battle command/operational knowledge management, simulations, systems, and processes and exploit their capability for training and military operations; they integrate battle command systems and perform simulation operations activities for the Army; they are knowledgeable on the application of M&S across all domains and provide the operational experience and technical expertise in the development and use of new simulations and battle command technologies of the future.



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The prevalence of modeling and simulation in the Army and DoD has rapidly evolved and M&S is now a pervasive and critical technology in all federal organizations, industries, and academia. Congress recently designated M&S as a critical national technology and has provided continued funding for its development and use. We now have a very active Congressional M&S Caucus that seeks to promote and develop our national M&S capabilities. We have also had increasingly more universities offering M&S degrees and training at all levels. Of note, we recently obtained Army approval for the first two CP 36 careerists to pursue Advanced Degree Training in fully funded Master's of Engineering degrees, with a focus in modeling and simulation. In addition, CP 36 initiated a developmental assignment program that allows careerists to rotate to other M&S locations, share knowledge with that agency and bring back new M&S applications to their duty station. As you also may be aware, at our initial entry level, the CP 36 Intern Program was approved by the Department of the Army in 2007. We recruit CP 36 interns from universities and through public announcements. Individuals apply and compete for available CP 36 intern positions at many commands and organizations throughout the Army. The importance of CP 36 Internships is noteworthy for the fact that while CP 36 professionals may participate in professional development activities over the course of their careers, the CP 36 Intern Program is designed to immediately begin intensive development of careerists over a compressed timeframe of two years. At the completion of their training, these interns already have much of the breadth of knowledge, skills, abilities, and experience required for today's and tomorrow's M&S mid-level professional. Our first two Army CP 36 Interns, Chris Herrmann and George Jackson graduated this November and are actively employed at HQDA in the Simulation Proponent Division and in the G3 Training Simulations Division. FA 57 officers continue to be selected for Advanced Civil Schooling (ACS) and we now have 107 Officers with Masters Degrees and two with PhDs. Fifty per cent of our Active Component officers have advanced degrees. All FA 57 Officers continue to attend the Intermediate Level Education (ILE) /Advanced Operations Warfighting Course (AOWC) at the rate of fifteen slots per year. FA 57 continues to be the only Army directed Functional Area to attend ILE/AOWC at Ft Leavenworth. Functional Areas were recently permitted by the CSA to compete for Central Selection. In March 2009, the Proponent initiated FA 57 Central Select List (CSL) billet actions. Extensive research was conducted and formal requests were coordinated/submitted through the command levels to Human Resources Command (HRC). HRC conducted a board review of all Army requests at the O6 and O5 level and approved the first two FA 57 CSL billets: the O6 Director, National Simulation Center (NSC) and the O5 TRADOC Project Office, One Semi-Automated Forces in the Combined Arms Command (CAC-T). An Army CSL billet is a duty assignment at the rank of LTC or COL that requires specific, highly developed skills and experience, that are deemed so critical to a unit's mission that an officer is selected for assignment by Headquarters Department of the Army. CSL Billet officers exercise judgment and recommend actions to the Commander. They principally manage resources and oversee processes that operate in a leadership environment. The command must agree (ACOM level) to code a position to CSL. CSL requests are board reviewed and ultimately approved by the CG HRC. CSL/Key Billets are generally 2 year assignments except for those in Joint Commands. The CSL O6 Board will convene this January with an officer report date at NSC of 1 October 2010. The CSL O5 Board will convene later with a report date to CAC-T of 1 October 2011.



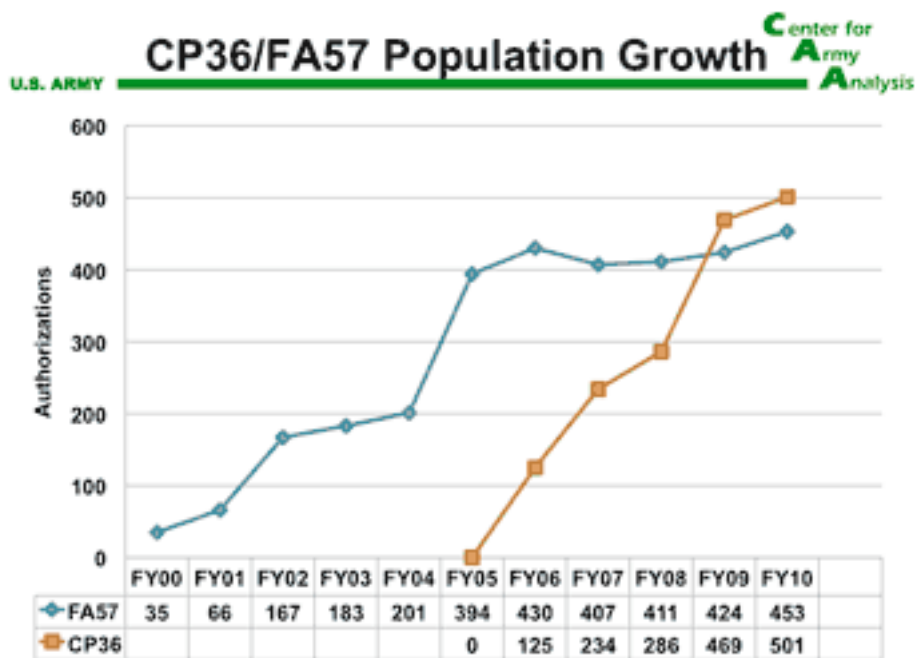
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The Army continues to lead the way in developing both state of the art modeling, simulation, and system capabilities while also developing the dedicated personnel to effectively utilize them to their utmost potential. The growth of the military and civilian programs continues to reflect the Army's sound investment in the military and civilian professionals to meet the most pressing challenges of today's operational, technical, and resource constrained environments. Today we have close to one thousand dedicated M&S positions in the Army (see population growth figure below). I encourage all of you to continue to be active, vibrant professionals, not only in your commands, units, and organizations, but also across all Army organizations, Services, and the broader community to further the efforts, utility, and practice of M&S as a profession.



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## **GAME ON!**

**"The venture into gaming technology by the US Army"**

*By COL Mark McManigal, TCM Gaming and Major Tom Biedermann, Australian Army*



**VBS2 is part of the US Army Gaming Product Line**



**A screen-shot from VBS2 showing a UAV operating over geo-specific terrain**

The U.S. Army is rapidly developing solutions to how we learn and adapt in current and future conflict. It is a common military thought that in warfare, the side that learns faster and whose leadership at all levels is more agile than its enemy generally wins. Gaming applications for military purposes are becoming more prominent as a part of the learning solution. Gaming technology, traditionally viewed for entertainment only, can make a significant contribution, if used properly, to the creation of a more agile force. The US Army recently embarked on an ambitious gaming program for use in training and educating leaders, Soldiers, and their organizations.

The Army is presently faced with a demographic shift of seismic proportions: an ever increasing number of Generation Y or "Millennial" Soldiers. Traditional classroom methods do not always achieve optimal learning effects with this generation, which gravitates more toward experiential, collaborative learning in a digital space. The Army is simultaneously confronting resource and other training challenges. Units, often short on time and other resources for the much sought after live training, have had to become extremely creative in their efforts to achieve Army standards prior to deployment. Additionally, the Army is increasing its focus in irregular warfare (IW) and full spectrum operations.

Confronted with the above challenges, the Army turned to gaming technology for efficient, effective, and versatile training applications. It stood up a Gaming Program of Record in April 2008 and moved rapidly to select its first official game in December of that year: "Virtual BattleSpace2" (VBS2), contracting with Laser Shot, Inc. and its partners Bohemia Interactive and Calytrix Technologies.



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Gaming is not completely new to the U.S. Army. In fact, the Army owes some of its knowledge of games to its Australian allies, who were among the first to develop VBS 1 and use it for training applications as a first person shooter (FPS) genre game. The Army has created its own online game, "America's Army" for recruiting purposes. Also, the Defense Advanced Research Projects Agency (DARPA), a U.S. Department of Defense organization, developed a FPS game called DARWARS AMBUSH, which has been used in most Army organizations to train small unit tactics, troop leading procedures (TLP), and leader development.

All of these efforts were precursors to the establishment of Training and Doctrine Command (TRADOC) Capability Manager (TCM) Gaming. GEN Wallace, the former TRADOC Commander and a big advocate of the use of game technology, signed the charter for the TCM on 2 April 2008 with the intent that the program use commercial and government off the shelf products (COTS and GOTS), thereby enabling the Army to get games into the hands of Soldiers quickly. TCM Gaming moved rapidly to oversee the creation of the Program of Record and the selection by Program Executive Office for Simulations, Training, and Instrumentation (PEO-STRI) of the FPS game, VBS2.

While PEO-STRI is responsible for acquiring and fielding the game, to include the conduct of New Equipment Training (NET), the TCM is the Army's centralized planner, manager, and integrator for all combat developments and user activities. This includes the prioritization of requirements for games coming from the operating and generating forces. TCM Gaming established a system for gathering the requirements throughout the Army, developing them further and getting them into the hands of the material developer, PEO-STRI.



**The game is realistic - A soldier talks to civilians during a mission**

VBS2 has significant advantages over many other games in terms of its ability to establish a semi-immersive training environment. The geographical terrain can be constructed specifically to replicate most places in the world. The menu of entities, to include weapon systems, insurgents, host nation police, other military forces, and civilians, is comprehensive, allowing an increasingly realistic depiction of the contemporary operating environment faced by U.S. Army units. Game graphics are greatly enhanced, and there is a three dimensional mission editor that allows the trainers to make rapid changes while the game is being played.

To aid the incorporation of gaming into learning, VBS2 has an excellent After Action Review (AAR) system, which permits the trainers to facilitate discussions on what the training audience needs to improve or sustain. VBS2 is enabled to interoperate with Army command and control (C2) and virtual



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and constructive systems. VBS2 includes a Distributed Interactive Simulation (DIS) High Level Architecture (HLA) that enables interoperability with other virtual and constructive models and simulations as well as battle command and control systems such as Blue Force Tracker, FBCB-2 and the Command Post of the Future (CPOF).

These features enable the training of organized teams and stimulate the mental processes necessary in developing agile and adaptable leaders.



**Geo-specific terrain as modeled in VBS2**

Apart from developing agile leaders, VBS2 has a sophisticated terrain editor which includes the potential for the selection of actual terrain, as well as the modeling of real buildings and other structures upon that terrain. This ability allows the creation of terrain in an actual area of responsibility (AOR) such as Iraq or Afghanistan. Consequently, units can use VBS2 to conduct real world mission planning and rehearsals and leader's virtual reconnaissance on the terrain in their area of responsibility. Many in the Army anticipate that VBS2 can replace, in certain situations, the terrain boards, sand tables and other ad hoc tools to assist leaders and Soldiers in battlefield visualization. All in all, VBS2 is an outstanding, versatile tool.



**Soldiers from FT Lewis training using VBS2**

As a proto-type, a commercial version of VBS2 has already been in use at many locations in the U.S. Army. Fort Lewis organizations in particular have used VBS2 many times not only at the main installation but at its training center in Yakima, Washington. At Yakima, personnel from the Fort Lewis Battle Command Training Center (BCTC) work with the units to identify training objectives, build Yakima terrain and buildings into the game's data base, design scenarios and connect the game to a Army constructive simulation called Joint Conflict and Terrain Simulation (JCATS).

Fort Lewis company commanders, platoon leaders, and squad leaders can conduct operations in the semi-immersive environment of the game and report to the higher level battalion commander and his staff operating in their actual vehicles and tactical operations centers (TOCs). Leaders and Soldiers have been able to practice their Standard Operating Procedures, train Core and Directed Mission Essential Tasks, and train Warrior Tasks and Battle Drills. Fort Lewis users of VBS2, from brigade level through squad, have become ardent believers in this training tool and constantly seek more time to use it.



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**Commanders make decisions and see the execution of the plan by their subordinates**

The Army began to field VBS2 to operational units and its schools and institutions in February 2009. The total package consists not only of VBS2 but also incorporates two features: Tactical Iraqi and Elect Bilat. These latter features permit units to conduct language and cultural awareness education programs. The overall package will be a strong tool as the Army trains for full spectrum operations. In 2008, the multi-million dollar total package was fielded to the Army's Battle Command Training Centers (BCTCs), including ones in Hawaii, Alaska, Korea, and Germany.

The U.S. Army has been adapting operational and institutional training to develop agile leaders and teams to meet the demands of full spectrum operations. To meet the substantial challenges posed by demographic and resource shifts, the Army is using gaming technology as an important tool. The VBS2 game currently being fielded is a versatile tool with robust features to meet the demands of full spectrum operations. Initial reports suggest that the VBS2 game and other gaming technology adapted for military purposes are an efficient and effective way to train and educate agile leaders and develop small teams for operations.



**As the program rolls out, "real" soldiers train for scenarios using VBS2 for situations as shown in the game**

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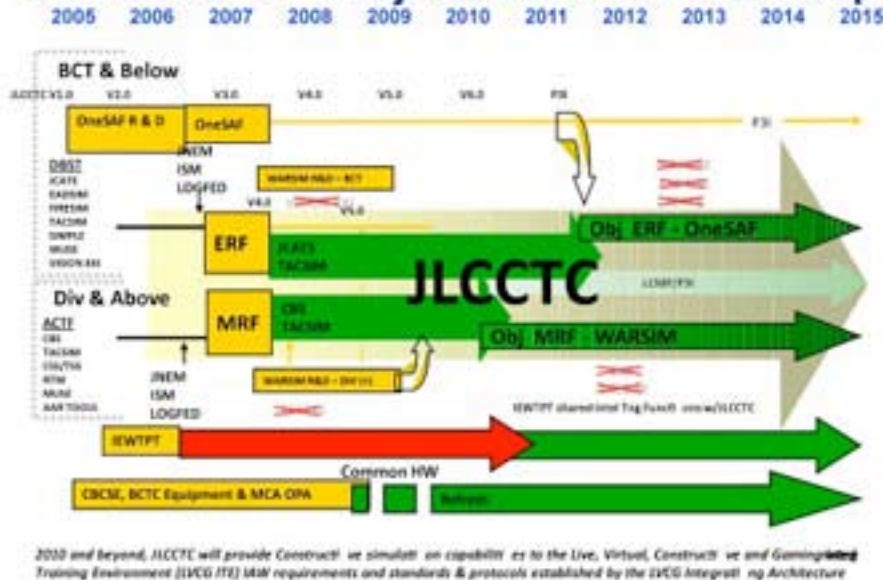
## **TRADOC Capability Manager – Joint Land Component Constructive Training Capability (TCM-JLCCTC) Initiatives**

*Mr. Donald Toliver, U.S. Army National Simulation Center*

This article is intended to familiarize readers with the current activities of the TRADOC Capability Manager – Joint Land Component Constructive Training Capability (TCM-JLCCTC). The TCM-JLCCTC Team has a wide range of tasks in progress at any given time, for both 'programs of record' and self and user-initiated investigation/analysis of both commercial and government sourced modeling and simulation (M&S) capabilities that indicate potential for satisfying current or emerging capability gaps in the constructive training M&S toolkit. Current compositions of the JLCCTC include the Multi-Resolution Federation – Corps Battle Simulation (MRF-C) centric and MRF – Warfighter's Simulation (MRF-W) centric, and the Entity Resolution Federation (ERF). Also, a major focus is the One Semi-Automated Force (OneSAF) simulation capability. It is not the intent of this article to familiarize the reader with all of the 'moving parts' of these systems, so the discussion will stay at the 'federation' or 'capability' level. Given that the descriptions that follow indicate a number of "Divisions" in the TCM-JLCCTC organizational

structure, it is important to point out that these are functional constructs, and that the personnel assigned to or supporting the TCM-JLCCTC effort are dual and in many cases triple-tasked across these divisions.

### **TCM JLCCTC – Projected JLCCTC Roadmap**



The Multi-Resolution Federation (MRF) Division of TCM-JLCCTC serves as the primary combat developer for the MRF. The MRF Division is responsible for identifying requirements and participating in the requirements-driven implementation of this multi-million dollar life-cycle simulation development program. The MRF Division participates



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across the full range of development efforts, to include the simulations technical infrastructure, model design, and maintainability/sustainability issues to ensure (through formal validation and operational assessment) that the constructive models and simulations comprising the MRF can effectively interoperate with the real world command and control systems. The division must manage two unique MRF compositions: the MRF – Corps Battle Simulation centric (MRF-C) and the MRF – Warfighter’s Simulation centric (MRF-W); the MRF-W will replace the MRF-C in the 2011 to 2012 timeframe. (See Figure 1 for a TCM-JLCCTC projection of the evolution of the JLCCTC.)

The MRF is a federation of constructive M&S systems that can interoperate with each other and with software-based messaging and translation tools to provide a realistic representation of an operationally valid battle space to a given training audience. The MRF processes convert simulation data and information into correct digital command and control (C2) message formats and passes them to various C2 systems in the unit(s) participating in a simulation-driven training event. The MRF facilitates collective battle command training by requiring commander and staff action/reaction to the digital common operational picture while planning and executing the commander’s tactical plans. The intended training audience is division, corps and above commanders and battle staffs at all command posts (CPs) (tactical, mobile, etc.). The MRF is currently fielded at seven Army sites. For more information on the MRF Federation contact Michael Richter at 913-684-8422 or michael.richter@us.army.mil.



**Soldier from User Training Community giving feedback to an NSC Combat Developer during a Validation Event**

The Entity Resolution Federation (ERF) Division of TCM-JLCCTC serves as the primary combat developer for the ERF. The ERF division is responsible for identifying requirements and participating in the requirements-driven implementation of this multi-million dollar life-cycle simulation development program. The ERF Division participates across the full range of development efforts, to include the simulations technical infrastructure, model design, and maintainability/sustainability issues to ensure (through formal validation and operational assessment) that the constructive models and simulations comprising the ERF can effectively interoperate with the real world command and control systems.

Like the MRF, the ERF is a federation of constructive M&S systems that can interoperate with each other and with software-based messaging and translation tools to provide a realistic representation of an operationally valid battle space to a given training audience. The ERF also stimulates the digital C2 systems

with correct message formats to provide the training unit commander and staff with a realistic and operationally valid digital common operational picture while planning and executing the commander’s



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tactical plans. The intended training audience is brigade and below commanders and battle staffs at all command posts (tactical, mobile, etc.). The ERF is currently fielded at 28 Army Active, Reserve and National Guard sites. For more information on the ERF Federation contact MAJ Rhoads at 913-684-8121 or Rich Hannon at 913-684-8219 or richard.hannon@us.army.mil.

The C2 Interface Tools Division provides C2, stimulation, and after action review system (AARS) support to both ERF & MRF. The division manages the JLCCTC C2 Lab which uses 'most of' the primary battle command systems currently found in the Army CPs, and provides primary combat development



**Soldiers receiving realistic JLCCTC Training Simulation data on their Battle Command systems during a BCTP Warfighter Exercise**

for the software-based messaging and translation tools (the Run Time Manager (RTM), Independent Stimulation Module (ISM), Simulation to C4I Interchange Module for Plans, Logistics and Exercises (SIMPLE), Joint Simulation Protocol Analyzer (JSPA)), in addition to the AARS. The division also plays a critical role in the integration and trouble-shooting of the federations; the combination of the stimulation and AARS capabilities facilitates the 'end-to-end' testing and trouble shooting and the ultimate validation of user issues that deal with digital C2 feeds, Master Scenario Events List (MSEL) injects and after action products needed to effectively support the training. For more information on the C2 Interface Tools Division please contact Rich Hannon at 913-684-8219 or richard.hannon@us.army.mil.

ing constructive intelligence simulation models and applications in the JLCCTC to represent tactical, theater, national, coalition and contemporary operational environment (COE) intelligence systems across the seven major intelligence disciplines, to include sensor connections to the appropriate command and control systems and intelligence processors. Division personnel also lead the functional validation of JLCCTC intelligence models. Finally, the division ensures that the various JLCCTC compositions meet AR 25-2 and Department of Defense Information Assurance Certification and Accreditation Process information assurance dictums. This is a critical task, as the JLCCTC's objective system accreditation is at the MACII/Classified and multi-security levels, and the JLCCTC uses unclassified// for official use only, secret U.S. only, secret releasable, and TS/SCI information, physical facilities, and networks. For more information on the Intelligence and Security Division contact Carl Meinke at 913-684-8440 or carl.meinke@us.army.mil.

The Intelligence and Security Division is responsible for JLCCTC Intelligence and information assurance matters. Division personnel perform combat development tasks for designing, developing, and maintain-

The One Semi-Automated Forces (OneSAF) Branch serves as the primary representative for the train-



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ing, exercises, and military operations (TEMO) domain to the TRADOC Program Office – OneSAF, who is the lead combat developer for OneSAF. The OneSAF Branch is responsible for identifying TEMO-specific requirements and participating in the requirements-driven implementation of this multi-million dollar development program. The OneSAF Branch participates in a somewhat more focused set of development efforts, centered on the simulation’s usability and maintainability/sustainability issues to ensure (through operational assessment and ultimately formal Validation) that OneSAF can effectively interoperate with the real world command and control systems.

The OneSAF is a composable, next generation, entity-level simulation designed for brigade and below, combat and non-combat operations. OneSAF is built to represent the modular and future force and to represent entities, units, and behaviors across the spectrum of military operations in the contemporary operating environment, and is unique in its ability to model unit behaviors from fire team to company level for all units; its levels of automation are intended to increase the span of control for workstation operators. OneSAF is a cross-domain simulation suitable for supporting training, analysis, research, experimentation, and mission planning and rehearsal activities. For more information on the MRF Federation contact MAJ Garrido at 913-684-8322 or [randy.garrido@us.army.mil](mailto:randy.garrido@us.army.mil).

The TCM-JLCCTC is also currently working closely with III Corps to refine requirements for a materiel solution, and prototype potential solutions, for providing support to training in capacity building. As these goals are pursued, pertinent information is shared with the Program Manager for Constructive Simulations, who will be responsible for providing the enduring, sustainable training support capability. This effort will ultimately benefit the entire Army collective training community by adding new and highly relevant training aids to the JLCCTC toolkit.

The TCM-JLCCTC Team is dedicated to providing the timeliest and relevant training tools possible to meet the highly fluid needs of the Army, as driven by the evolving force structure, digital C2 systems, contemporary operational environment, and overall training strategy and functional focus. Oftentimes, this has resulted in a trade-off of usability in favor of functionality. As the real-world OPTEMPO is reduced, the focus will shift to include greater emphasis on efficiency of simulation operations, through refinement of the current JLCCTC compositions and the development of a low overhead driver capability (already in prototyping). In addition, as the Army continues to develop an Integrated Training Environment (ITE), the team will be increasingly involved in defining, designing, validating and testing the JLCCTC’s integration into that environment. The TCM-JLCCTC Team is and will continue to be a major partner in the capabilities development community that provides the Army with training tools, now and in the future. For more information on the JLCCTC contact Mike Black at 913-684-8252 or Met Metivier at 913-684-8160 or [met.metivier@us.army.mil](mailto:met.metivier@us.army.mil).

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## **Civilian Career Program 36 Developmental Assignment**

*J. David Lashlee, Ph.D., Research Physical Scientist  
Army Geospatial Center*

During 2009, I completed a developmental assignment at the Korea Battle Simulation Center (KBSC) located at the U.S. Army Garrison – Yongsan, Seoul, Republic of Korea (ROK). The KBSC and its ROK-US counterpart organization, the Combined Battle Simulation Center (CBSC), provide multi-faceted exercise support to the Combined Forces Command (CFC) and U.S. Forces Korea, Eighth U.S. Army and Second Infantry Division, and the ROK armed forces. The KBSC also provides simulation support to U.S. Forces Japan and U.S. Army Japan, as well as other exercises held in the U.S. Pacific Command. The primary purpose of the developmental assignment was to gain an understanding of the KBSC simulation federation, including live, virtual, and constructive (LVC) simulations used for brigade-and-below training, by participating in exercise Key Resolve 2009 (KR09) as an assistant operations officer.

Exercise KR09 was a combined forces theater-level command post exercise that took place 9 – 20 March 2009 at locations throughout the ROK, Japan, Hawaii, and Ft. Hood, Texas. The annual exercise is designed to ensure that CFC is ready to defend South Korea if required. Key Resolve Part A (9 – 13 Mar 09) was defensive in nature and included non-combatant evacuation operations. After a 48-hour simulation reset, Part B (16 – 20 Mar 09) simulated full combat operations in a mature theater. The opposing force (OPFOR) was fully competitive (free play, fight to win), and consisted of 650 personnel using real world tactics, doctrine, and equipment. The CBSC/KBSC director, Jude Shea, explains, "Key Resolve is complex because it's Joint, combined, and kinetic. It has a lot of moving parts involving ROK and US Army, Navy, Air Force, Marine, and Special Forces." Executing one of the largest training exercises in the world requires KBSC to maintain a sophisticated, highly-distributed, secure simulation architecture and rigorous exercise control. More than 26,000 personnel participated in KR09 this year, half of whom were located off-peninsula.

Dr. Lashlee's 90-day assignment was performed from 5 January to 3 April 2009, allowing participation in all phases of KR09, from planning conferences through after action reviews. During the exercise, he visited simulation centers located in Jinhae (Naval Control and gamers); Daegu (Logistics Control and US Army gamers); Yusong (ROK Army Battle Command Training Program and ROK gamers); Osan (Air Force Models, Control, and gamers); Seoul (Ground and Naval Combat Models, Senior Control, and Senior Observers); and Tongduchon (LVC hub and OPFOR). Geospatial data issues related to battle command and simulation systems were identified during each site survey and will be used in his Post-Doctorate study entitled "The Appropriate Use of Digital Terrain Data in Developmental and a Operational Testing of Battle Command Systems" currently being performed with officers from the U.S. Military Academy at West Point, New York.

The developmental assignment was sponsored by the Army Simulation Proponent (CSCA-SP) via CP 36, the Army's Civilian M&S Career Program. The CP 36 program was approved by the Assistant Sec-



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retary of the Army in February 2005, when senior Army leadership observed that the lack of trained and ready civilian M&S personnel was a strategic Army shortfall. Limited resources, transformation, and rapid technology advancements have each contributed to M&S professionals being formally recognized as critical enablers of DoD and Army programs across all domains.

A major benefit of the CP 36 Program is cross training. The U.S. Army Corps of Engineers and Engineering Research (USACE) and Development Center have long histories of developing models and simulations in support of the advanced concepts and requirements (ACR) and research, development, and acquisition (RDA) M&S domains. While some USACE employees have participated in military exercises as members of the training audience, i.e., as service men and women, few have experience applying simulation operations at Army battle simulation centers that enable the training exercises and military operations (TEMO) domain. In fiscally constrained times, it's important for organizations that commit resources to developing models, simulations, and battle command software to have a comprehensive, cross-domain understanding of how the Army uses them. Developing strategic business relationships with organizations that perform M&S on a continuous basis is an important part of that process. The KBSC uses M&S to stimulate battle command systems at the brigade and below, division, Army, Joint, and combined forces echelons.

While I was at KBSC, Christopher Herrmann, an Army CP 36 Intern, was detailed to the Topographic Engineering Center for a 90-day rotation to learn I was about M&S terrain database and Ultra High-Resolution Model generation, geospatial data acquisition, and the new Army Geospatial Enterprise. As Chris completed his CP36 Internship in 2009 with additional rotations to PEO-STRI and Aberdeen Test Center, and begins his M&S career, we anticipate that he'll continue to be an ambassador for the Engineer Research and Development Center and Army Geospatial Center.

*Dr. Lashlee is recognized as a Certified Modeling and Simulation Professional (CMSP) by the Modeling and Simulation Professional Certification Commission, having passed the CMSP examination in 2008. He currently serves as USACE CP36 Program Manager for ERDC employees interested in pursuing CP36 training can contact him at CP36@usace.army.mil or email the Army Simulation Proponent directly at CP36@us.army.mil.*

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## **The FA57: Jack Of All Trades, Or Master Of None?**

*Mr. Wade Becnel, Chief Knowledge Officer  
U.S. Army Aviation Center of Excellence  
Fort Rucker, Alabama*

In the ten plus years I have been formally associated with the Army's Functional Area (FA 57), I've noticed an evolutionary change in what General Shinseki envisioned for the community back then and what we're expecting these officers to accomplish today. As years have passed, our beliefs in what we thought we would do and what we are now expected to accomplish don't seem complimentary in focus...or are they?

For those who know me, I have always believed that the FA 57 officer is first and foremost a trainer; someone who understands how to train and appreciates the appropriate role simulations can play in supporting training events by increasing the fidelity of the event for the training audience. Even back in the early days of the program, I noted a difference in opinion as to what FA 57 officers should do. Some felt that operational assignments were not as critical as an advanced degree from one of the key modeling & simulation (M&S) graduate schools. While I acknowledge the need of having an advanced degree if you are involved with future program capability development efforts, I knew my place was in the field helping units integrate live, virtual, and constructive tools into a vibrant training program.

During my time serving as a FA 57 officer, I was fortunate to have led two simulation support organizations which helped units prepare for their real world missions. When I was the division chief of the simulations division within the Aviation Center's Directorate of Training, Doctrine, and Simulations (DOTDS), I supported units preparing for their deployments to Bosnia (SFOR) and Kosovo (IFOR). Following this assignment, I was selected to be the Deputy Commander, and thereafter the Commander of the Warrior Preparation Center (WPC) in Germany. I had just arrived at WPC in July 2001 and set about learning the mission of my organization. Little did I know that in about two months, our world would change.

September 11th, 2001 marked the day WPC fundamentally changed from a training organization into an operational support facility tasked to support "go to war" preparations for deploying Army, Air Force, and NATO units. Our "road to war" efforts changed from hypothetical events to real world considerations. We knew that our ability to support with all the tools and expertise we could muster would take on a whole different meaning since units would be departing soon after their training was complete to go into harm's way. There were many days where I would reflect upon an old saying I saw on my first day in the Armor Officer Basic Course. During our first class the instructor showed a picture of a burning tank with a cloud of smoke rising up from the turret and from within that cloud was a soldier pointing at us. The caption at the bottom of the slide was simple: "I don't want to awake in the middle of the night with the haunting voice of a dead soldier crying out, 'Had I been properly trained!' " By the time I departed the WPC in the summer of 2003 I felt that we'd accomplished our mission, performed to the best of our abilities, and had provided the best support possible.



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In the fall of 2003, I was assigned to the Army War College and was tasked to incorporate simulations into the college's curriculum. Shortly after I got settled into my new job, several of the FA 57 officers I worked with in Germany contacted me via email looking for advice. Each of these division FA 57 officers had worked closely with my WPC staff to coordinate their unit's training support requirements. These officers' collaborative efforts were key to the successful execution of essential training events within their respective divisions. Each of these officers was now deployed with their respective division in Iraq. All asked the same question, "What do we do now?" Some were LNOs to higher headquarters while others worked in the G-3 shop on tasks in the Current or Future Operations Cell. None were working simulations and training. In my focus to support units getting ready to deploy, I had not considered the implications of getting these FA 57 officers ready for their follow on missions. We had not even thought about how these talented officers could employ simulation tools within the context of supporting actual combat operations planning.

In the absence of a formal plan, the flow of daily requirements forced units to adapt to meet mission needs. Since necessity is the mother of invention, events defined the way ahead for these displaced "simulationist"...they became the first Battle Command Officers. While at first blush there does not appear to be a clear linkage between the two jobs, the core skills and experiences of the FA 57 officer help lend themselves to a transition to battle command duties. First, each of the FA 57 officers were experienced in developing simulation support plans for their respective training events, to ensure the division staff was provided accurate informational input from all sources. They appreciated what digital tool received what signal and how these tools interacted. Secondly, the FA 57 officer understood the division's command and control structure both in terms of technology and personalities. In supporting exercises, these simulation officers attended update briefings to their commanding general and appreciated how the commander saw the fight and how they wanted the fight to unfold. Such guidance was integrated into the exercise flow to ensure the right events occurred at the right time supported by the right information flow. Finally, these officers could watch complex divisional events unfold and assess where breakdowns in digital command and control occurred and how units modified operations to achieve success. Having worked with such talented officers, it did not surprise me when the requirement for battle command was given to the FA 57 community.

History has a funny way of repeating itself. We now find that the FA 57 community is being given another trade to master: Knowledge Management (KM). While the validity of the term is debatable we should at least understand what the Army is seeking with this initiative. The Army's new FM 6-01.1, Knowledge Management Section, defines knowledge management as "the art of creating, organizing, applying, and transferring knowledge to facilitate situational understanding and decision making."<sup>1</sup> Upon cursory review you could easily postulate where a Battle Command Officer is already accomplishing these same tasks. A nagging set of questions remain. Why has KM emerged in the past few years as a major Army initiative? More importantly, why has the FA 57 community been identified as the recipient of this task management effort? I'm not sure I have the best answer to these two questions but I have an opinion.

I believe the reason KM has emerged as a major Army effort can be traced to our ongoing challenges



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in fully realizing the potential of the network despite our tremendous investment in supporting technologies. I'd offer that our lack of a disciplined management approach (e.g., Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel and Facilities [DOTMLPF]) in implementing this promising capability continues to hamper our efforts. From my perspective, the application of technology without an adequate training, education, or support structure is a recipe for mediocrity. One of the positive results of the KM initiative is a focused effort to define the problem from a more holistic position. As you read FM 6-01.1, you'll note that there are three components to KM: people, processes, and technology. As I've noted above, I personally believe that the focus on technology at the expense of people and process opened a Pandora 's Box that has challenged our ability to effectively communicate in a dispersed and distributed manner. Furthermore, I'd proffer KM as the disciplined venue to influence our corporate culture in a way that we can right these wrongs.

With the proliferation of digital battle command systems, our ability for a majority of our organizations to connect over a distributed network with dispersed units is exponentially greater than at any other time in our history. This "net centric" environment allows us to gather data and share information in an unprecedented manner. Unfortunately, our disciplined staff processes from analog days have been replaced by unbridled "cut and paste" staff work that often fails to answer the question "so what?" The technical ease by which we can merge multiple documents into a single report, albeit useless in terms of usable content, has created a culture of "cognitive atrophy" for most staff officers. To add insult to injury, we often are unaware that the answers to our critical questions may lie in our network but because of data and information overload we can't find or access such answers in time to make the right decision. The emergence of new Web 2.0 technologies like Wikis, blogs, asynchronous online forums, and synchronous video meetings promises great benefits, but unfortunately, bring their own unique multi-generational challenges. It is at this point in this ongoing drama that a new actor enters stage right: The FA 57/Battle Command Officer/Knowledge Manager.

If one accepts my premise that digital command and control using networked automation technology got us into this communicative "Tower of Babel" mess, then you would see that having competent Battle Command Officers, with their KM staff section, trained and educated in appropriate KM skills could be a starting point to overcome this challenge. And since the Battle Command Officer is an additional skill set of the FA 57, it appears that FA 57s are expected to be the primary supporters of KM. Does this make sense? Yes and no. I agree that FA 57 officers should be versed in KM concepts, doctrine, and TTP; it only makes sense that we fully understand how to effectively and efficiently communicate regardless of our job and functional area. Where I disagree is that FA 57 or FA 53 (Systems Automation) officers should be targeted as the only people responsible for KM. Every officer in the Army should be a KM advocate and practitioner. I understand someone has to define our way ahead in terms of KM if we're to fully realize the full potential of integrating people + process + technology, but at what cost? If a FA 57 officer is expected to be a "Jack of all trades," are we expecting too much in asking them to be a master of all of them too?

I suspect there is no clear cut answer to this question. I think every member of the Army needs to be an effective KM practitioner. We should work daily at improving our skills in creating, applying, orga-



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nizing, and transferring knowledge within the larger community we operate within. This is a long term cultural change effort which won't occur overnight. While some would advocate that the FA 57 officer is the best option, I'd urge caution about hopping onto that band wagon just yet. Having met and taught many of the young FA 57 officers out in the field today, I don't think there is any task they can't solve; be it a simulation issue, a battle command effort, or a knowledge management initiative. My concern is that we'll dump these somewhat complementary yet distinct efforts on a limited resource pool and expect all issues to be solved equally. If the FA 57 community is force fed this requirement, then we ruck up, move out smartly, and do the best we can. The FA 57 is rapidly becoming the expert in simulations, battle command, and knowledge management. As long as senior Army leaders are aware of this evolution from General Shinseki's original vision then we're probably OK, because I don't know of many people who could master all of the details of all three efforts at the same time.

<sup>1</sup> FM 6-01.1, Knowledge Management Section, pg 1-1, paragraph 1-3. Dated Aug 2008

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## **A Sustainment Exercise within a Sustainment Exercise**

*Mr. Donald Toliver, U.S. Army National Simulation Center*

A little known fact by many outside of the 8th Theater Support Command (TSC) is that the 8th TSC participated in Key Resolve 09, a US Forces Korea theater level exercise, without going to Korea or directly touching the simulation architecture. It all began in October 2008, when the G3 of the 8th TSC staff approached a senior member of the Logistics Exercise and Simulation Directorate (LESD) of the National Simulation Center (NSC) and asked if LESD could support a separate parallel exercise during Key Resolve. The 8th TSC wanted to use the same exercise scenario with a several modifications to tailor it to their training objectives. They also wanted to monitor the sustainment units in the Key Resolve exercise simultaneously and seamlessly. Looking at the requirements it was determined the 8th TSC could use a stand-alone version of the Joint Deployment Logistics Model (JDLM) in a remote simulation center at Camp Zama, Japan and stimulate Battle Command Sustainment Support (BCS3) to meet their requirements. This would allow them to train alongside the exercise in Korea with a parallel story line and share data between Japan and Hawaii with BCS3. The event was then used to achieve full operational capability (FOC) of the newly formed 8th TSC.

The JDLM is the constructive simulation used to drive logistics and sustainment training in a theater of operation. It provides commanders and their staffs, from battalion through theater support command, the tools necessary to conduct mission planning, rehearsals and training associated with combat logistical support, power projection, sustainment, and support of civilian authority operations.

The 8th TSC ran split based operations between Japan and Hawaii with JDLM providing the data to BCS3. The 8th TSC was able to replicate the units, personnel, and equipment flowing into and out of the Korean Peninsula, Japan, Hawaii, and CONUS. This allowed the 8th TSC to conduct mission planning for the power projection of replacements, retrograde of damaged equipment, sustainment, and support of displaced non-combatants along with monitoring and planning simultaneous humanitarian relief missions in their area of responsibility outside of Korea.

The most challenging aspect of the exercise was coordinating the timely flow of information from the large Multi-Resolution Federation of simulation models technically controlled by the Korea Battle Simulation Center into the stand-alone JDLM training environment while managing multiple levels of security in the exercise.

This transfer of data was done with a lot of "swivel chair" and telephonic input. "Swivel chair" is when an operator takes data from one computer system and manually inputs it into another. The data required was downloaded from the large simulation in Korea, manipulated into the different format needed for the stand-alone simulation and then input by hand. A schedule of ferries and planes coordinated over the telephone with a response cell in Korea was used to simulate the flow of non-combatants. The response cell in Korea would state the time of departure, passenger types, and vehicle type (plane or ship) along with destination. The JDLM server operator then input the information into JDLM



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and the plane or ship would depart Korea, in the simulation, to its destination.

The 8th TSC monitored the status of personnel, equipment, convoys, and units with a combination of reports from response cells located in Japan and Korea; and through BCS3 that was stimulated by JDLM in Japan. Through the stimulation of BCS3 the 8th TSC main in Hawaii was able to closely monitor the status of convoys, planes, and ships going in and out of the theater; monitor the status and location of sustainment units in Korea; and plan follow-on operations.

The use of JDLM along with response cells allowed the 8th TSC to monitor what their sustainment units were doing within the Pacific Command area of responsibility, track the flow of passengers and equipment and successfully carryout their FOC training in conjunction with the Key Resolve Exercise in Korea putting an extra dose of realism into a complex training environment.

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## **Long Range Eyes: A Battle Command Training Capability**

*Cubic Applications, Inc, Battlefield Visualization Team; et al*

Intelligence, surveillance, and reconnaissance (ISR) are vital to the military commander. Information from ISR assets lead the commander and staff as they plan and execute battlefield operations; they are their long range eyes. A proven and an invaluable ISR tool is the Unmanned Aerial System (UAS). Data from the UAS helps locate enemy forces, vehicles, weapons systems, and also helps to identify civilians, friendly forces and noncombatants reducing collateral damage.

To effectively use the UAS, a commander and staff must have the ability to collectively train with realistic UAS data. The National Simulation Center (NSC) provides this battle command training capability using the Multiple Unified Simulations Environment (MUSE).

To provide the MUSE training capability, the NSC relies on the Cubic Applications. Inc, Battlefield Visualization Team (BVT). The BVT has several roles: they manage the MUSE hardware and software; ship the training capability worldwide to support Brigade Combat Teams through Corps Warfighter Exercises (WFX) and Mission Rehearsal Exercises (MRX); setup the system at the exercise's location; train military operators to the fly the UAS in the simulation; and technically manage the MUSE during the exercise.



**Figure 1 : MUSE Images**

The MUSE is a versatile simulation tool that models images and streaming video similar to payload (camera) captures from Army UAS assets, like the Shadow, Hunter and Predator, and the Air Force's Rover down-link video system (Figure 1).

The MUSE requires entity data from a ground simulation, such as the Corps Battle Simulation (CBS) via the Tactical Simulation (TACSIM), the Joint Conflict and Tactical Simulation (JCATS) or the Air and Space Constructive Environment - Information Operations Suite (ACE-IOS) to replicate the UAS images (Figure 2).

To fly the UAS asset, a military operator uses the MUSE baseline suite that includes the Virtual Scene Generator (VRSG) and a Control Station Surrogate (CSS). A technical control suite interacts with the ground simulation, the baseline suite and the unit's Ground Control Station (GCS) and contains the:



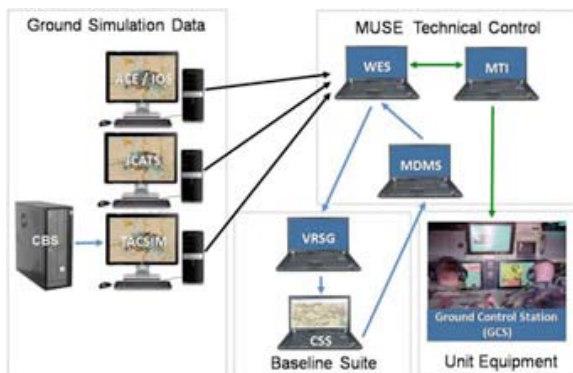
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- Microsoft Windows™ Entity Server (WES)
- Moving Target Indicator Server (MTI)
- MUSE Driver Management System (MDMS)



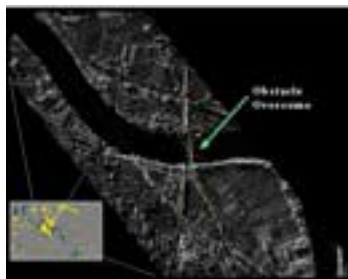
**Figure 2: MUSE Integration**

Simulation data is sent to the WES, which passes the data to the MTI and the VRSG. The MTI structures the data and sends it on to the Unit's GCS (Figures 2 and 3). The VRSG software translates the data into representations that simulate UAS payload captures. To replicate these images the VRSG uses object library data that models the many different equipment, infrastructure items, vehicles and weapons systems the UAS might encounter in reality. When the VRSG receives simulation data it scrolls through its extensive object library, finds the object data and displays it.

The MUSE's stand alone capability provides the training audience the ability to gain practical experience in higher command ISR tasking and intelligence product development.

This battle command training capability is invaluable to those who may not have experience using UAS.

Commanders and staff who have UAS experience continue to seek additional UAS training and quickly realize MUSE's significance and use it to refine their warfighting skills.



**Figure 3: CGS View**

The Battle Command Training Program (BCTP) integrates MUSE capabilities into MRXs at the Joint Warfighting Center, as a final training event to prepare commanders and staff before deploying to Iraq or Afghanistan. Moreover, the BVT supports Army National Guard and Reserves as well as other training at military installations around the world. Almost all BVT training missions support current and contingency operations.

The NSC and the BVT are proud to provide support for this battle command training capability and assist in honing Army readiness that directly contributes to the success on the battlefield.

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## **FA 57 Career Manager Update**

*LTC Scott Znamenacek*

*LTC Znamenacek is the Functional Area Deputy Branch Chief and FA 57 Active Component/Army Reserve AGR Career Manager.*



### **HRC Moving to Fort Knox in 2010**

In 2005, the Defense Base Closure and Realignment Commission (BRAC) recommended the creation of the Human Resources Center of Excellence and directed U.S. Army Human Resources Command and its elements in Alexandria, VA; Indianapolis, IN and St. Louis, MO, to move to a new facility at Fort Knox, KY, by 2011.

The command is taking steps now to mitigate any problems that may occur during the upcoming move. Officers should allow additional processing time for personnel actions, to include evaluation and separations.

### **Changes to Board Schedules**

Due to the move to Fort Knox, the Army will not conduct any centralized boards during summer 2010. All officers that are being seen by a board during this period need to be aware of the changes to ensure their board files are updated in accordance with the new timelines.

In a recent Army Times interview, Lieutenant Colonel Liana Bratland, chief of the Army's selection board secretariat, noted the July, August and September transition period will ease the movement of staff and equipment to the new facility at Fort Knox. LTC Bratland said boards that traditionally have met in the summer months have been slated to convene before or after the transition. For example, colonel boards that have met in July or August will meet during June next year.

### **Your File**

Officer selection boards are a part of every officer's career and maintaining your records in preparation for these boards is critical for selection. Army board members focus on three items: your DA Photo, your Officer Record Brief, and your performance fiche.

**DA Photos:** Officers need to have a photo within the past five (5) years, but a photo not older than two (2) years old is preferred. Officers should check their photos before leaving the photo lab for clarity, sharpness, and correct placement/orientation of ribbons and badges. If there are problems with the photo, request that the photographer retake the photograph. Through the end of FY 2009, the Army Green Class A is the only authorized uniform for DA photos. After 4th Quarter Fiscal Year 2009, Soldiers have the option to take their DA photo in either the Green Class A or the new blue Army Service Uniform. Officers must approve their photo in DAPMIS before the photo can be electronically pulled into the Army Selection Board System.



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Officer Record Brief (ORB): Most ORB corrections can be done by the Assignments Officer, but certain fields must be corrected locally. eMILPO tour information (Section I) and security data (Section III) must be input thru the officer's local personnel service offices. Although, not required for a board, if you are anticipating to PCS within the next twelve (12) months, ensure all assignment considerations are updated, i.e. Exceptional Family Member Program, Dual Military, etc.

Performance Fiche (Performance, Education & Commendatory): This file includes all of an officer's evaluations, awards/commendations, and academic reports/transcripts. The contents of these files should match the entries on your ORB and on your photo. It is the officer's responsibility to ensure that evaluations are received at HRC by the timeline directed in the board message. Lieutenant Officer Evaluation Reports (OERs) are not included in board files and if present will be removed from your board file. For award documentation, the guideline to follow is that a certificate is required for all awards and orders for all badges. For missing documentation, officers need to contact the issuing HQ to generate a replacement.

If you have questions about your file, please contact me so we can discuss what corrections need to be made. It is much easier to continuously update your file throughout the year vice making major corrections in the days before the board.

For more information on FA57 careers, contact me at:

LTC Scott Znamenacek ([scott.znamenacek@us.army.mil](mailto:scott.znamenacek@us.army.mil)) Phone: 703.325.8635; DSN 312.221.8635  
Address: Commander, U.S. Army Human Resources Command  
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## **M&S Education Starting 2009**

### **Naval Postgraduate School**

According to the 2007 AT&L Human Capital Strategy Plan v.3 the acquisition workforce consists of over 128,000 workforce members controlling over \$150 Billion a year. Since Modeling and Simulation (M&S) are available tools, they play increasingly important roles in the DoD Acquisition and Test and Evaluation workforce. In 2007 the Naval Postgraduate School was awarded the contract to develop a comprehensive educational program focused on consumers of M&S across DoD and industry. With enthusiastic support and guidance from the Modeling and Simulation Coordination Office (MSCO), the Navy Modeling and Simulation Office (NMSO), and the Army Simulation and Modeling School (CSCA-SP); the Naval Postgraduate School partnered with six other national academic leaders in the field of M&S to develop a wide array of full, short, and web-based M&S courses to support the M&S DoD workforce communities.

A total of 16 academic courses are available in the public domain. Ten of the courses were condensed into continuous learning modules for publication through the Defense Acquisition University. All courses are packaged as full or short academic courses that can be customized to fit into any instructor's education plan. Each package includes PowerPoint slides, supplemental materials, a list of references, and exams. A secured web based management system is in place to allow for U.S. Universities, DoD organizations, and U.S. Industry educators to access the materials for implementation into their own programs. Instructions for acquiring the course materials are posted on the project website at [www.nps.edu/msacq](http://www.nps.edu/msacq). Students may enroll at any U.S. University offering the courses, take continuous learning modules through DAU, or receive training at various DoD commands where courses are offered to meet workforce goals. Students are responsible for following all enrollment guidelines at participating organizations offering the courses.

### ***Educating the DoD Communities and Services (16 Courses)***

**M&S in the Acquisition Life Cycle, Parts 1 & 2**

**M&S Strategy and Support Plans**

**M&S Requirements and Evaluating M&S Proposals**

**Contracting for M&S**

**Best Practices in M&S**

**M&S in Decision Risk Analysis and Mitigation**

**M&S Environments**

**M&S Data Strategies**

**M&S for Test and Evaluation, Intro and Advanced**

**Introduction to Engineering M&S Applications**

**Physics-based M&S**

**Basic Engineering Concepts in M&S, Parts 1 & 2**

**Topics in the Application of Engineering M&S**



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To access instructions for obtaining the course materials or for the project's history visit the project website. All inquiries may be sent to Naval Postgraduate School project team at [MSAcq@nps.edu](mailto:MSAcq@nps.edu).

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## **Battle Command Officer Integration Course (BCOIC)**

**#10-001 Completes Training at I Corp and Fort Lewis Battle Command Training Center (BCTC).**

*Richard Mackey*

*Richard Mackey is an Alion Science and Technology senior military analyst supporting the Simulation Proponent Division*

Six officers and one senior noncommissioned officer from various CONUS and OCONUS commands completed the Battle Command Officers Integration Course (BCOIC) conducted at the I Corps and Fort Lewis, Washington (FLWA) Battle Command Training Center (BCTC) during the period 19-30 October 2009. The BCOIC is sponsored by the Simulation Proponent and School, Center for Army Analysis, Office of the Deputy Chief of Staff G8, Headquarters, Department of the Army. The Battle Command Officers



Integration Course (BCOIC) is a follow-on course to the Simulation Operations Course (SOC) for those Functional Area 57 (FA57, Simulation Operations) designated officers who are scheduled to perform or are assigned as Battle Command Officers (BCO) or Knowledge Management Officers (KMO) at brigade combat team (BCT), Division, Corps, and echelons above corps, or those who are scheduled and/or currently serving at one of the many Battle Command Training Centers located throughout the Army.

**Members of BCOIC #10-001 pose for their class photograph at the entrance to the FLWA BCTC SGT John A. Pittman Building (MSTF). Included are (from left to right) CPT Jeremy Guy, MAJ John Legg, MAJ Matt Owens, MAJ Dan Riddick, SGM Sean Briel, LTC Steve Baird, MAJ Roger Beliele, and Mr. K.P. Polczynski the Simulation Proponent Office BCOIC lead planner and Coordinator.**



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The BCOIC is one of several professional development training and education program courses specifically focused on the FA57 officer and their US Army government civilian employee counterpart Civilian Program 36 (Modeling and Simulation Professionals). The courses are conducted periodically during the year under the auspices of the US Army Simulation Proponent and School that is now part of the HQDA Deputy Chief of Staff, G8 and the Center for Army Analysis (CAA). This two-week training course consisting of eighty-hours of instruction is designed to provide individuals with an understanding of how to manage a digital tactical operation center, manage digital staff training, and how to integrate and manage organizational knowledge at a Brigade Combat Team (BCT) headquarters. The objective is to provide the BCT commander with a trained expert who understands both the art and the science of battle command and the technology that support effective decision-making. The intent of the course is to build competent and confident BCOs by focusing on battle command systems integration, problem solving, and critical thinking skills, while providing the student with opportunities to practice with currently fielded Army battle command systems and the simulation/stimulation systems that support them.

The FLWA BCTC is a state-of-the-art digital training center and an integral component of the Fort Lewis Center for Stryker Brigade Combat Teams (SBCT) training and leader development program. The BCTC integrates live, virtual, constructive and gaming (LVC+G) training to provide leaders, soldiers, and units with an immersive and seamless training environment throughout their ARFORGEN process. The BCTC trains Active, Guard, and Reserve soldiers and is a tool for our joint services with utilization by Marines, Navy, Air Force, Department of Transportation, Department of Homeland Security, and other federal agencies. It is the premier facility of its kind. The Mission Support Training Facility (MSTF), a subordinate element of the BCTC, provides digital and simulation supported training to the installations three Stryker Brigade Combat Teams. The BCTC's training capabilities include leader, staff and command post training; soldier, leader, team combat skills, and leadership development; scenario-based training enablers for brigade/battalion commanders and sergeants majors to participate in concept development, planning, observing, and after action reviews; and reach operations (worldwide communications) that provides training analysis, rehearsals, operational support, and lessons learned from the Stryker BCT's in theater counterparts. One of the highlights of the BCOIC was an in theater presentation by the MNC-I (I Corps) staff on their Knowledge Management techniques and processes supporting the execution of operations within the current conventional operation environment.

For more information on the considerable training opportunities, both military and civilian, available for FA57s and CP36s see the Simulation Proponent website at <http://www.ms.army.mil/>.

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## **FA57 OFFICER UPDATE**

*MAJ(P) Glenn Hodges,  
FA57 Proponent Officer  
glenn.hodges@conus.army.mil*

Since April of 2009, I have been serving the FA57 Proponent Officer. Below is a quick summary of events which can also be found in detail in the Proponent Sends Messages on the Battle Command Knowledge System (BCKS) SimOpsNet community forum <https://forums.bcks.army.mil/secure/CommunityBrowser.aspx?id=789127&lang=en-US>.

In April, I issued a strategic message to the field to provide the baseline for Functional Areas activities for the foreseeable future. This message has been received well and has resonated with leadership throughout the Army.

**Who We Are:** Soldiers who understand operational art and are capable of applying science (Simulation, BC and KM technologies) to support the Warfighter in today's Full Spectrum operational and training environment.

**What Capability We Provide the Army:** We develop, deliver and integrate complex Live, Virtual and Constructive Simulation Environments using the most current Army Battle Command Systems and Knowledge Management Principles to provide both the Operational and Institutional Army the ability to successfully conduct Full Spectrum Operations and Training. We act as Trainers, Integrators and Advisors to Army leadership.

**Where We Are Headed:** A majority of our soldiers have been and continue to be focused on operational support to deploying forces. Increasingly, our skills and abilities are being requested in the Testing, Experimentation and Acquisition communities. Our goal is to increase the Army's Modeling and Simulation efficacy by assigning our officers in these areas and others so that we may have a broader impact on the M&S lifecycle from requirements identification and generation to the delivery of new capabilities.

In May, we held the first Advanced Simulations Course for our senior officers and civilians. The course was taught at the Naval Postgraduate School (NPS) in Monterey, CA and was attended by a diverse group of FA 57 officers and CP 36 civilians from all domains across the Army. The intent of the course is to provide a higher level perspective of the modeling and simulation functions found throughout the broader Army. We expect the second pilot course to be offered in the early spring of 2010.

Over the past 4 months we have updated the DA PAM 600-3, HRC Accession Guidance and Battle Command Training Strategy (BCTS) to better capture the true nature of our role as it relates to these documents. We have held several Senior Advisory Council (SAC) meetings which have allowed our senior officers to provide input and discuss important topics and issues from the field.



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As a part of our continuing efforts to provide Modeling and Simulation capability to installations across the Army, we continue to meet with the leadership within the Installation Management Command. Our collective goal is to have FA57's working within the installation Battle Command Training Centers to be the Battle Command training enablers that the BCTS says we are. If successful we will have harvested additional developmental assignments for our officers.

As a part of overseeing the training and education programs for the FA, I continue to be engaged with the Combined Arms Center (CAC), Combined General Staff College (CGSC), Naval Postgraduate School (NPS) and others to ensure that we receive the best training and education opportunities available. If you are interested in the premiere modeling and simulation education program within the DoD I encourage you to investigate the NPS Modeling, Virtual Environments and Simulations (MOVES) institute and master degree program at <http://www.movesinstitute.org>.

Thanks again to all of the folks who continue to provide me with updates and information on what is going on outside of DC. This information is always greatly appreciated.

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**Career Program 36 Update**  
**(Civilians Working in Modeling and Simulations)**

*Janet Walton*  
*Janet Walton is a Program Coordinator and Developer for Alion Science and Technology, supporting Career Program 36 (CP 36).*

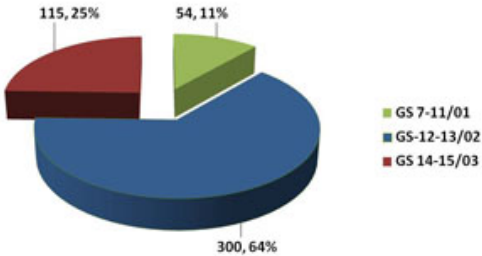
**Purpose:** The purpose of the CP 36 program is to provide a framework for systematic training, education and development of Army career civilians, who work in modeling and simulation (M&S)—providing them with a road map to aid in career development.

**Vision:** The vision of the program is to effectively develop, train, utilize and sustain enough civilian M&S professionals to meet current and future Army requirements for warfighting.

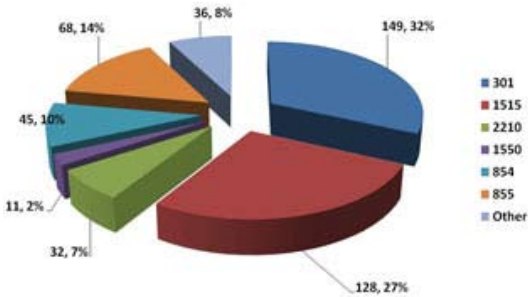
**Update**  
 As of August 2009, Mr. Mark Young is the new Civilian Program Manager, who serves as the Career Program Manager for CP 36.

CP 36 is comprised of over 469 careerists who are eligible for training and professional development opportunities, via the CP 36 umbrella. The following charts highlight a few of the population demographics as of October 2009.

**Grade Distribution – 469 Positions**



**Job Series Distribution – 469 Positions**



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- Since the full implementation of the career program, CP 36 has accomplished the following: (1) established a population of over 450 coded positions; (2) executed training and professional development budgets for FY07 through FY09, (3) recruited and hired (10) ten interns, completed professional developmental assignments for interns and careerists, and approved 154 training events for careerists working in modeling and simulation. Two of our interns are graduating from the intern program this year.
  - The Army Simulation Proponent is continually identifying modeling and simulation positions to add to the CP 36 population of coded positions. Two options exist for coding position descriptions. Supervisors and managers can: (1) request their Civilian Personnel Operation Centers add the CP 36 code to specific positions that are appropriate for the career program; or (2) forward a request to code positions to the Proponent Office and the CP 36 team will execute the request. Positions to be coded must be identified by position description numbers and the name of the person assigned to the position.
  - On 1 October 2009, the responsibility for funding Competitive Professional Development training under the Army Career Program Management function moved from Army G-1 to Army G-3/5/7. Careerists will continue to prepare their requests for training (SF182) using the Resource Allocation Selection System (RASS). However, the DD1610, for travel-related training, will be prepared in the Defense Travel System. This is a change to previous procedures, and detailed FY10 funding guidance was disseminated to all CP36 Army Command Program Managers and members of the CP 36 career program population. This guidance will be re-emphasized throughout the fiscal year. It is important to remember that requests for training must be submitted in RASS at least thirty (30) days before the training event occurs.
  - Announcements for available M&S training opportunities are disseminated to the CP 36 community on a quarterly basis. Supervisors and Army Command Program Managers are urged to identify training requirements for each quarter and submit to the Proponent by the suspense date indicated on each announcement.
  - The CP 36 Army Civilian Training, Education and Development System (ACTEDS) is accessible via the Army Civilian website, [http://cpol.army.mil/library/train/acteds/CP\\_36/](http://cpol.army.mil/library/train/acteds/CP_36/), and the Army Modeling and Simulation website, CP 36 webpage, <http://www.ms.army.mil/>. An update is underway and should be posted to the Army civilian website by 4th Qtr 2010.
  - A CP 36 Advisory Council meeting is tentatively scheduled for Spring 2010. More information will be forthcoming on the details for this meeting.
- M&S training, education and professional development opportunities currently available for Army civilians include, but are not limited to, the following:
- Simulation Operations Course – (Course length is 6 weeks) – Alexandria, VA



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- Simulation Operations Professional Course – (course length is 3 weeks; on request by command, and can be a mix of distance learning and on-site training)
- National Training Center – (Training is 7-9 days) – Simulation Operations Right-Seat-Ride Program (Fort Irwin, CA)
- Battle Command Officer Integration Course (2 weeks) – Ft. Indiantown Gap, PA and other U.S. locations.

Annex A of the CP 36 ACTEDS has a myriad of training, education and professional development opportunities that are available to civilians working in the M&S career field.

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## Training and Education

Mr. Gary Dahl  
Development Program Manager

The self-development training domain recognizes that Army service requires continuous, lifelong learning (AR 350-1, paragraph 1-9c). Lifelong learning is an important aspect for civilians and military members keeping current with critical modeling and simulation skills. Lifelong learning can be accomplished via distance learning, classroom instruction, professional journals, seminars, and other techniques. To keep relevant and obtain new knowledge every professional should have an individualized approach to achieving lifelong learning.

Civilians have two tools to assist them in constructing their lifelong learning plan. The first is the Army Civilian Education Training Development System (ACTEDS) and the second is their individual development plan (IDP). The ACTEDS provides a listing of suggested and recommended development courses while the IDP provides a documented individualized way forward. Recently, the Civilian Education System (CES) has created new leadership development courses that all employees are required to attend. This new CES program must be integrated into every IDP. An example of a modeling and simulation careerist developmental pyramid is below in figure 1.



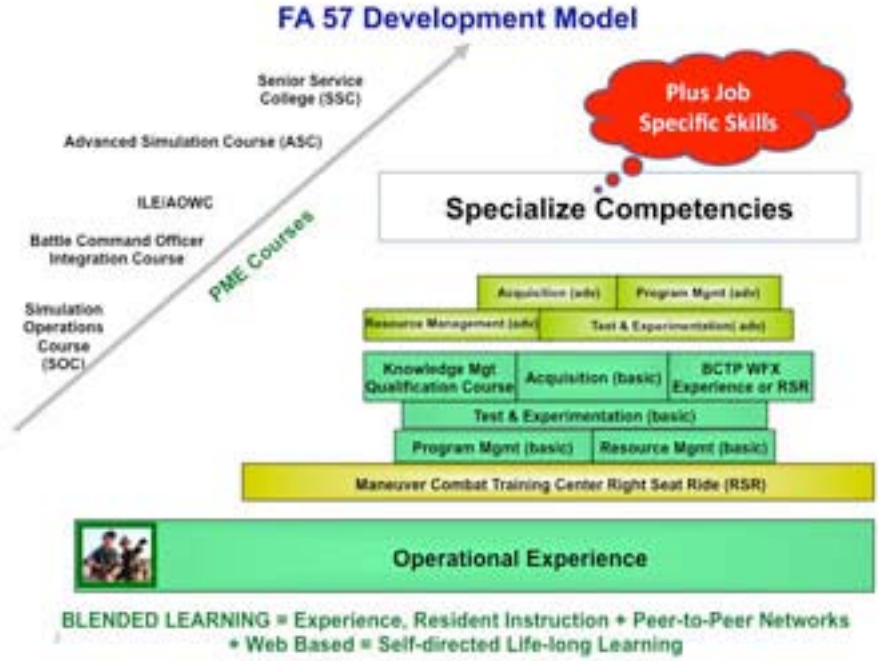
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Military have DA Pam 600-3 and a model for lifelong learning that is presented to all new FA 57s in their Simulation Operations Course. The DA Pam 600-3 presents required FA 57 training and education while discussing professional development and job specific requirements. The guidance in DA Pam 600-3 impacts promotion and assignments. The lifelong learning model is an individualized approach for learning and knowledge creation that the FA 57 can create and manage. The model includes required professional military education as well as developing skill required for specific jobs. The FA 57 developmental model is below in figure 2.



Whether you're performing simulation activities in the acquisition, analysis, training, testing, intelligence, operations, or experimentation communities, developing yourself for future challenges is an important part of career planning. If you target jobs that you want to have in the future you need to obtain knowledge and skills in advance of asking for that position – a development plan and/or lifelong learning will assist you reaching your goals. Plus we live in a changing Army and professional area with new challenges presented frequently – a development plan and/or lifelong learning will assist you meeting those challenges.

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## **Calendar of Events**

### **Simulation Operations Course**

2 November — 15 December 2009 • Washington-National Capitol Region  
4 January — 12 February 2010 • Washington-National Capitol Region

### **Battle Command Officer Intergration Course**

15 — 26 February 2010 • Ft. Indiantown Gap, PA

### **Combat Developments Course**

28 January 2010 • Ft. Leonardwood, MO  
18 March 2010 • Ft. Sam Houston, TX  
8 April 2010 • Ft. Lee, VA

### **Interservice/Industry Training, Simulation & Education Conference**

30 Nov — 3 December 2009 • Orlando, FL

### **AUSA Army Aviation Symposium & Expo**

5 — 7 January 2010 • Arlington, VA

### **Winter AUSA Convention**

24 — 26 February 2010 • Ft. Lauderdale, FL

### **FA 57 Conference**

Date and Location TBD

### **Armor Warfighting Conference**

May 2010 • Location: TBD

### **National Guard Conference**

21 — 23 August 2010 • Austin, TX

### **Infantry Warfighting Conference**

September 2010 • Location: TBD

## **M&S Readings/Articles/Books**

TSJ Online.com (Training & Simulation Journal) article date: April/May 2008 written by Michael Peck

Article: Second-life training <http://www.tsjonline.com/story.php?F=3409557>



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