

# AMC-FAST: A WIN-WIN ACTIVITY

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## Introduction

The March-April 1991 issue of *Army RD&A* (now *Army AL&T*) magazine included an article on the Army Materiel Command-Field Assistance in Science and Technology (AMC-FAST) Program. That article was entitled “AMC-FAST—A Win-Win Program.” During the intervening 11 years, AMC-FAST changed its title

from “Program” to “Activity” but has continued to produce win-win situations for AMC and the Army.

AMC-FAST was established to serve as a bridge between the Army’s research and development (R&D) community and its operational forces in the field, and it still uniquely serves that function.

Since its inception, AMC-FAST has undertaken 1,100 projects

designed to meet specific needs identified by science advisors serving in the field. In addition, AMC-FAST science advisors represented their commands at scientific conferences, provided their commands scientific and technical advice, arranged for demonstrations, and conducted evaluations of many different types of equipment. For R&D organizations, AMC-FAST science advisors provided

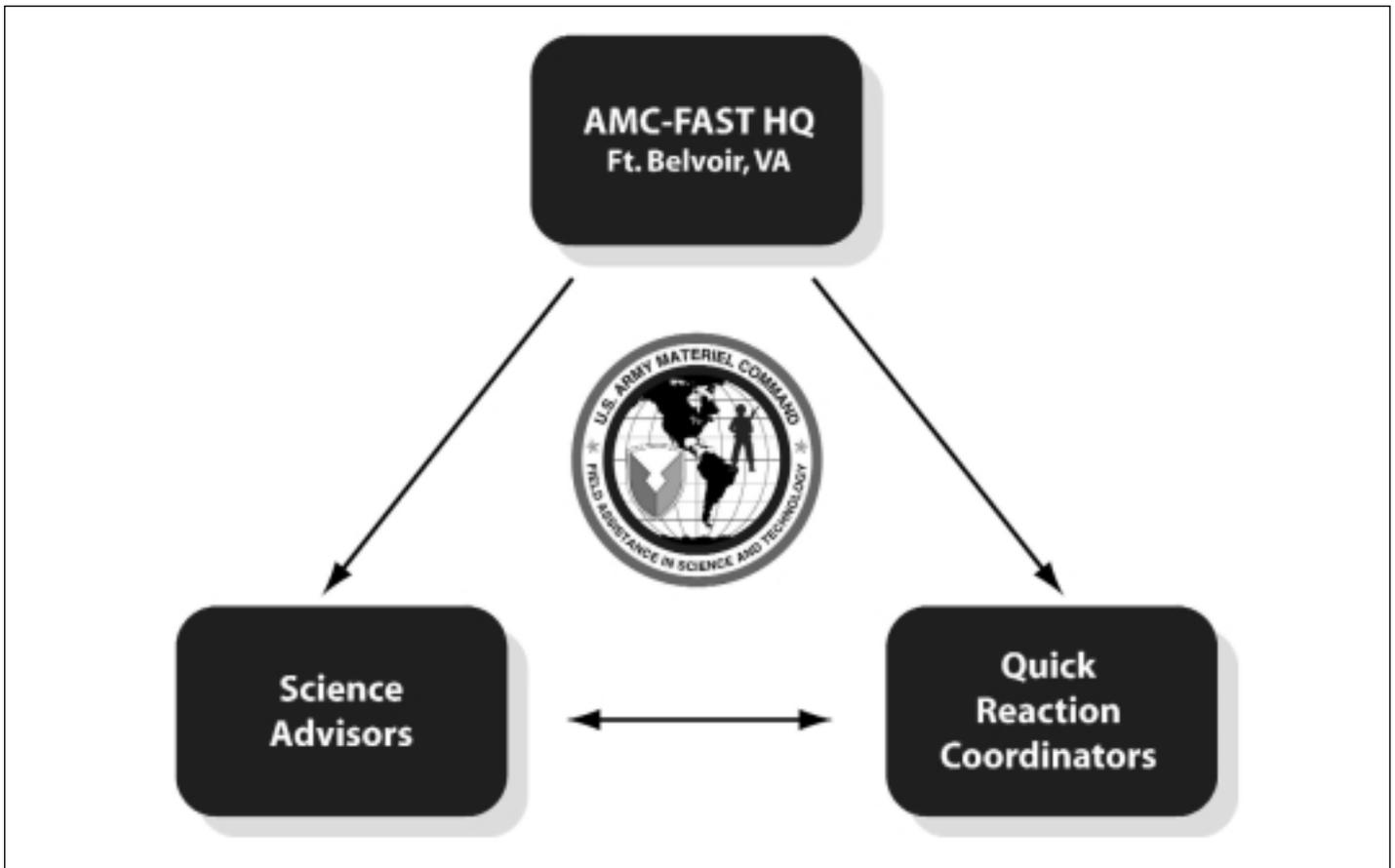


Figure 1.

## Quick Reaction Coordinators (QRCs) Communication Nodes At Army Labs And Centers

U.S. Army Research Laboratory (ARL) Adelphi, MD	Army Developmental Test Command Aberdeen Proving Ground, MD	Soldier and Biological Chemical Command (SBCCOM) Natick, MA
ARL/Army Research Office Research Triangle Park, NC	Aviation and Missile Command Redstone Arsenal, AL	SBCCOM/Edgewood Chemical Biological Center (ECBC) Aberdeen Proving Ground, MD
ARL/Computational Information Sciences Directorate Aberdeen Proving Ground, MD	Army Materiel Systems Analysis Activity Aberdeen Proving Ground, MD	SBCCOM/Program Executive Office, Soldier Fort Belvoir, VA
ARL/Human Research and Engineering Directorate (HRED) Aberdeen Proving Ground, MD	Armament RD&E Center (ARDEC) Picatinny Arsenal, NJ	Space and Missile Defense Battle Lab Colorado Springs, CO
ARL/Information Science and Technology Directorate (ISTD) Aberdeen Proving Ground, MD	Army Communications-Electronics Command (CECOM) Intelligence and Information Warfare Directorate Fort Monmouth, NJ	Simulation, Training and Instrumentation Command Orlando, FL
ARL/Sensors and Electron Devices Directorate Adelphi, MD	CECOM Night Vision and Electronic Sensors Directorate Fort Belvoir, VA	Army Tank-automotive and Armaments Command (TACOM) Armament and Chemical Acquisition and Logistics Activity Rock Island, IL
ARL/Survivability and Lethality Analysis Directorate White Sands Missile Range, NM	Engineer Research and Development Center Topographic Engineering Center Fort Belvoir, VA	TACOM ARDEC - Benet Lab Watervliet Arsenal, NY
ARL/Vehicle Technology Center (VTC) (Propulsion) Cleveland, OH	Medical Research and Materiel Command Fort Detrick, MD	Training and Doctrine Command Fort Monroe, VA
ARL/VTC (Structures) Hampton, VA	Rock Island Arsenal Rock Island, IL	
ARL/Weapons and Materials Research Directorate Aberdeen Proving Ground, MD		

**Figure 2.**

ready access to units in the field. They also arranged for evaluation of equipment under early stages of development and provided the means to explore ideas with the troops who would use the final product.

There are three basic elements to AMC-FAST (Figure 1): the headquarters, science advisors in the field, and quick reaction coordinators stationed at R&D organizations.

### **Headquarters**

AMC-FAST Headquarters is located at Fort Belvoir, VA. The headquarters staff supervises the entire AMC-FAST operation including recruitment, training, and assignment of science advisors; prioritizing projects and allocating their funds; assisting in establishing contacts and information collection; maintaining the AMC-FAST communications net-

work; and overseeing completion of projects.

### **Science Advisors**

Science advisors are located throughout the world. The number of science advisors and their locations change as mission and resource priorities change. Science advisors are nominated for the position by their home AMC subordinate command.

After a screening process, which includes acceptance by their prospective field command, science advisors are selected for assignment. Assignments are normally for 2 years but can be extended to a third year per field command needs, home or sending command concurrence, and the science advisor's desire.

Once on station, science advisors are assigned as members of the command staff of their organizations. As such, they have direct access to command staffs and, depending on the organizational structure, have direct access to the commander or a designated representative. Science advisors also have direct contact with unit commanders, their staffs, and troops in the field. On the staff, science advisors are tasked to provide information and advice on how science and technology can help their commands and how best to introduce, use, and maintain new systems.

Despite the importance of providing advice and obtaining information, the science advisors provide a wealth of experience in identifying problems and developing solutions through the establishment of projects. This has proven to be one of the greatest benefits of the AMC-FAST Activity. The need to begin a project is identified in a number of ways. In many cases, the commander or a member of the staff relates a problem and asks the science advisor to research it. An extremely effective way to identify problems is through contact with soldiers in the field. Soldiers are the operators of the equipment, they know in detail how the equipment works, and they know what they would like to have improved. In addition to pointing out problems, soldiers often have a basic solution in mind, which may only



*The M-Gator is a valuable resource for light forces.*

require refinement and production of a prototype for evaluation.

### **Coordinators**

The third element of the AMC-FAST Activity is its cadre of QRCs. R&D organizations having designated personnel to function as AMC-FAST QRCs are shown in Figure 2. These personnel are vital to the AMC-FAST Activity. Science advisors regularly deal with equipment designed and developed for the Army by AMC organizations; however, to expect any one individual to be totally familiar with these vast resources is unrealistic. Science advisors are exceptionally qualified but, in most cases, they have concentrated their work in one area of expertise.

When confronted with questions and work outside their field, science advisors must have ready access to those who are experts in the field in question. This is where the QRCs are vital. When receiving a task that requires outside help, by going through the QRCs, the science advisor has at hand the expertise and resources of AMC's world-class R&D facilities.

Just as it is unreasonable to expect science advisors to know answers to all questions, the same is

true with QRCs. Rather than answer the questions of science advisors, the QRCs determine who has the specific knowledge and expertise to answer the questions. Once that source of expertise is determined, the science advisor and the designated expert contact each other to work on a resolution to the problem.

Another important function of the QRCs is to provide a conduit from their R&D organization to units in the field. If an R&D organization has a device under development and would like to have a preliminary review by a

unit in the field, the developers can contact their QRC. In turn, the QRC seeks assistance from either the AMC-FAST Headquarters or specific science advisors.

### **Communications Network**

The AMC-FAST Activity also maintains daily contact with approximately 50 organizations. To facilitate communications, AMC-FAST established a communications network in conjunction with the Air Force and Navy. In addition to providing an efficient communications system, the network provides ready access to Air Force and Navy resources. Much like the AMC-FAST bridge between science advisors in the field and AMC's R&D organizations, this communications network provides a "two-way street" between the other Services and AMC-FAST. Requests for assistance are received almost daily, thereby providing Army R&D organizations an opportunity to make their work and knowledge available to the other Services.

### **Specific Efforts**

Thus far, this article introduced the AMC-FAST Activity, described its mission, and detailed its organiza-

tion. Accompanying articles in this issue of *Army AL&T* magazine will describe some of the specific efforts conducted by AMC-FAST that have had an impact on the Army's capabilities. The following paragraphs set the stage for these articles by providing brief overviews of these AMC-FAST efforts.

During the past 8 years, AMC-FAST has supported the AMC Deputy Chief of Staff for Research, Development and Acquisition in conducting technology application conferences. These conferences provide the Army R&D leadership an opportunity to meet face-to-face with commanders in the field. Gathered in a panel format with other R&D leaders, these field commanders present their perceived materiel requirements and desired equipment improvements. The panel also provides information regarding ongoing or planned R&D work, specific issues raised by commanders and, often, assigns a specific issue for work and follow-up action. These conferences demonstrate the value of face-to-face meetings, which clarify issues and enable the exchange of pertinent information and the initiation of work specifically designed to ultimately meet the needs of the soldier. On at least two occasions, issues raised in the technology application conferences have subsequently been addressed by advanced concept technology demonstrations.

### Programs

AMC-FAST is also responsible for managing the Army Scientists and Engineers Field Experience with Soldiers (SEFEWS) Program and use of personnel from the AMC-FAST Junior Program. The SEFEWS Program was created to provide AMC scientists and engineers the opportunity to spend time in the field with troops who are using equipment related to the work of the SEFEWS participant. This has proved to be especially valuable to

personnel who have no military experience.

The AMC-FAST Junior Program was initiated to provide assistance to science advisors in the conduct of projects. Journeyman-level AMC scientists and engineers are assigned for a limited period of time to work on a specific project. Typically, AMC-FAST Juniors visit the command requesting assistance, observe the problem needing to be addressed, help formulate a solution, and then return to their home station to develop a prototype device. Once the prototype is completed, the FAST Juniors return to the field, assist in demonstrations, and prepare reports on the equipment and their experience.

### Conclusion

The goals of AMC-FAST projects are to increase operational capability, improve safety, improve training, and assist in realizing cost avoidance. Many projects have been designed to address only one of these goals, but often a single project can address several of them. One of the outstanding projects conducted by AMC-FAST was the Abrams tank auxiliary power unit. That effort was estimated to have resulted in a cost avoidance of \$45 million per year while increasing the capability to conduct "silent-watch" operations. Further, in responding to an XVIII Airborne Corps need for increased mobility on the drop zone, a science advisor initiated a project that resulted in the M-Gator, a lightweight vehicle that recently received high praise for the increased mobility it provided to Army soldiers in Afghanistan. It must be stressed, however, that although AMC-FAST has conducted 1,100 projects, it has depended on the outstanding support of all AMC R&D organizations. The AMC-FAST Activity does not have the resources to conduct projects by itself.

The March-April 1991 *Army RD&A* magazine article concluded by

saying that the AMC-FAST bridge between laboratories, centers, and the Army in the field had been in use for 5 years; had considerable success; and that, with continued support, the success would continue. Today, AMC-FAST has been in business approximately 17 years. For further information on how the AMC-FAST Activity can help you, please call us at (703) 704-1486, DSN 654-1486, or view our Web site at <http://www.amc.army.mil/>. Click on **Major Subordinate Commands**, scroll down to **Separate Reporting Activities**, and click on **U.S. Army Materiel Command Field Assistance in Science and Technology Activity**.

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