

A CONVERSATION WITH AMC'S RDECOM TRANSITION DIRECTOR

MG John C. Doesburg, Transition Director of the Research, Development and Engineering Command (RDECOM), was recently asked a series of questions regarding this new command. The questions and his responses follow.

What is the goal of RDECOM?

The overall goal and core mission of RDECOM is to field the right equipment to our soldiers in the shortest time possible. RDECOM is restructuring the Army's research and development (R&D) and science and technology communities under one umbrella organization. This will significantly streamline efforts, enabling us to rapidly integrate, mature, demonstrate, and deploy emerging technologies.

We have an extremely talented pool of researchers, engineers, and scientists who work hard each day to identify and develop the critical technologies that our soldiers need. RDECOM will facilitate increased opportunities for collaboration and partnership so that its staff can work to tackle problems as a team. We want to break down the stovepipes and bottlenecks so that our technological innovations can reach soldiers more quickly. To do this, we must have the agility to rapidly take advantage of technology opportunities whenever they arise. Thus, RDECOM will capitalize on emerging technologies and existing expertise to get technology in the hands of our soldiers faster.

What is your role as Transition Director?

As Transition Director, I am responsible for leading the planning process for the establishment of the new command. I am excited about my new role and have a strong commitment to seeing this command reach its vision to field technologies that sustain the Army as the premier land force in the world.

I also lead the RDECOM Transition Team, and we are completing several actions to bring the command online. In fact, we have accomplished a great deal since the transition team was established in July 2002. The Provisional RDECOM was established in October 2002. At the same time, the Army Research Laboratory (ARL) and Army Materiel Systems Analysis Activity (AMSAA) became the first organizations officially assigned to the command. In November 2002, we completed an Agreement in Principle for a joint relationship between AMC, the Army Test and Evaluation Command (ATEC), and the U.S. Army Training and Doctrine Command (TRADOC).

How will the command be organized?

Similar to the Army Soldier and Biological Chemical Command, RDECOM will operate under a board of directors. The board membership will include the technical directors, who oversee each organizational element of the command, as well as the commanding general and deputy

commanding general (DCG). We will have open sessions to provide staff and other stakeholders the opportunity to share their ideas and technology solutions. There will also be closed sessions where we handle some of the tough actions that must be addressed as a large command.

The RDECOM DCG will be responsible for overseeing "systems-of-systems" integration and will have charge of the Agile Development Center that will be located at Fort Belvoir, VA.

How will the Agile Development Center support the command's mission?

Although located in theory at Fort Belvoir, the Agile Development Center, or "skunk works," is not a *place*. Most people think it will be a place where you can bend metal, fabricate, or put things together. Those actually exist at all the research, development and engineering centers (RDECs) in one way or another. So, the question is not, "Where are you going to bend metal?" If we're going to be agile, we've got to pull the right minds and the right intellectual power together from the beginning. Then, we can turn to the most appropriate integration facility to build it.

What is the concept behind the capability managers and technology integrators?

The board of directors will select capability managers and technology integrators from within the com-

mand to serve 2-year terms. Capability managers will be responsible for ensuring that our R&D efforts are focused on providing capabilities for soldiers. Technology integrators will work with each RDECOM element to facilitate seamless integration of technology.

We are primarily establishing this command as horizontal integration in the systems-of-systems approach. Thus, our focus will be on providing critical capabilities—such as survivability and lethality—that the Army needs to protect our forces. For example, most people think of lethality as missiles and guns because they destroy the enemy on the battlefield or protect the force. Lethality is actually much greater than that and can be measured in many different ways. Speed has a direct impact on lethality, so if you think of it in that context, the capability manager must

assess the various elements of lethality, while considering risks and trade-offs. Technology integrators, on the other hand, are looking at very specific technology and trying to horizontally integrate that technology across the different command areas, whether missiles, artillery, or heavy systems. Technology integration will help us to decrease the time it takes to go from lab to field.

The reason that capability managers and technology integrators serve 2-year appointments is to leverage off of something the military does very well—bringing in fresh ideas and change. One of the ways to do this is to change leadership or responsibility at set intervals. For example, the individual who oversees survivability previously focused only on that specific area. We are now expanding the horizon of that individual greatly by pairing his or her

expertise with other subject matter experts to bring the best minds together to solve problems.

What is the management philosophy for RDECOM?

There are many catch phrases you'll hear associated with the new command including knowledge-based management and virtual and collaborative environment. These are more than just buzzwords; they represent in practice how RDECOM will get technology to soldiers faster. These words translate into agility, collaboration, resource leveraging, and innovation.

RDECOM supports knowledge-based management by consistently taking the knowledge it gains and returning it to the organization. When the 2-year terms of the capability managers and technology integrators have ended, they will return to their respective command organization. Meanwhile, new people from within the command step into these roles so that the command benefits from a talented pool of diverse perspectives and expertise.

If we're going to truly be an integrated and collaborative command, we need to provide a central location where our intellectual power can come together. That's why we are creating a virtual and collaborative environment, such as the Agile Development Center. In addition to video teleconferences and dedicated Web sites, we are investigating other virtual working tools. Specifically, we are looking into ways to take advantage of the virtual capabilities of the Program Executive Office, Simulation, Training and Instrumentation (PEO, STRI).

How will RDECOM partner with other organizations such as ATEC and TRADOC?

To ensure seamless integration and coordination, ATEC and TRADOC representatives are invited members of the board of directors.

RDECOM'S COMPOSITION

The following existing RDECs will become part of RDECOM:

- Aviation and Missile RDEC, Redstone Arsenal, Huntsville, AL;
- Armaments RDEC, Picatinny Arsenal, NJ;
- Communications-Electronics RDEC, Fort Monmouth, NJ;
- Tank-automotive and Armaments Command RDEC, Warren, MI;
- Natick Soldier Center, Natick, MA; and
- Edgewood Chemical Biological Center, Aberdeen Proving Ground, MD.

In addition, the following technology-focused organizations will be included in RDECOM:

- ARL Adelphi, MD, and ARL Aberdeen Proving Ground, MD;
- AMSAA, Aberdeen Proving Ground, MD;
- Science and technology portion of Simulation, Training and Instrumentation Command (STRICOM) (now PEO, STRI), Orlando, FL;
- International Cooperative Programs Activity, Alexandria, VA;
- Field Assistance in Science and Technology, Fort Belvoir, VA;
- R&D standardization groups around the world.

Involving ATEC and TRADOC early in the process will result in streamlined decisions about how these partners can support emerging technologies. One of the things that we haven't done well in the recent past is to vest ourselves for success either in combat developments, testing, or science and technology. This is because we tended to work each area separately; each one had a time and a place in which it needed to occur.

The general premise is to give the TRADOC schools and TRADOC headquarters an early opportunity to see emerging technologies, understand them, and start to make decisions on what they must do—not only from a combat development perspective, but also from a requirements perspective. Without knowing what's in the realm of the doable in technology, there's a tendency to write requirements based on a process that states, "If this is what the last piece of equipment required, then the update should be able to do that and more. So that's what I want."

Further, when we develop a technology, we turn it over to the program/project/product managers (PMs) and program executive officers and say, "Here it is, now do something with it." Under RDECOM, we're instead going to work it from a systems-of-systems approach. This means we will say, "We've been working on this technology and evaluated it in some sort of testing protocol. We know that it generally can do what we want it to do. TRADOC has looked at it and determined it meets a future capability. What do you think?" Because the PEO and PM have been involved in R&D early and we've had some upfront testing, they can ask specific questions.

How will RDECOM meet its mission to get technology in the hands of soldiers faster?

We can't wait around for a revolutionary breakthrough to solve what

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we think is a requirement when, in fact, what we must do is focus on capabilities and assess areas for technology insertions. Some people call it spiral development—to allow us to bring technology in quicker to the soldiers. Our process must allow us to insert technology as it matures so that we can eventually reach 100 percent of the desired result.

If we are going to transform the Army's R&D programs, we must focus our efforts on developing capabilities rather than responding to requirements. If the capability is survivability, you now have a wide array of "things" that can provide that survivability. And, when you put two technologies together, you should have an increased capability or survivability. Taking this a step further, when you put four, five, or six technologies together, the combination of these results in an overwhelming capability to provide survivability.

Another example of how we can better coordinate our efforts is our air defense systems. In the past, we built air defense systems to shoot helicopters and fast-moving systems out of the sky. Over the years, we continued to build new air defense systems; however, we didn't take into account the capability that we already had in those existing individual systems that could benefit the

entire air defense system. This is what RDECOM will facilitate: a systems-of-systems approach to research, development, and testing.

How will the command keep pace with ever-changing technology?

For a long time, we've been told that computer technology is changing every 18 months. If you talk to people in industry, it's changing every 9 months. If you believe that technology changes every 18 months, then what we field for Land Warrior will be five generations behind computer technology. And if you believe it changes every 9 months, it's even more outdated when we field it. So the question is, how do you break that generational gap? How do you get it down to two or three generations? The only way to do that is through the technology insertion process I mentioned earlier. If you go by the standard process we use today, which says you settle on a technology and bring it to development and fielding, then you're always going to be as far behind as we are today. Our people work too hard to see their work deployed after technology has already surpassed it.

What's the timeframe for a fully functional RDECOM?

Currently, the goal is for AMC to issue a permanent order activating RDECOM in October 2003. In the meantime, the transition team is working to establish the Agile Development Center in March. Effective May 1, 2003, the remaining subordinate elements will be under operational control of the RDECOM. As we move toward fully standing up this command, the transition team and I remain committed to making this a smooth transition.