

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2006

BUDGET ACTIVITY

PE NUMBER AND TITLE

3 - Advanced technology development

0603125A - Combating Terrorism, Technology Development for

COST (In Thousands)	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
Total Program Element (PE) Cost	30427	10159	7497	8102	8280	8278	7761
DF1 SURVIVABILITY & DENIAL	3239	0	0	0	0	0	0
DF2 DETERRENCE, INDICATION & WARNINGS	400	0	0	0	0	0	0
DF3 CONSEQUENCE MANAGEMENT & RECOVERY	7764	3943	0	0	0	0	0
DF5 AGILE INTEGRATION & DEMONSTRATION	9024	6216	7497	8102	8280	8278	7761
DF6 RAPID EQUIPPING FORCE - ADV DEVELOPMENT	10000	0	0	0	0	0	0

A. Mission Description and Budget Item Justification: The objective of this program element is to mature and demonstrate advanced survivability technologies against asymmetric threats in support of the Future Force and, where feasible, exploit opportunities to enhance Current Force. This PE also funds efforts to accelerate technologies with high payoff to address current operational shortfalls and assist deliveries of Future Force oriented projects into current operations capabilities. Survivability & Denial, Project DF1, demonstrates a survivability planning capability and lightweight low-cost blast/ballistic protective measures. This increases base camp survivability of personnel and equipment against advanced conventional weapons and terrorist threats, reduces logistics requirements, and enhances the capability of the Future Force in low-intensity conflicts and peacekeeping operations. Projects DF2, DF3, and DF6 fund Congressional special interest items. Agile Integration and Demonstration, Project DF5, funds critical technology acceleration efforts of selected high-payoff technologies emerging from work in other PEs that have potential to fill emerging capability gaps requiring immediate action. The cited work is consistent with Strategic Planning Guidance, Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan, and the Defense Technology Area Plan (DTAP). Work in this PE is performed by the U.S. Army Engineer Research and Development Center headquartered at Vicksburg, Mississippi and Research Development and Engineering Command (RDECOM), Ft. Belvoir, Virginia.

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	FY 2005	FY 2006	FY 2007
<u>B. Program Change Summary</u>			
Previous President's Budget (FY 2006)	8034	6306	7399
Current BES/President's Budget (FY 2007)	30427	10159	7497
Total Adjustments	22393	3853	98
Congressional Program Reductions		-44	
Congressional Rescissions		-103	
Congressional Increases		4000	
Reprogrammings	22393		
SBIR/STTR Transfer			
Adjustments to Budget Years			98

FY 05 increase of \$22.4M is attributed to \$19.5 million in reprogrammings from OSD Iraqi Freedom Fund for Rapid Equipping Force, IED Detection, Suicide Bomber and FIDO/PACKBOT and an increase of +\$2.9 million (after adjustment for Congressional Undistributed Reductions) for the reprogramming of a Congressional Add for Advanced Mobile Microgrid from PE 0603734A for proper execution.

Two FY06 Congressional adds totaling \$4000 were added to this PE.

FY06 Congressional adds with no R-2A (appropriated amount is shown):

(\$3000) Advanced mobile microgrid liquid fueler

(\$1000) Secure Commercially Interoperable Cell Phone Transmission System for Sensitive but Unclassified Information

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)						February 2006		
BUDGET ACTIVITY 3 - Advanced technology development			PE NUMBER AND TITLE 0603125A - Combating Terrorism, Technology Development for				PROJECT DF5	
COST (In Thousands)		FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate
DF5	AGILE INTEGRATION & DEMONSTRATION	9024	6216	7497	8102	8280	8278	7761
<u>A. Mission Description and Budget Item Justification:</u> This project focuses on exploiting maturing technology development efforts at the Army Research Laboratory (ARL) and Research Development and Engineering Centers (RDECs) to address emerging or already identified warfighter requirements. This project would identify and work with Labs and RDECs to address the critical maturation issues necessary to make identified technologies viable candidates for transition to an operational environment. Short term maturation could include, but is not limited to, accelerating the technology development schedule and/or performing detailed safety & validation tests in field/operational environment testing to improve technology readiness. While not limited to this area, a major effort under this project supports the accelerated maturation of counter IED capabilities (detection, surveillance of deployment and disruption / destruction of threat) for transition into an operational environment. This effort is coordinated with the Joint IED Task Force and the Rapid Equipping Force (REF). The cited work is consistent with Strategic Planning Guidance, the Army Science and Technology Master Plan, the Army Modernization Plan, and the Defense Technology Area Plan. Work in this project is managed by the US Army Research, Development and Engineering Command, Ft. Belvoir, Virginia.								
<u>Accomplishments/Planned Program</u>					<u>FY 2005</u>	<u>FY 2006</u>	<u>FY 2007</u>	
Agile Integration and Demonstration Efforts (AIDE) - In FY06, in conjunction with the Army Labs, RDECs, and the U.S. Army Training and Doctrine Command, identify emerging requirements and capability gaps, assess technologies that fill capability gaps, prioritize potential solutions and mature technology efforts that may have direct impact on emerging warfighter needs that requires a short term (4 to 18 months) maturation prior to becoming a candidate for transition to operational use. AIDE funding enables selected projects to overcome critical maturation issues necessary to make identified technologies viable candidates for transition to an operational environment. Major efforts support the accelerated maturation of counter IED technologies, force protection efforts, and enhanced soldier capabilities. In FY07, will complete maturation, demonstration and evaluation of completing FY06 efforts in preparation of transition operational units. Will continue to assess new and emerging capability gaps and requirements to identify new technology maturation efforts designed to overcome the changing gaps and shortfalls.					0	6216	7497	
Force Protection for GWOT - This one year reprogramming from the Iraq Freedom Fund funded a focused development effort to detect improvised explosive devices from a C-12 manned aircraft. In FY05, demonstrated a prototype infrared and television sensor to provide a near term manned aircraft improvised explosive device (IED) detection capability; demonstrated performance of a state of the art sensor package integrated with an ultra-stabilized gimbal, mounted on a C-12 aircraft that provided the required feature data to enable IED detection at > 20,000 ft daytime and > 9,000 ft nighttime; exploited on-board sensor data using an existing Change Detection Workstation; provided near real-time detection messages to convoys and ground forces on suspected IED emplacements.					4170	0	0	
Suicide Bomber Detection and Interdiction for GWOT - This one year reprogramming from the Iraq Freedom Fund funded a focused development effort for suicide bomber detection. In FY05, focused on the standoff detection of explosives/weapons hidden under clothing, using thermal imaging and a unique application of millimeter wave (MMW) technology; optimized imaging bandwidth of MMW imager for maximum clothing penetration, development of target features to allow faster recognition by non-technical operators and its integration with multiple sensor modalities (thermal, spectral content and explosive trace detection) for suicide bomber personnel					3000	0	0	

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screening.			
FIDO PACBOT - The Fido Packbot is a robotic platform with an explosive material detector. In FY05, procured and evaluated ten Fido Packbot systems for effectiveness in locating explosive material associated with IEDs.	1854	0	0
Total	9024	6216	7497