

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

June 2001

<b>BUDGET ACTIVITY</b> <b>2 - APPLIED RESEARCH</b>			<b>PE NUMBER AND TITLE</b> <b>0602785A - Manpower, Personnel and Training</b> <b>Technology</b>						<b>PROJECT</b> <b>790</b>	
COST (In Thousands)	FY 2000 Actual	FY 2001 Estimate	FY 2002 Estimate	FY 2003 Estimate	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	Cost to Complete	Total Cost
790 PERSONNEL PERFORMANCE & TRAINING TECHNOLOGY	11770	11759	16315	0	0	0	0	0	0	0

**A. Mission Description and Budget Item Justification:**

**PLEASE NOTE: This administration has not addressed FY2003-2007 requirements. All FY 2003-2007 budget estimates included in this book are notional only and subject to change.**

The objective of this program element (PE) is to provide the scientific and technical basis for personnel selection, leader development, and training for Future Combat Systems and the Objective Force. This applied research program will provide advanced tools to improve the selection and classification procedures to ensure the right person is placed in the right job, determine leader skills and requirements, and provide the behavioral technologies required for the development of effective individual and collective (unit) training strategies. Research topics include training strategies for the digitized battlefield, training strategies in simulated environments, optimum designs and utilization of simulators and training devices to achieve maximum learning at minimum cost, and modernization of the selection and classification systems to maintain warfighting capabilities for future forces. Research in this PE is consistent with the Army Science and Technology Master Plan, the Army Modernization Plan, and Project Reliance and supports the Human Systems - Personnel Performance and Training - Defense Technology Area. This PE is managed by the U.S. Army Research Institute (ARI) for the Behavioral and Social Sciences. This program supports the Objective Force transition path of the Transformation Campaign Plan (TCP).

**FY 2000 Accomplishments**

- 11770 - Developed and validated a situation awareness measurement instrument for use by small Infantry units.
- Completed research on the implementation and assessment of specific Force XXI Training Programs with selected Army units, providing TRADOC with methods and techniques for development of training support packages; and the TRADOC System Manager for the Combined Arms Tactical Trainer with information to support acquisition of simulators and performance assessment systems for digital training.
- Determined factors influencing propensity of soldiers completing Initial Entry Training for service completion.
- Developed, demonstrated and evaluated instructional modules for versatile thinking in command (focus on brigade staff functions and tasks).
- Identified computer skills possessed by the typical Infantry soldier and leader as of FY99, for use by the Infantry School in determining training requirements for the Land Warrior Soldier System.
- Implemented and evaluated instructional feature and training strategy enhancements to the Military Operations in Urban Terrain (MOUT)/ contingency operations trainer, including an intelligent tutoring system.

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## FY 2000 Accomplishments (Continued)

- Identified the role of simulation devices, instructors, and instructional processes in a model simulator-training program for Initial Entry Rotary Wing (IERW) flight training.
- Documented lessons learned from ARI research on rifle marksmanship training and performance.
- Developed cooperative program of flight simulation training research with Aircrew Training Division of Air Force Research Laboratory.
- Assessed effectiveness of preliminary M2A3 Bradley Fighting Vehicle training programs and training devices.
- Implemented and evaluated innovative training of thinking skills at the Command and General Staff College.
- Developed prototype Non-Commissioned Officer (NCO) performance measures for the Objective Force.
- Developed an electronic index of databases on youth and parent attitudes relevant to Army recruiting.

Total 11770

## FY 2001 Planned Program

- 11509 - Identify potential training issues emerging from the Initial Brigade Combat Team (IBCT) that are relevant to the Future Combat Systems (FCS).
  - Develop, demonstrate, and evaluate extended instructional modules for versatile thinking skills required by division staff.
  - Field test small unit leader situational awareness measurement instruments.
  - Determine simulator training task requirements for future Army aircraft.
  - Incorporate prototype system for computer recognition of human gestures into Virtual Environments for dismounted soldier training and mission rehearsal.
  - Determine the relationships between 21st century NCO attributes and mission performance measures to identify the best predictors of success.
  - Assess effectiveness of virtual environment interface improvements for training and mission rehearsal.
  - Recommend procedures to enhance transfer of performance across upgrades of digital systems.
  - Describe changes in unit behavior associated with digitization.
- 250 - Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) Programs.

Total 11759

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## FY 2002 Planned Program

- 13315 - Implement and evaluate VE-based training system enhancements such as improved locomotion and visual systems, and voice and gesture control of simulated subordinates.
  - Complete transfer of training research on simulator-based training for the contact phase of IERW flight training.
  - Identify and select critical FCS C4ISR collective tasks and develop appropriate experimental battle scenarios.
  - Develop and validate computer-based training alternatives for mastering selected, critical computer skills that will enable operators to maintain situation awareness in a situation that simulates the pressures of a field environment.
  - Determine the best indicators of future NCO performance.
  - Identify impact of "Think Like a Commander" training on tactical performance.
  - Validate determinants of the individual characteristics, job experiences, and organizational factors predicting service attrition and completion.
  
- 3000 - Validate potential new screening measures against station commander and recruiter performance.
  - Design techniques for measuring and enhancing self awareness and adaptive leadership.
  - Continue analyses of leader predictors and plan follow-on longitudinal data collection of USMA Class of 1998 field leadership experience and skills.
  - Expand database to include other commissioning sources.
  - Develop game-based approach to training tactical decision-making.

Total 16315

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<b><u>B. Program Change Summary</u></b>	FY 2000	FY 2001	FY 2002	FY 2003
Previous President's Budget (FY2001 PB)	12005	11869	11903	0
Appropriated Value	12071	11869	0	0
Adjustments to Appropriated Value	0	0	0	0
a. Congressional General Reductions	0	0	0	0
b. SBIR / STTR	-235	0	0	0
c. Omnibus or Other Above Threshold Reductions	-36	0	0	0
d. Below Threshold Reprogramming	0	0	0	0
e. Rescissions	-30	-110	0	0
Adjustments to Budget Years Since FY2001 PB	0	0	4412	0
Current Budget Submit (FY 2002/2003 PB )	11770	11759	16315	0

Funding - Funds added in FY 2002 (\$4412) and FY 2003 (\$1436) to support design of training techniques for enhancing leadership competencies, development of new predictors of future soldier performance that can be used in a selection and classification system for the Objective Force, and the development of a game-based approach to training and tactical decision-making.