

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

BUDGET ACTIVITY		PE NUMBER AND TITLE					
6 - Management support		0605326A - Concepts Experimentation Program					
COST (In Thousands)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
Total Program Element (PE) Cost	24787	29652	28271	22328	23499	27062	27517
308 Concepts Experimentation	3825	8347					
312 Army/Joint Experimentation	18205	19456	10486	10535	8487	8612	8694
317 CURRENT FORCE CAPABILITY GAPS			15892	9852	13310	16714	17041
33B SOLDIER-CENTERED ANALYSES FOR THE FUTURE FORCE	2757	1849	1893	1941	1702	1736	1782

A. Mission Description and Budget Item Justification: Funding for the Army Concept Development and Experimentation Campaign Plan mission enables integrated examinations with US Joint Forces Command (USJFCOM), Army Test and Evaluation Command (ATEC), Research, Development, and Experimentation Command (RDECOM), Army battle laboratories, operational units, research labs, materiel developers, industry and academia for the development, refinement, and assessment of future force concepts and concept capability plans to inform the Capability Integration Development System (CIDS) process and shape future requirements, enabling identification and acquisition of critical Doctrine, Organizational, Training, Materiel, Leader Development, Personnel and Facilities (DOTMLPF) capabilities for the future force in order to provide the land power capabilities needed by the Joint Force commander and establish the Army as a purposely interdependent and expeditionary component of the future Joint force. Enables the Air Assault Expeditionary Force Spirals, the Army's principle live discovery experiments to determine impacts on leaders from increased mental demands and complexities from enhanced situational awareness, requirements of sensor planning, employment and management of accelerated decision cycles in a network-enabled force, training requirements of new technologies (e.g. Unmanned Ground Vehicles, Unmanned Aerial Vehicles, and battle command systems and communications); Digital Warfighter Exercises addressing the required capabilities of future echelons above Brigade command posts; and Battle Command On The Move developments. Support Brigade experiments inform higher echelons of which intelligence, surveillance, and reconnaissance capabilities products are focused on synchronization, and support full spectrum operations. Functional Enabling experiments inform logistics, medical, civil support, as well as rapid transitions, and joint mobility. Subordinate Command experiments with airlift capabilities and operational capability over strategic distances.

The Asymmetric Warfare program provides a method for Army to keep the Current Force current/relevant as adversaries adapt and the operating environment changes. As capability gaps identified by deployed forces reveal shortfalls that impact effectiveness or interoperability, and these capability gaps are prioritized by Army, this program provides the ability for Army to evaluate high priority/high leverage solutions from industry during the current year, with highest priority going to candidates that cover multiple capability gaps. Funding provides the ability to identify and insert leading-edge technology from industry to deployed forces in an incremental manner by leveraging the best ideas of best-positioned Program Manager/Program Executive Officers and pulling, or spiraling, them forward for immediate use in the theater. Asymmetric Warfare program will ensure that a solution's proposed gain in capability is not offset by a disruption caused by integration problems. Program enables the holistic demonstration, assessment and deployment of critically needed capabilities to the current force in an integrated environment in the current year.

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<u>B. Program Change Summary</u>	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008/2009)	25293	34004	28440
Current BES/President's Budget (FY 2009)	24787	29652	28271
Total Adjustments	-506	-4352	-169
Congressional Program Reductions		-12752	
Congressional Rescissions			
Congressional Increases		8400	
Reprogrammings	186		
SBIR/STTR Transfer	-692		
Adjustments to Budget Years			-169

Congressional reduction labeled "Program adjustment." Congressional increases for Gunfire Detection System for Unmanned Aerial Vehicles (\$1.6 million); Development of a Robust Mobile Multispectral Fingerprint Capture Device Employing Multispectral Imaging Technology (\$2.0 million); 2D-3D Face Recognition System (\$2.4 million); Arabic Language Training Program (\$.8 million); Automated Communications Support System (\$1.6 million).

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BUDGET ACTIVITY 6 - Management support	PE NUMBER AND TITLE 0605326A - Concepts Experimentation Program					PROJECT 312	
COST (In Thousands)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
312 Army/Joint Experimentation	18205	19456	10486	10535	8487	8612	8694

A. Mission Description and Budget Item Justification: The Army Experimentation mission enables integrated examinations with US Joint Forces Command (USJFCOM), Army Test and Evaluation Command (ATEC), Research, Development, and Experimentation Command (RDECOM), Army battle laboratories, operational units, research labs, materiel developers, industry and academia for the development, refinement, and assessment of future force concepts and concept capability plans to inform the CIDS process and shape future requirements, enabling identification and acquisition of critical DOTMLPF capabilities for the future force in order to provide the land power capabilities needed by the Joint Force commander and establish the Army as a purposely interdependent and expeditionary component of the future Joint force. Enables the Air Assault Expeditionary Force Spirals, the Army's principle live discovery examinations to determine impacts on leaders from increased mental demands and complexities from enhanced situational awareness, requirements of sensor planning, employment and management of accelerated decision cycles in a network-enabled force, training requirements of new technologies (e.g. Unmanned Ground Vehicles, Unmanned Aerial Vehicles, and battle command systems and communications); Digital Warfighter Exercises addressing the required capabilities of future echelons above Brigade command posts; and Battle Command On The Move developments.

Asymmetric Warfare mission (previously referred to as Spiral Developments program) provides rapid capability development and the insertion of new warfighting capabilities into deployed Army units. Two significant problem sets exist in this area for the Army and TRADOC. First, there is a significant difference between the way Army forces are operating in the field and the way they were designed to operate. Secondly, there is a fast-growing backlog of capabilities that need to be assessed in terms of how well those capabilities are doing what they were intended to do. These two problem sets have never been more evident and critical than today, when the pace at which units and technology are evolving is being driven by the need to adapt to an enemy that not only employs asymmetric means, but also quickly adjusts to our own changes. This creates significant challenges for TRADOC - challenges of integrating key activities across DOTMLPF associated with accelerated capabilities development. Specific examples include integrating those activities that support the full spectrum of complex operations associated with asymmetric warfare in the areas of defeating improvised explosive devices (IED), Electronic Warfare (EW), Information Operations (IO) and Force Protection (FP).

Asymmetric Warfare funding has been transferred to from Project 312 to Project 317 in FY09 - FY13.

<u>Accomplishments/Planned Program:</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Asymmetric Warfare - Demo/Assess Joint interoperability of emergent soldier protection capability	3000		
Asymmetric Warfare - Demo/Assess emergent remote operating weapons station capability	2800		
Asymmetric Warfare - Demo/Assess emergent explosives detection capability	2000		
Asymmetric Warfare - Demo/Assess emergent sensor integration solutions	2450		
Experimentation - World Class Blue Force analysts	1894	3300	3376
Experimentation - Modular Force - Joint Urban Resolve/Omni Fusion Experiment	700		

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BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT		
6 - Management support	0605326A - Concepts Experimentation Program	312		
Experimentation - Air Assault Expeditionary Force Experiment (AAEF) - Spiral D	2000			
Experimentation - Battle Command on the Move (BCOM) Experiment	231			
Experimentation - Counter Insurgency and Digital Warfighter Experiments (DWE)	1767			
Experimentation - Earth, Wind and Fire Experiment	1023			
Experimentation - Functional Enabling Experiments designed to address Combat Health, Airlift Capabilities and Supply Support for the Future Modular Force	340	437		1821
Experimentation - Support Brigade Experiments designed to provide situational awareness and enables situation understanding to all echelons in all conditions conducting complex and urban terrain and multinational operations		795		4245
Experimentation - Subordinate Command Experiments designed to address Future Modular Force operational maneuver from strategic distances and intra-theater operational maneuver when capabilities are degraded or absent		812		1044
Asymmetric Warfare - Improvised Explosive Device Defeat (IED-D) Integrated Concept Development Team (ICDT)		6200		
Asymmetric Warfare - Sniper Defeat ICDT		4845		
Asymmetric Warfare - Demo/Assess Information Operations		1500		
Asymmetric Warfare - Demo/Assess Command, Control, Communications, Computers and Intelligence, Surveillance and Reconnaissance (C4ISR)		1023		
SBIR/STTR		544		
Total	18205	19456		10486

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BUDGET ACTIVITY 6 - Management support	PE NUMBER AND TITLE 0605326A - Concepts Experimentation Program					PROJECT 317	
COST (In Thousands)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
317 CURRENT FORCE CAPABILITY GAPS			15892	9852	13310	16714	17041

A. Mission Description and Budget Item Justification: Asymmetric Warfare - Integrating events such as the Comprehensive Force Protection Initiative (CFPI) mandated by the Assistant Secretary of the Army will support Force Protection, Soldier Protection, and Network Information Assurance and provide enhanced warfighting capabilities. these enhanced capabilities improve warfighting effectiveness, improve the survivability, and reduce the vulnerability of the Army's current force. Demonstrations will assess near term technologies (next 6-18 months) that could potentially support the war effort by working to identify gaps and prescribe changes to protect soldiers and convoys from threats such as improvised explosive devices. These demonstrations also allow decision makers to view what off-the-shelf technology capabilities are available today, from a host of vendors that could be used in near to midterm operations on the Global War on Terror. Additionally, these integrating events will provide comprehensive plans (with alternative options) for solving capability shortfalls in the Army's current force and approaches for engagement with Army, and Joint communities as related to the development of selected new warfighting capabilities.

NOTE: This is not a new program. FY 07 and FY 08 funds for this project were in project 312.

<u>Accomplishments/Planned Program:</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Improvised Explosive Device (IED) Integrated Concept Development Team			5892
Sniper Defeat Integrated Concept Development Team			3500
Demo/Assess Electronic Warfare			2500
Demo/Assess Information Operations			1200
Demo/Assess Command and Control, Communications, Computers, Inetlligence, Surveillance and Reconnaissance (C4ISR)			2800
Total			15892

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BUDGET ACTIVITY 6 - Management support		PE NUMBER AND TITLE 0605326A - Concepts Experimentation Program					PROJECT 33B	
COST (In Thousands)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate	
33B SOLDIER-CENTERED ANALYSES FOR THE FUTURE FORCE	2757	1849	1893	1941	1702	1736	1782	

A. Mission Description and Budget Item Justification: This project will provide early application of human performance and human figure modeling tools in the development of Soldier-focused requirements to shape technology for Army Transformation. Design analyses, constructive simulations and Soldier-in-the-loop assessments will ensure that manpower requirements, workload and skill demands are considered, avoid information and physical task overloads, and take optimum advantage of aptitudes, individual and collective training, and numbers of Soldiers for an affordable Future Force. The cited work is consistent with Strategic Planning Guidance, the Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan, and the Defense Technology Area Plan (DTAP). Work in this project is performed by the Army Research Laboratory (ARL).

<u>Accomplishments/Planned Program:</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Provide dedicated modeling and analysis cell for early and accurate Manpower and Personnel Integration (MANPRINT) estimates to Army Materiel Command (AMC), AMC Research, Development, and Engineering Command (RDECOM) and its Research, Development, and Engineering Centers (RDECs), TRADOC Centers, Schools and Battle Laboratories, Army Test and Evaluation Command (ATEC) and other service laboratories. In FY07, verified Soldier centered analysis impacts in force modernization systems and transitioned lessons learned to influence future requirement definitions. In FY08, use quantitative analysis methods to quantify risks in MANPRINT assessment documents for highest-priority systems, based on user and developer community prioritization. In FY09, will apply cross domain MANPRINT risk (i.e. manpower, personnel, training, systems engineering, safety) tradeoff tools to the user, acquisition and test & evaluation communities for more cost effective risk mitigation.	1263	1121	1150
Provide Human Factors Engineering support to Training and Doctrine Command (TRADOC) Centers, Schools and Battle Laboratories. In FY07, provided Future Combat Systems, other selected legacy and developmental systems, human engineering assessments for human-system integration design guidance.	1494		
Supports the MANPRINT Analysis Cell transferred from US Army Human Resources Command; providing MANPRINT Manpower, Personnel and Training (MPT) force requirements determination support to TRADOC on selected systems. In FY08 and FY09, provide analysis of Soldier MPT and Soldier-System performance. Will integrate model and analysis tools on systems based on prioritization basis.		719	743
SBIR/STTR		9	
Total	2757	1849	1893