From the Army Acquisition Executive

Army Science and Technology

Supporting an Army at war is critical, both tactically and strategically. From a tactical standpoint, we are working with our sister services and industry partners to provide the weapon systems and equipment our Soldiers need to accomplish their mission decisively and return home safely. Strategically, as we meet ongoing requirements, we are working to collapse the timeline that it takes to get weapon systems and equipment to our Soldiers. Our goal is to compress the concept-to-combat cycle to meet the immediate and future needs of our warfighters.

The science and technology (S&T) community has a pivotal role in pursuing technologies to maintain and enhance the Army's already advanced capabilities. Our dynamic and responsive S&T portfolio is focused to enable specific new capabilities in the Future Force while remaining agile to satisfy the Current Force's operational needs. Capabilities from Army S&T ultimately provide our Soldiers with unmatched warfighting capabilities.

Army S&T has made numerous contributions to winning the global war on terrorism, and technological superiority continues to be a cornerstone of our military strategy as well as a deterrent against our adversaries. Let me highlight a few significant examples of the successful application of technology:

- First, Soldiers benefit today from technologies that emerged from past investments. Since the mid-1980s, the U.S. Army Natick Soldier Research, Development and Engineering Center has pursued advanced fiber technologies, in partnership with industry, to create lighter weight ballistic protection. This research produced the technologies to develop the lifesaving outer tactical vest and components for the protective plate inserts that Soldiers deployed worldwide use today.
- Second, we exploit transition opportunities by accelerating mature technologies from ongoing S&T efforts. The Army S&T program has transitioned the Mid-Range Munition (MRM) to system design and development for the Future Combat Systems (FCS)-Mounted Combat System. MRM is the first 120mm smart munition, and will provide FCS with a heavy armor defeat capability from line-of-sight to beyond-line-of-sight range.
- Third, we leveraged the expertise of our scientists and engineers to develop solutions to unforeseen problems encountered during current operations. Engineers at the U.S. Army Research Laboratory and the U.S. Tank Automotive Research, Development and Engineering Center have extensive experience in designing armor for the Army's combat vehicles. This team rapidly responded to a critical need by designing and demonstrating add-on armor survivability kits for High-Mobility Multipurpose Wheeled Vehicles for enhanced survivability. As new technology became available, the S&T community quickly recognized its operational potential. The new Mine Resistant Ambush Protected vehicles, designed to meet emerging threats in theater, are being manufactured and fielded now. The vehicles also increase mobility and enhance mission success. The S&T community continues to use its expertise to provide survivability upgrades, as needed, for this and all platforms in theater.

Army scientists and engineers execute their work in world-class Army facilities and also in cooperation with industry, universities, and other government scientists and engineers. The U.S. Army Research, Development and Engineering Command's International Technology Centers (ITCs) search the world for innovative technologies, state-of-the-art equipment and cooperative opportunities with allied and friendly nations. Their mission is to find and bring new technology developments to the field quickly, while keeping abreast of new research and development (R&D) trends leading to the S&T breakthroughs of tomorrow. Through direct engagement with foreign scientists and engineers, the ITCs have brokered a number of technology "finds" that have transitioned or are in the process of transitioning to our Soldiers including, non-lethal weapon ballistics protection shields from Slovenia (purchased by the Rapid Equipping Force), and Viral Inactivated Freeze-Dried Human Plasma from Germany (advanced development program at the U.S. Army Medical Research and Materiel Command).

In addition, the Army currently maintains four University Affiliated Research Centers, highlighted in this edition, that partner with industry and Army laboratories to transition new knowledge and novel technology concepts for further development. The Institute for Advanced Technology, established with the University of Texas-Austin, conducts long-term, theoretical and applied R&D in electrodynamics and hypervelocity physics that is focused on electromagnetic gun application. The Institute for Creative Technologies (ICT), established with the University of Southern California, performs research in advanced simulation and immersive environments. ICT leverages the resources and talents of the entertainment and game development industries to work collaboratively with Army experts in graphics, to improve the realism and usefulness of simulation for Soldier training and mission rehearsal. The Institute for Soldier Nanotechnology, established with the Massachusetts Institute of Technology (MIT), performs research in nanotechnologies for Soldier protection and survivability applications. Finally, the Institute for Collaborative Biotechnologies, established by the University of California-Santa Barbara, in partnership with MIT and the California Institute of Technology, researches bio-inspired materials with potential application to a broad spectrum of Army needs.

American Soldiers serve with distinction in Iraq and Afghanistan, in the Balkans, in Kuwait, in the Sinai, in Korea and in many other countries throughout the world. They face threats that change — quite literally — overnight, and their skill in meeting these challenges is unparalleled. Our Soldiers display unrelenting tenacity, steadfast purpose, quiet confidence and selfless heroism. We must never let them down.

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