A New Way of Doing Business

By Major General Clair F. Gill and Vern Lowrey

The U.S. Army constantly upgrades and changes the way it fights to maintain battlefield superiority over all potential adversaries and to achieve complementary capabilities with other services and nations. In that effort, the Army is changing from what we called CBRS (Concepts Based Requirements System) to a new requirements determination process. The CBRS had distinct stages in research and concept development that focused primarily on the manufacturing and fielding of equipment to counter a single, well-defined threat. The new requirements determination system is a fluid, integrated, experimentation-based process that addresses an expanded global threat and the full spectrum of Army operations and functions.

The new process began in March 1996 with publication of TRADOC's Black Book number 3, "Requirements Determination." General Reimer, Chief of Staff of the Army, appointed the TRADOC Commander as the Army's approval authority for *all* warfighting requirements. A soon-to-be-published TRADOC Pamphlet 71-XX, *Requirements Determination Guide*, will describe implementation methods. It will provide process details needed by action officers throughout the Army to determine, document, and process concepts, future operational capabilities, and DTLOMS (doctrine, training, leader de-velopment, organization, materiel, and soldiers) requirements. To implement this process at the Engineer School, we now conceptualize, experiment with, and invest in future warfighting capabilities for the engineer force.

Conceptualization began with development of Army Vision 2010. This vision is being refined into an overarching warfighting concept that links the Army vision with the National Military Strategy, the joint vision, and the Army plan. The overarching warfighting concept guides all other Army concept development activities, including additional functional and branch concepts.

The Engineer School has developed an overarching vision for engineer operations and three branch concepts in the areas of terrain visualization, maneuver engineering, and force support engineering. They are now staffed to the field for comments.

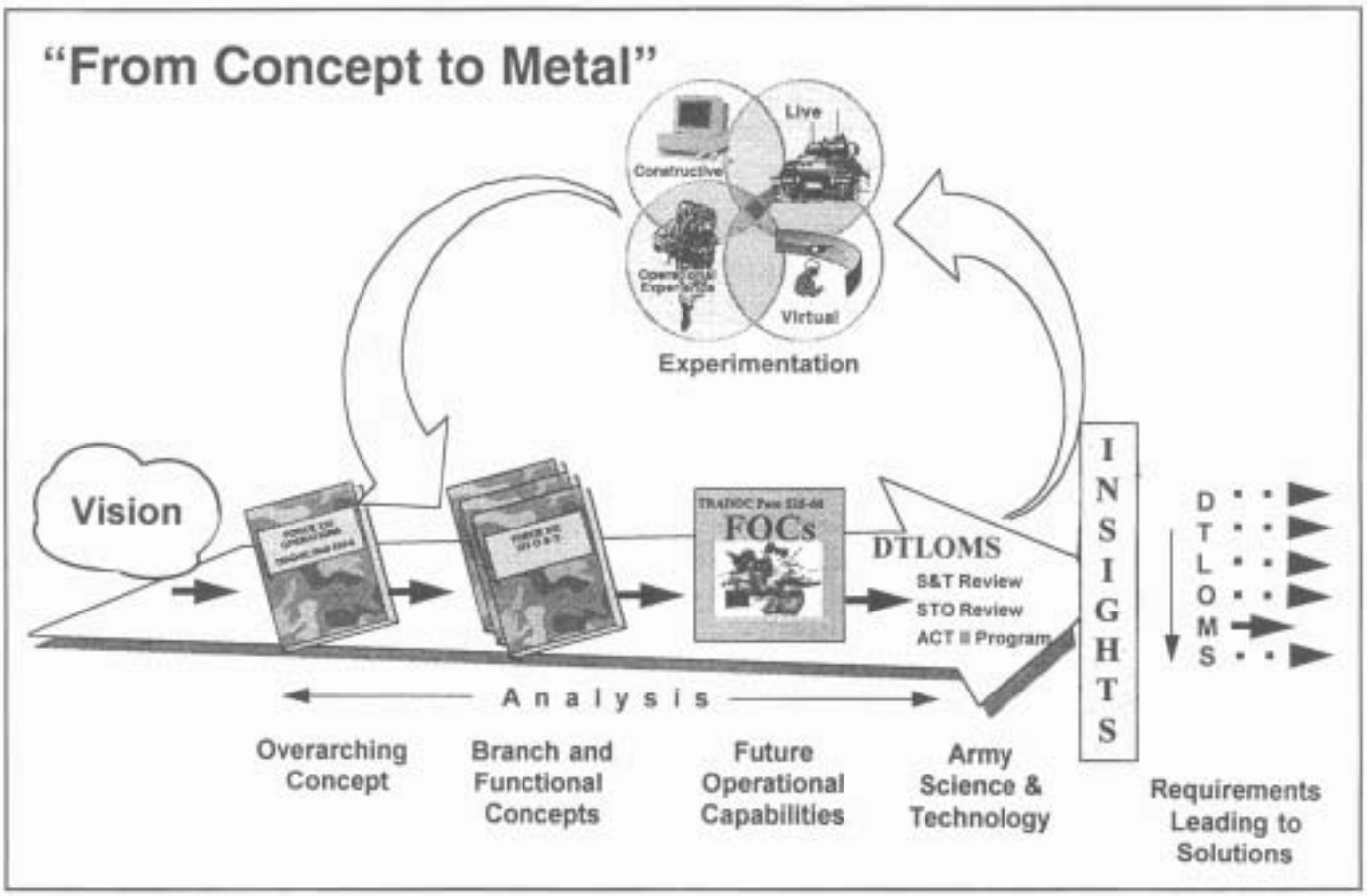
We have created several integrated concept teams (ICTs) to support the engineer concept areas. They are chartered to provide horizontal integration and detailed coordination between Army agencies, units, labs (USACE and AMC), joint services, contractors, and civilian industries. The ICTs develop concept details, assess the state of current technologies, develop modernization strategies and experimentation plans, and draft investment strategies for engineer DTLOMS improvements. The ICTs presently sponsored by the Engineer School include:

- Countermine
- Terrain Visualization
- Construction
- Unmanned Terrain Domination
- Engineer Command, Control, Communications, Computers and Intelligence
- Armored Engineering

In turn, the vision and warfighting concepts are used to develop future operational capabilities (FOC). The FOCs are structured statements of enduring operational capabilities required by the Army to achieve the ideas articulated in the approved warfighting concepts. Science and technology research, experimentation, and schoolhouse investments are all tied to accomplishment of an FOC. The Engineer School has developed 30 FOCs, which are integrated with other proponent FOCs at TRADOC.

Warfighting Experimentation and analysis are key to the requirements determination process. When properly planned and executed, warfighting experiments provide the means to recommend future warfighting DTLOMS investments. The Engineer School is decisively engaged with the 4th Infantry Division, which serves as the Army's Experimentation Force (EXFOR). They perform experiments to identify future engineer DTLOMS requirements. In March and November 1997, the EXFOR will conduct advanced warfighting experiments at the National Training Center and Fort Hood, Texas. Army leaders will examine several engineer-related issues, including terrain visualization support, Hornet wide-area munitions, intelligent minefields, the digital reconnaissance system, and the future heavy engineer force structure.

Observations from train-ups to both experiments show that engineers are a critical component to the digitized combined arms team. Digital command and control systems require intensive operator and leader training. Mastery of basic combat engineer skills, such as obstacle breaching, obstacle emplacement, and survivability, are still essential for combined arms success. Providing a heavy division engineer battalion in habitual support to a brigade task force continues to be tactically correct. The



most critical deficiency identified during recent experiments is the need for accurate digital terrain displays in digitized command posts and combat vehicles. Army decision-makers are painfully aware of the lack of standardization in the way we acquire, analyze, transmit, store, and display digital terrain data. Therefore, TRADOC has tasked the Engineer School to lead the attack on this problem through a TRADOC Program Integration Office (TPIO) for Terrain Data, located at Fort Leonard Wood. Colonel Ed Arnold's Personal Viewpoint (page 22) describes the many challenges we face in standardizing the ways digital terrain data are used.

In addition to EXFOR experimentation, we have established the Maneuver Support Battle Lab at Fort Leonard Wood. This newest Army Battle Lab is charged to conduct experiments in all aspects of maneuver support. It is the advance guard of the Military Police and Chemical Schools' move to Fort Leonard Wood in 1999 to form the Maneuver Support Center (*Engineer*, December 1996, page 40).

Proper Investment in the appropriate DTLOMS areas to achieve future operational capabilities is the final payoff of the new requirements determination process. Most of the Army's requirement efforts will continue to center around developing the "M" in DTLOMS—materiel. Because materiel solutions are the most time consuming and expensive to develop and acquire, we engineers are challenged to find new and better ways to write doctrine, conduct training and leader development, build organizations, and "grow" our soldiers. The engineer equipment and technologies we develop and exploit now will focus on those few systems that will give us the most bang for the buck. Some key items under development are the Grizzly, the Wolverine, the Hornet, and the IMF (soon to be renamed Raptor Intelligent Combat Outpost).

The new requirements determination process may look similar to CBRS and previous Army requirements processes. But it recognizes the engineer community's need to continually conceptualize, experiment with, and realistically invest in those critical engineer warfighting capabilities that will provide the U.S. Army with overwhelming dominance over any foe.

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