

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2007

BUDGET ACTIVITY 6 - Management support		PE NUMBER AND TITLE 0605326A - Concepts Experimentation						
COST (In Thousands)	FY 2006 Actual	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	37283	25293	34004	28440	22467	23646	27226	27669
308 Concepts Experimentation	15625	3906						
312 Army/Joint Experimentation	19158	18592	32145	26549	20532	21953	25499	25898
33B SOLDIER-CENTERED ANALYSES FOR THE FUTURE FORCE	2500	2795	1859	1891	1935	1693	1727	1771

A. Mission Description and Budget Item Justification: 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 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.

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.

Additional funds in FY 2008 and FY 2009 provided for new Future Combat System Brigade Combat Team (FCS BCT) & Spin Outs Developments mission. Will enable final validations for FCS Doctrine, Organization, Training and Leader Development(DOTL) products in support of FCS Spin Out capabilities for 2010 - Modular Brigade Combat Team (MBCT) and the FCS BCT. The program provides program analytic support to Spin Outs 2-4. It also provides systems analysis, data development, and technology assessments for the main FCS PoR and Spin Outs 2-4. Additionally, it will provide technology evaluations and assessments, system concept evaluations, and integrated concept/product teams.

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BUDGET ACTIVITY

6 - Management support

PE NUMBER AND TITLE

0605326A - Concepts Experimentation

<u>B. Program Change Summary</u>	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	38496	21626	21466	22184
Current BES/President's Budget (FY 2008/2009)	37283	25293	34004	28440
Total Adjustments	-1213	3667	12538	6256
Congressional Program Reductions		-97		
Congressional Rescissions				
Congressional Increases		3950		
Reprogrammings	-1213	-186		
SBIR/STTR Transfer				
Adjustments to Budget Years			12538	6256

Change Summary Explanation: FY 07 Congressional increases as follows: (1) Automated Language Translator - 2,300; (2) Online Arabic Language Learning Community - 1,650. FY08/FY09: Additional funds in FY 2008 and FY 2009 were provided to new Future Combat System Brigade Combat Team (FCS BCT) and Spin Out developments mission (see Mission Description above).

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

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BUDGET ACTIVITY 6 - Management support		PE NUMBER AND TITLE 0605326A - Concepts Experimentation					PROJECT 312		
COST (In Thousands)	FY 2006 Actual	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	19158	18592	32145	26549	20532	21953	25499	25898	

A. Mission Description and Budget Item Justification: A. Mission Description and Budget Item Justification: Funding for 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.

TRADOC's Asymmetric Warfare mission (previously referred to as Spiral Developments program) is to provide 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).

Additional funds in FY 2008 and FY 2009 provided for new Future Combat System Brigade Combat Team (FCS BCT) & Spin Outs Developments mission. Will enable final validations for FCS Doctrine, Organization, Training and Leader Development(DOTL) products in support of FCS Spin Out capabilities for 2010 - Modular Brigade Combat Team (MBCT) and the FCS BCT. The program provides program analytic support to Spin Outs 2-4. It also provides systems analysis, data development, and technology assessments for the main FCS PoR and Spin Outs 2-4. Additionally, it will provide technology evaluations and assessments, system concept evaluations, and integrated concept/product teams.

<u>Accomplishments/Planned Program:</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Asymmetric Warfare - Demo/Assess radar enhancements in support of Counter Rocket, Artillery and Missile (C-RAM)	2335			
Asymmetric Warfare - Demo/assess command and control capabilities for Maneuver Control System (MCS) modifications	2000			

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2007

BUDGET ACTIVITY	PE NUMBER AND TITLE		PROJECT	
6 - Management support	0605326A - Concepts Experimentation		312	
Asymmetric Warfare - Demo/Assess Joint interoperability of emergent soldier protection capability	60	3000		
Asymmetric Warfare - Demo/Assess emergent remote operating weapons station capability	360	2800		
Asymmetric Warfare - Demo/Assess emergent explosives detection capability	200	2000		
Asymmetric Warfare - Demo/Assess emergent sensor integration solutions	1310	2450		
Asymmetric Warfare - Comprehensive Force Protection Initiative	44			
Wargaming - Unified Quest Army Title X Series of Wargames and Warfare Studies	4597			
Experimentation - Intelligence, Surveillance and reconnaissance Experiment	320			
Experimentation - unit of Action and Unit of Employment Sustainment and simulated experiments	2528			
Experimentation - high Fidelity Analysis and ACDEP sustainment	1369			
Experimentation - Network Operations Experiment	650			
Experimentation - World Class Blue Force analysts	3163	1894		
Experimentation - Modular Force - Joint Urban Resolve/Omni Fusion Experiment	207	700		
Experimentation - Air Assault Expeditionary Force Experiment - Spiral C in FY 06, Spiral D in FY 07	15	2000		
Experimentation - Battle Command on the Move Experiment		231		
Experimentation - Counter Insurgency and Digital Warfighter Experiments		1767		
Experimentation - Earth, Wind and Fire Experiment		1410		
Experimentation - Sustainment Brigade and Operational Level Logistics Concept Experiment		340		
Experimentation requirements will be determined at the FY 08 and FY 09 ACDEP conferences.			21600	10555
Asymmetric Warfare requirements will be determined at the FY 08 and FY 09 Asymmetric Warfare conference.			10545	15994
Total	19158	18592	32145	26549

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BUDGET ACTIVITY 6 - Management support		PE NUMBER AND TITLE 0605326A - Concepts Experimentation					PROJECT 33B		
COST (In Thousands)	FY 2006 Actual	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	2500	2795	1859	1891	1935	1693	1727	1771	

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 2006</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 FY06, extended Stryker based analyses of maintenance manpower and personnel to Brigade Combat Team (BCT) platforms. Recommended changes to air and missile defense training, personnel, and unit configuration practices and branch assignment policies. In FY07, verify Soldier centered analysis impacts in force modernization systems and transition lessons learned to influence future requirement definitions. In FY08, conduct and improve MANPRINT assessment processes with increased emphasis on system of systems analyses. In FY09, 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.	1175	1301	1043	1054
Provide Human Factors Engineering and Manpower and Personnel Integration (MANPRINT) support to Training and Doctrine Command (TRADOC) Centers, Schools and Battle Laboratories. In FY06, analyzed potential crew task loading and workstation design issues to support enhanced area security for future forces. In FY07, will support future force requirements determination using Soldier centered analysis of proposed concepts. In FY08, increase use of quantitative analyses methods to quantify MANPRINT risks in MANPRINT assessment documents. In FY09, will leverage enhancements in analysis tools and methods and human behavior simulation to support a wider range of development programs.	1325	1494	816	837
Total	2500	2795	1859	1891