

Test and Evaluation for Rapid-Fielding Programs

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Since the beginning of the wars in Iraq and Afghanistan, DoD has been faced with the challenge of rapidly developing and testing new equipment to deploy to combatant commanders. With this rapid fielding challenge came the need to quickly assess the operational effectiveness and survivability of new equipment. Existing test and evaluation processes took too long, obliging the test and evaluation community to become agile as well. It has met the challenge, and in the process some practical guidelines emerged. This article will describe six of these, with examples of where they have contributed to the rapid fielding of operationally effective equipment.

Some Useful Principles

1. High-Level Attention Helps

The most obvious example of rapid fielding is the family of Mine Resistant Ambush Protected (MRAP) vehicles, which the Secretary of Defense personally and publicly assigned the highest category of industrial priority. By doing so, many normal bureaucratic processes were shortened, and in some cases by-passed. Production, testing, and fielding were concurrent—something highly unusual in DoD.

2. Exploit Something Already in Development

A second principle is that it is useful if the equipment is already in development prior to decision to accelerate fielding. Blue Force Tracker, a position location and dissemination system mounted in Army combat vehicles, is a good example. The system was under development in response to lessons from the first Gulf War, and some operational testing had already been completed when the decision to go to war in Iraq was made. As a result, the Army could rapidly adapt to provide the systems to divisions being deployed (as well as to Marine Corps and UK forces). Because of the prior operational testing, the Army understood which features worked well and which could either be postponed in development or eliminated in



Figure 1: MRAP Vehicle in Iraq, July 2009.

order to be operationally effective by the war's onset.

3. Involve the Combatant Commands

The combatant commands and their representatives must be involved in the requirements process. Instead of requirements being developed primarily through the Services' training and doctrine organizations, the combatant commanders can provide urgent operational needs directly to the Office of the Secretary of Defense and the Joint Staff. This has generally resulted in a shorter list of required operational capabilities, more focused to the operation at hand; and proved a direct and rapid way to bring immediate operational needs to the attention of DoD's senior leadership. It also permitted the testing process to focus on a subset of operational conditions that would satisfy the urgent need.

4. Maintain Discipline

There must be discipline in the testing and acquisition processes, no matter how rapidly they transpire. This applies to assessments of the requirements as well as assessments of the



Figure 2: Blue Force Tracker system being used in Afghanistan, December 2003.

system's achieved capabilities during testing. Half-baked ideas have to be filtered out before they reach a theater of operations. Combat is not the place to discover that a promised capability doesn't exist. Separating advertising claims from operational performance is essential to rapid fielding. Instilling this discipline in the rapid fielding process requires that senior members of DoD and the combatant commands maintain an unusual level of personal involvement because much of the discipline built into the normal bureaucratic acquisition process is bypassed for rapid fielding. The ability to make hard judgments, the courage to stand up to the pressure for speed, and the wisdom to know what is important and what is not are all hallmarks of this discipline.

5. Abbreviate the Process, Don't Speed it Up

The fifth principle is that rapid fielding during wartime requires an abbreviated process, not the same process executed faster. Many steps normally part of acquiring major weapons systems must be eliminated in the interest of speed. An example is the requirement for testing weapons in extreme cold weather. Most systems are required to go to cold weather testing or chamber testing, but for rapid fielding, the

focus is on the immediate operational need in a specific theater. This is not to suggest that such testing should be entirely eliminated, but it can and should be deferred. The Blue Force Tracker is a good example. When the war in Iraq began, many requirements the system was intended to satisfy were not met during operational testing. The Army deferred the less important ones and focused on the primary requirement of producing and disseminating position locations.

6. Experience Matters

A stable, experienced test team is critical to successful rapid testing and fielding. Rapid testing is not the place to use B-team testers or make team substitutions while underway. When agility is required, the test team must be able to work seamlessly together and be sufficiently experienced to know when and how to adjust when hurdles or new directions arise.

Conclusions

When necessary, DoD can accomplish rapid fielding, but there are drawbacks. Among them are often a diminished ability to provide equipment maintenance and spares, and the fact that the equipment, as delivered, may not be fully operational. Continued development and testing will still be required. Both systems described above continue to have developmental work done in the United States while in concurrent use in war zones. Furnishing spares and parts requires extraordinary effort because the new systems have not yet been introduced into the Services' logistical chains. Simply because a system has been fielded and is being used in combat does not mean its development stops.

The Department has demonstrated its ability to rapidly focus its requirements and quickly furnish operationally effective equipment to warfighters when necessary, but it requires significant effort to do so. A key point is that this cannot be accomplished by simply doing business as usual, only faster.