

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

February 2004

BUDGET ACTIVITY <b>3 - Advanced technology development</b>	PE NUMBER AND TITLE <b>0603007A - Manpower, Personnel and Training Advanced Technolo</b>						
COST (In Thousands)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
Total Program Element (PE) Cost	7606	8921	7288	6981	7166	7190	7277
792 PERSONNEL PERFORMANCE & TRAINING	4366	4871	7288	6981	7166	7190	7277
79A PERSONNEL & TRAINING ADV TECH INITIATIVES (CA)	3240	4050	0	0	0	0	0

**A. Mission Description and Budget Item Justification:** The objective of this program is to mature and demonstrate advanced technologies to enhance performance to ensure that the "human component" of warfighting keeps pace with the transformations in systems, weapons, equipment, and requirements to meet the goals of the Future Force and, where feasible, exploits opportunities to enhance Current Force capabilities. A key goal of this program is the reduction of training and other personnel costs through the development of more effective training strategies that optimize the advantages of live, virtual, and constructive simulations. Advanced technology development efforts include designing new ways to efficiently develop collective training methods and materials; developing and demonstrating training methods and programs that improve mission performance; devising strategies to use distributed training technologies to conduct multi-site training, assessment, and feedback; and evaluating the effectiveness of compressed gunnery training strategies for the Reserve Component. This program also develops leader development tools that capitalize on the various synthetic environments, game technologies, and delivery media (web, Personal Digital Assistant (PDA), etc), that facilitate the advancement of leader knowledge, skills, and abilities (KSAs), and that can provide "experiences" to leaders earlier in their career development cycle. This program will develop self-development tools that do not currently exist that enable leaders to take full advantage of their schoolhouse experiences, that develop cognitive flexibility, and that accelerate the preparation of leaders for their next level of assignment; and will design innovative methods and technologies to improve leader decision-making, develop effective leaders for small team operations, and prepare Battle Commanders to operate within the evolving technological complexity envisioned for Future Force operations. This PE is managed by the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI). 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).

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

February 2004

BUDGET ACTIVITY  
**3 - Advanced technology development**

PE NUMBER AND TITLE  
**0603007A - Manpower, Personnel and Training  
 Advanced Technolo**

<u>B. Program Change Summary</u>	FY 2003	FY 2004	FY 2005
Previous President's Budget (FY 2004)	7663	4931	7158
Current Budget (FY 2005 PB)	7606	8921	7288
Total Adjustments	-57	3990	130
Congressional program reductions		-77	
Congressional rescissions			
Congressional increases		4100	
Reprogrammings	-57	-33	
SBIR/STTR Transfer			
Adjustments to Budget Years			130

**Significant Change Explanation.**

FY04 - Two FY04 Congressional adds totaling \$4100 were added to the PE.

**FY04 Congressional Adds with no R-2As:**

(\$959) Ground Systems Team Training, Project 79A: The objective of this one-year Congressional Add is to investigate Soldier involvement in ground system team tasks and to identify critical coordination tasks. No additional funding is required to complete this project.

(\$2973) Ground Systems Team Training Advanced Technology, Project 79A: The objective of this one-year Congressional Add is to develop prototype Ground Systems Team Training (GSTT) that will improve the coordination effectiveness of Army ground systems teams and unit leaders in mission planning and execution. No additional funding is required to complete this project.

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2004

BUDGET ACTIVITY <b>3 - Advanced technology development</b>	PE NUMBER AND TITLE <b>0603007A - Manpower, Personnel and Training Advanced Technolo</b>	PROJECT <b>792</b>					
COST (In Thousands)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
792 PERSONNEL PERFORMANCE & TRAINING	4366	4871	7288	6981	7166	7190	7277

**A. Mission Description and Budget Item Justification:** The objective of this program is to mature and demonstrate advanced technologies to enhance performance to ensure that the "human component" of warfighting keeps pace with the transformations in systems, weapons, equipment, and requirements to meet the goals of the Future Force and, where feasible, exploits opportunities to enhance Current Force capabilities. A key goal of this program is the reduction of training and other personnel costs through the development of more effective training strategies that optimize the advantages of live, virtual, and constructive simulations. Advanced technology development efforts include designing new ways to efficiently develop collective training methods and materials; developing and demonstrating training methods and programs that improve mission performance; devising strategies to use distributed training technologies to conduct multi-site training, assessment, and feedback; and evaluating the effectiveness of compressed gunnery training strategies for the Reserve Component. This program also develops leader development tools that capitalize on the various synthetic environments, game technologies, and delivery media (web, Personal Digital Assistant (PDA), etc), that facilitate the advancement of leader knowledge, skills, and abilities (KSAs), and that can provide "experiences" to leaders earlier in their career development cycle. This program will develop self-development tools that do not currently exist that enable leaders to take full advantage of their schoolhouse experiences, that develop cognitive flexibility, and that accelerate the preparation of leaders for their next level of assignment; and will design innovative methods and technologies to improve leader decision-making, develop effective leaders for small team operations, and prepare Battle Commanders to operate within the evolving technological complexity envisioned for Future Force operations. This PE is managed by the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI). 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).

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2004

<b>BUDGET ACTIVITY</b> <b>3 - Advanced technology development</b>	<b>PE NUMBER AND TITLE</b> <b>0603007A - Manpower, Personnel and Training</b> <b>Advanced Technolo</b>	<b>PROJECT</b> <b>792</b>
--	--	------------------------------

**Accomplishments/Planned Program**

	FY 2003	FY 2004	FY 2005
Training: In FY03, generated guidelines and techniques for enhanced use of Web-based methods for individual and small group instruction; evaluated existing training techniques and tools for training unit-of-action level forces using virtual simulation experiments; and investigated the amount of simulator training needed to reach proficiency for live-fire qualification on small arms. In FY04, determine the best combination of simulator and live-fire training to maximize small arms marksmanship proficiency; develop prototype training support packages and conduct trial implementations to expand/refine the Command, Control, Communications, and Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) training techniques and collective performance measurement approaches; and modify interactive distributed training environments based on the training needs of operators and staff in the Future Force. In FY05, will demonstrate exemplar intelligent tutoring systems for distributed training environments; and will demonstrate prototype tools to manage and adapt training for multiple unit requirements, delivery platforms, and systems.	1995	2441	2543
Leader Development and Personnel Performance: In FY03, generated and pre-tested scenarios and role plays designed to help leaders train and develop team members and assess team performance. In FY04, demonstrate mentoring programs or tools that help mid-level unit leaders train and assess leadership skills and adaptability in their subordinates; investigate tools and methods for leaders to use to improve unit climate and teamwork; demonstrate modules for teaching critical thinking skills supported by automated coaching and on-line diagnostic and feedback techniques for company grade leaders; and begin assessing potential benefits from personnel stabilization under Unit Manning. In FY05, will determine the most effective methods for leaders to use that will allow them to establish and maintain a positive unit climate and develop unit cohesion in times of personnel turbulence, stress, and changing operational requirements; will evaluate web-based modules for training leaders' critical thinking; will identify small group modifications to "Think Like a Commander" – Excellence in Leadership (TLAC-XL); and will demonstrate computer-based coaching for experiential development of interpersonal skills. ARI will be supported by Institute for Creative Technologies (ICT) and will leverage ICT's expertise in immersive simulation environments.	1017	2367	4745
Army Aircrew Coordination Training: The objective of this one-year Congressional Add was to complete the development of enhanced training and skill sustainment tools, both Web and simulation-based, for enhancing aircrew coordination training; and to incorporate aircrew coordination training program into distributed interactive simulation and simulation-based aviation training exercises. No additional funding was required to complete this project.	1354	0	0

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R-2A Exhibit)

February 2004

BUDGET ACTIVITY  
**3 - Advanced technology development**

PE NUMBER AND TITLE  
**0603007A - Manpower, Personnel and Training  
 Advanced Technolo**

PROJECT  
**792**

**Accomplishments/Planned Program (continued)**

Small Business Innovative Research/Small Business Technology Transfer Programs

FY 2003	FY 2004	FY 2005
0	63	0
4366	4871	7288

Totals