

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE						
<b>3 - Advanced technology development</b>	<b>0603007A - Manpower, Personnel and Training Advanced Technology</b>						
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	9022	6740	6853	6883	6967	7111	7260
792 Personnel Performance & Training	6456	6740	6853	6883	6967	7111	7260
79A Personnel & Training Adv Tech Initiatives (CA)	2566						

**A. Mission Description and Budget Item Justification:** This program element (PE) funds the Army's behavioral and social science advanced technology development program that provides non-materiel solutions to transform the human warfighter in concert with the technological transformations in systems, weapons, equipment, and the changes in mission requirements to meet the goals of the Future Force. The program focuses on development, maturation, and demonstration within the following three areas: (1) technologies to assess how Soldiers and units are impacted by mission, policy, or program changes; (2) training techniques that enable Soldiers to take full advantage of advances in technology and systems as they evolve and help the Army attain its goals of embedded training in future combat systems; and (3) strategies and tools to enhance leader development so less experienced leaders have tactical and strategic capabilities and can easily adapt to changing mission demands. In addition, this program exploits opportunities to enhance Current Force capabilities. This program leverages and coordinates with work in outside organizations such as the Institute for Creative Technologies (ICT), Simulation and Training Technology Center (STTC), and US Air Force Research Laboratory (USAFRL). This PE is managed by the US Army Research Institute for the Behavioral and Social Sciences (ARI). The cited work is consistent with the Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2008

BUDGET ACTIVITY	PE NUMBER AND TITLE		
<b>3 - Advanced technology development</b>	<b>0603007A - Manpower, Personnel and Training Advanced Technology</b>		
<b><u>B. Program Change Summary</u></b>	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2008/2009)	9200	6783	6871
Current BES/President's Budget (FY 2009)	9022	6740	6853
Total Adjustments	-178	-43	-18
Congressional Program Reductions		-43	
Congressional Rescissions			
Congressional Increases			
Reprogrammings	7		
SBIR/STTR Transfer	-185		
Adjustments to Budget Years			-18

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

**February 2008**

<b>BUDGET ACTIVITY</b> <b>3 - Advanced technology development</b>	<b>PE NUMBER AND TITLE</b> <b>0603007A - Manpower, Personnel and Training Advanced Technology</b>					<b>PROJECT</b> <b>792</b>	
COST (In Thousands)	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate	FY 2010 Estimate	FY 2011 Estimate	FY 2012 Estimate	FY 2013 Estimate
792 Personnel Performance & Training	6456	6740	6853	6883	6967	7111	7260

**A. Mission Description and Budget Item Justification:** The objective of this project is to refine, mature, and demonstrate advanced behavioral and social science technologies that enhance performance to ensure that the human warfighter keeps pace with the transformations in systems, weapons, equipment, and mission requirements to meet the goals of the Future Modular Force. The project, where feasible, exploits opportunities to enhance Current Force capabilities. Advanced technology development efforts include: maturing and demonstrating training methods and techniques that prepare battle commanders to effectively operate in digitized, networked environments, and that enable the use of embedded training technologies envisioned for future command and control (C2) systems, such as the Future Combat Systems (FCS); devising strategies to use distributed and game-based technologies for effective multi-site training, assessment, and feedback; and developing tools that capitalize on the various synthetic environments that facilitate the advancement of leader knowledge, skills, and abilities (KSAs), and that can provide virtual mission experiences to leaders early in their career development cycle to foster cognitive flexibility, adaptability, and mission readiness. In addition, this project matures techniques to determine the effects of policy changes (such as implementation of the Army Force Generation Model [ARFORGEN]) and operational changes (such as increased number and length of deployments) on unit cohesion and Soldier readiness. This program leverages and coordinates research efforts with the Institute for Creative Technologies (ICT), Simulation and Training Technology Center (STTC), and Communication-Electronics Research Development and Engineering Center (CERDEC). This program element (PE) is managed by the US Army Research Institute for the Behavioral and Social Sciences (ARI) and work in this PE is related to and fully coordinated with efforts funded in PE 0601102A, project 74F, and PE 0602785A, project 790. The cited work is consistent with the Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

<b><u>Accomplishments/Planned Program:</u></b>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Personnel Technology: In FY07, conducted trend analysis of longitudinal research findings of the effects on unit cohesion of stabilizing unit personnel from the first brigade from stand-up through post-deployment to inform early stages of implementing ARFORGEN. Validated new Selection Test Battery to determine the extent to which it predicts aviator performance in Initial Rotary Wing Training. In FY08, provide lessons learned to Army G-1 and Commanding General, Human Resources Command on unit stabilization; increase complexity of aviation Selection Test Battery and investigate its validity as a tool to assign aviators to specific aircraft. In FY09, will continue attitude and opinion research on factors that influence cohesion, Soldier and family satisfaction, retention, and readiness.	1488	1951	1489
Training Technology: In FY07, refined products and techniques that provide train-up tools for experiments on the spin out of Future Force technological capabilities to the Current Force; refined learning models for single-user immersive training technologies and the potential assessment methods to determine effectiveness of these technologies. In FY08, refine and demonstrate methods for more rapid development of training support packages that meet future technology and system spin out requirements; validate assessment methods of single-user immersive training technologies; and will develop preliminary guidelines for designing effective single user, interactive, distributed training using game-engine-based immersion. In FY09, will mature prototype training and training support packages that enable improved commander and staff performance in network-enabled environments; will validate and refine assessment measures and metrics used in single-user immersive training technologies; and develop training tools and techniques to improve drill sergeant skills as trainers and improve initial entry training so first-term Soldiers are better prepared for operational deployments.	3622	4279	4914

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

**February 2008**

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT		
<b>3 - Advanced technology development</b>	<b>0603007A - Manpower, Personnel and Training Advanced Technology</b>	<b>792</b>		
Leader Development Technology: In FY07, implemented critical thinking training modules and leader development case-study vignette approaches in select brigade combat teams and assessed the impact on development of basic leadership skills (critical thinking, interpersonal, self-assessment) using protocols developed in applied research. In FY08, develop techniques to train leaders to be adaptable negotiators and to provide a wider range of strategies to persuade others with differing goals. In FY09, will evaluate the use of techniques that leaders need as the basic elements necessary for leadership in complex environments.	1346	400	450	
Small Business Innovation Research/Small Business Technology Transfer Programs			110	
<b>Total</b>	<b>6456</b>	<b>6740</b>	<b>6853</b>	