

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2007

BUDGET ACTIVITY	PE NUMBER AND TITLE							
6 - Management support	0605803A - Technical Information Activities							
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	48552	47356	41607	43140	42911	43283	39019	39813
720 TECH INFO FUNC ACTV	7139	7447	7801	8162	8247	8309	8492	8679
727 TECH INFO ACTIVITIES	7671	6894	9451	9884	9563	10227	10405	10587
729 YOUTH SCIENCE ACTIV	2901	2179	3049	3177	3227	3273	3326	3380
730 PERS & TRNG ANALYS ACT	1682	1863	1953	2066	2094	2112	2158	2206
731 ARMY HIGH PERFORMANCE COMPUTING CENTERS (AHPCC)	18310	6879	7204	7562	7638	7696	7865	8038
733 ACQUISITION TECH ACT	5039	5712	8530	8507	8306	7788	2810	2873
737 KNOWLEDGE MANAGEMENT FUSION	2301	3264						
739 ARMY HIGH PERFORMANCE COMPUTING INITIATIVES		9642						
C16 FAST	2570	2372	2475	2589	2617	2636	2694	2753
C18 BAST	939	1104	1144	1193	1219	1242	1269	1297

A. Mission Description and Budget Item Justification: This program supports upgrading the accuracy, timeliness, availability, and accessibility of scientific, technical, and management information at all levels of Army Research and Development (R&D). Management of this information is critical to achieve the goals established by the Army's Senior Leadership for the Current and Future Forces. Use of accurate and timely technical information is essential to successfully meeting the milestones required on the path to the Future Force, allowing Army Science and Technology (S&T) leadership to refine investment strategy and quickly react to emerging opportunities and issues. This program includes initiatives to improve information derivation, storage, access, display, validation, transmission, distribution, and interpretation. This program addresses the need to increase the competitiveness and availability of scientific, engineering, and technical skills in the DoD and National workforce through outreach programs aimed at high school students through college. By providing direct working experience for these students in Army laboratories, the programs expose these students to the working world of science and engineering. Work funded under this program includes analyses using behavioral science-based analytic tools to provide policy and decision makers with Soldier-oriented recommendations concerning manpower, personnel, and training issues. Funding is provided for Independent Review Team analysis of technology maturity as part of the Technology Area Readiness Assessment as required by DoDI 5000.2 dated May 12, 2003. This program funds studies by the Board on Army Science and Technology (BAST) and the Army Science Board. This program also supports combatant commanders and major Army commands by providing science advisors to address scientific and technical issues and by providing engineering teams to solve field Army technical problems. Coordination of this program with the other Services is achieved through inter-service working groups. The cited work is consistent with Strategic Planning Guidance, the Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan, Defense Basic Research Plan (DBRP), and the Defense Technology Area Plan (DTAP). Work in this program element is performed by the Research, Development, and Engineering Command (RDECOM), the Army Research Institute for the Behavioral and Social Sciences, the Army Corps of Engineers' Engineer Research and Development Center (ERDC), and the Information Management Office.

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2007

BUDGET ACTIVITY

PE NUMBER AND TITLE

6 - Management support

0605803A - Technical Information Activities

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2007

BUDGET ACTIVITY

6 - Management support

PE NUMBER AND TITLE

0605803A - Technical Information Activities

B. Program Change Summary

	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	46760	34834	36628	37916
Current BES/President's Budget (FY 2008/2009)	48552	47356	41607	43140
Total Adjustments	1792	12522	4979	5224
Congressional Program Reductions		-181		
Congressional Rescissions				
Congressional Increases		13050		
Reprogrammings	1792	-347		
SBIR/STTR Transfer				
Adjustments to Budget Years			4979	5224

Funding increases in FY08 and FY09 for Science and Technology Enterprise Management (STEM) development and the Army Educational Outreach Program (AEOP).

Three FY07 congressional adds totaling \$12508 (after adjustment for Congressional Undistributed Reductions) were added to this PE.

- (\$958) Knowledge Integration & Management COE
- (\$2205) Knowledge System & Relational Database
- (\$9345) Army High Performance Computing Research Center

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2007

BUDGET ACTIVITY 6 - Management support	PE NUMBER AND TITLE 0605803A - Technical Information Activities					PROJECT 720			
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	
720 TECH INFO FUNC ACTV	7139	7447	7801	8162	8247	8309	8492	8679	

A. Mission Description and Budget Item Justification: This project provides for technology transfer activities to support acquisition, storage, and utilization of technical information for both military and domestic applications. Effective exploitation of science and technology (S&T) information is critical to achieving the goals established by Senior Army Leadership. Activities include Army support for Federal Laboratory Consortium (FLC) as required by Public Law; the Army Science Board; the Army Science Conference; S&T database management efforts; and administration of the Army's Small Business Innovative Research (SBIR) and Small Business Technology Transfer Program (STTR) in accordance with the Small Business Research and Development Enhancement Act of 1992. Technology transfer activities make technical information available to both the public and private sectors to reduce duplication in Research and Development programs and to increase competitiveness in the US business community. Database management efforts support development of decision aids, databases, and automation support for the management and execution of the Army Research, Development, Test and Evaluation (RDTE) appropriation. In addition, this project provides funding for patent legal expenses and fees for all Research, Development, and Engineering Command (RDECOM) subordinate commands and laboratories, as required by the Omnibus Budget Reconciliation Act. The cited work is consistent with Strategic Planning Guidance, the Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan, the Defense Basic Research Plan (DBRP), and the Defense Technology Area Plan (DTAP). Work 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 Army funding support for Federal Laboratory Consortium as required by Public Law 104-113.	200	209	216	225
Provide administrative and contractual support for the Army Science Board.	1358	1363	1419	1457
Provide administrative support for the Army's SBIR and STTR programs.	1125	1152	1240	1273
Provide funding for patent fees and patent legal expenses for AMC commands and laboratories.	815	728	1067	1220
Provide funding for S&T Strategic Planning and Support.	188	193	194	199
Provide funding for the Army Science Conference.	430	475	506	539
Administer S&T database computer engineering support contract and support RDECOM databases S&T management support.	3023	3130	3159	3249
Small Business Innovative Research/Small Business Technology Transfer Programs		197		
Total	7139	7447	7801	8162

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2007

BUDGET ACTIVITY 6 - Management support	PE NUMBER AND TITLE 0605803A - Technical Information Activities						PROJECT 727		
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	
727 TECH INFO ACTIVITIES	7671	6894	9451	9884	9563	10227	10405	10587	

A. Mission Description and Budget Item Justification: This project supports development of decision aids, databases, and automation support for the management and execution of the Army Research, Development, Test, and Evaluation (RDTE) Appropriation. It includes the hardware, software, and contractor support required to develop and implement a set of management decision aids, databases, and hardware/software tools to support technical and budgetary decisions at the Office of the Secretary of Defense (OSD) and Department of the Army (DA), including support of the Army Science and Technology Master Plan. Most of the efforts in this project are on-going activities to support Army Research, Development, and Acquisition programs. Effective exploitation of S&T information is critical to achieving the goals established by Senior Army Leadership for the Future Combat Systems and the Future Force. Funding in this program support Independent Review Team analysis of technology maturity as part of Technology Readiness Assessments as required by DoDI 5000.2 dated May 12, 2003. The cited work is consistent with Strategic Planning Guidance, the Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan, the Defense Basic Research Plan (DBRP), and the Defense Technology Area Plan (DTAP).

<u>Accomplishments/Planned Program:</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Conduct and support S&T program portfolio assessments and analysis.	1829	1816	2089	2132
Support Army S&T strategic planning, analysis, and prioritization.	2601	1347	3807	4130
Provide funding and support for Army Science and Technology Master Plan development and publication.	921	1207	1089	1112
Provide funding and support for Army Acquisition Program Technology Readiness Assessments for Program Milestone Decisions.	1849	1830	1966	2010
Provide Army support to Director, Defense Research and Engineering Executive Staff for DoD-wide Science and Technology oversight.	471	500	500	500
Small Business Innovative Research/Small Business Technology Transfer Programs		194		
Total	7671	6894	9451	9884

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2007

BUDGET ACTIVITY 6 - Management support	PE NUMBER AND TITLE 0605803A - Technical Information Activities					PROJECT 729			
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	
729 YOUTH SCIENCE ACTIV	2901	2179	3049	3177	3227	3273	3326	3380	

A. Mission Description and Budget Item Justification: This project supports science activities that encourage over 154,000 middle/high school and college youths annually to develop an interest in and pursue higher education and employment in the science, math, and engineering fields. These activities are consolidated within the Army Educational Outreach Program (AEOP) that links and networks appropriate components to derive the best synergies to "present the Army" to a larger pool of technical talent and to provide students with Army unique practical experiences at Army laboratories, centers, and institutes to fill future Army Science and Technology workforce needs. AEOP increases interest and involvement of students and teachers across the nation in science, math, and engineering at all proficiency levels and backgrounds to include under-represented and economically disadvantaged groups by exposure to Army Sponsored research, education, competitions, internships, and practical experiences. The joint Army/Navy Washington regional area Science and Engineering Apprenticeship Program (SEAP) is included in the overall effort. This project enhances the national laboratory science and engineering personnel pool which in turn supports defense industry and Army laboratory needs. 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 is performed by the by the Research, Development, and Engineering Command (RDECOM), the Army Research Institute for the Behavioral and Social Sciences, the Army Corps of Engineers' Engineer Research and Development Center (ERDC), Medical Research and Materiel Command (MRMC) and Space and Missile Defense Command (SMDC).

<u>Accomplishments/Planned Program:</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Foster high school student interest nationally in science, mathematics, engineering, and computer science by sponsoring the Junior Science and Humanities Symposium (JSHS), International Mathematics Olympiad (IMO), International Science and Engineering Fair (ISEF), and the Research and Engineering Apprenticeship Program (REAP).	1359	1449	1478	1596
Sponsor joint Army/Navy Washington Regional Area SEAP and increase Army Laboratory/Research, Development, and Engineering Center (RDEC) sponsorship of students.	220	228	243	248
Conduct the Uninitiated Introduction to Engineering (UNITE) program to increase the numbers of Native Americans, African Americans, and Spanish-speaking Americans attending and completing engineering and/or science curricula at the university level.	197	198	205	205
Conduct West Point cadet research internship program to enhance cadet training through field experience within Army research labs and centers.	250	242	248	253
Support Army Educational Outreach Program (AEOP) to enhance Science, Mathematics, and Engineering education through student experiences in Army labs and academic partner institutions.	875		875	875
Small Business Innovative Research/Small Business Technology Transfer Programs		62		
Total	2901	2179	3049	3177

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2007

BUDGET ACTIVITY 6 - Management support	PE NUMBER AND TITLE 0605803A - Technical Information Activities					PROJECT 730		
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
730 PERS & TRNG ANALYS ACT	1682	1863	1953	2066	2094	2112	2158	2206

A. Mission Description and Budget Item Justification: This project provides for the Army's behavioral and social science research-based studies and analyses to address current and near term Soldier, training, and leader development issues. The research provides a unique capability to address a number of issues that affect, directly, or indirectly, Soldier and unit performance and readiness, such as the effects of changes in training on individual and unit performance, the personnel costs of alternative programs and policies and the effects of program changes on retention of quality Soldiers. Requirements for research-based studies and analyses for critical personnel and training issues of immediate importance are solicited on an annual basis from the Training and Doctrine Command (TRADOC), the Assistant Secretary of the Army for Manpower and Reserve Affairs (ASA-M&RA), the Army Deputy Chief of Staff, G-1, and the Human Resources Command (HRC). 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 managed by the US Army Research Institute (ARI) for the Behavioral and Social Sciences.

Accomplishments/Planned Program:	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Research-based analyses completed in FY06 included: an initial validation of the Tier Two Attrition Screen (TTAS) to identify non-high school diploma graduate recruits who have the highest potential to remain through their first term of service; evaluated the use of immersive simulation training for dismounted Soldiers; assessed the new Warrior Transition Course; conducted a longitudinal validation of a Leadership Assessment Tool (LAT) for predicting junior non-commissioned officer (NCO) performance above and beyond the current promotion point worksheet system; identified the characteristics of officers who did and did not remain in the Army beyond their initial obligation; and expanded a prototype tool for NCO competency assessment by incorporating items that address lessons learned from recent deployments. Projects for FY07 include assessing the initial implementation of the Basic Officer Leadership Course (BOLC) II at Forts Benning and Sill; completing an evaluation of the new Basic Combat Training (BCT) program of instruction in terms of how well it prepares Soldiers to arrive at their first unit with the combat skills they may need immediately; assessing the current incentives used by the Army that are intended to mitigate the potential negative effects of deployments, assessing the retention of warrior tasks and battle drills, and evaluating the effects of using TSP matching funds as a retention incentive. The FY08 and FY09 programs will be based on issues identified by TRADOC, ASA-M&RA, the Army Deputy Chief of Staff, G-1, and the HRC.	1682	1820	1953	2066
Small Business Innovative Research/Small Business Technology Transfer Programs		43		
Total	1682	1863	1953	2066

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2007

BUDGET ACTIVITY 6 - Management support	PE NUMBER AND TITLE 0605803A - Technical Information Activities						PROJECT 731		
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	
731 ARMY HIGH PERFORMANCE COMPUTING CENTERS (AHPCC)	18310	6879	7204	7562	7638	7696	7865	8038	

A. Mission Description and Budget Item Justification: This project directly supports Future Force requirements by providing high fidelity modeling, simulation, and analysis of materials, systems, and operational constructs to be employed within the Future Force. The project supports collaborative efforts to advance computational science and its application to critical Army technologies. The Centers work with researchers at Army laboratories to explore new algorithms in the computational sciences to address critical technology issues in numerous and diverse computational research areas. The Centers also sustain high performance computing environments and educational outreach as an integral part of their mission. The cited work is consistent with Army Strategic Planning Guidance, the Army Science and Technology Master Plan (ASTMP), the Army Modernization Plan, and the Defense Technology Area Plan (DTAP). Work 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>
Sustain the high performance computing environment and infrastructure in support of the US Army Tank and Automotive Research Development and Engineering Center (TARDEC).	1966	2166	2252	2300
Sustain the high performance computing environment and infrastructure in support of the Army High Performance Computing Research Center's (AHPCRC) research, education, and outreach activities.	1076	1208	1247	1300
Sustain the high performance computing environment and infrastructure in support of the US Army Research Laboratory's Major Shared Research Center (MSRC).	2998	3400	3705	3962
Army High Performance Computing Research Center (AHPCRC): In FY06, congressional funding was provided for AHPCRC for (1) high performance computing research; (2) computational sciences to enhance interior ballistics prediction capability for Army application; and (3) staff scientists and outreach activities. No additional funding is required to complete this project.	12270			
Small Business Innovative Research/Small Business Technology Transfer Programs		105		
Total	18310	6879	7204	7562

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2007

BUDGET ACTIVITY 6 - Management support	PE NUMBER AND TITLE 0605803A - Technical Information Activities						PROJECT 733		
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	
733 ACQUISITION TECH ACT	5039	5712	8530	8507	8306	7788	2810	2873	

A. Mission Description and Budget Item Justification: This project improves the Army's acquisition process by applying decision support and expert information systems, and by supporting analysis and evaluation of alternative acquisition strategies using techniques such as value-added analysis and analysis-of-alternatives. This project provides the environment for the analysis and evaluation of new information technologies, concepts, and applications for integrated management activities and support dynamic Army acquisition technology requirements. This program supports analysis efforts to conduct critical analyses for Army leadership in support of Army Transformation. These analyses are used by leadership in making acquisition, procurement, and logistics decisions in order to provide quality equipment and procedures to the Soldiers. 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 program element is performed by the Army Acquisition Support Center.

<u>Accomplishments/Planned Program:</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Distribute and beta test application programs and user interface utilities for executive level information systems that offer Standard Query Language services to Army Acquisition Corps corporate and global databases. Analyze acquisition program financial programming and budgeting requirements. Continue development of Weapon Systems Handbook, long-range planning and policy analysis, resource allocation analysis, cost tracking, and analysis.	4205	4650	7523	7551
Conduct analysis and evaluation of new information technologies, concepts, and applications of integrated management activities to meet the dynamic Army acquisition technology requirements.	834	901	1007	956
Small Business Innovative Research/Small Business Technology Transfer Programs		161		
Total	5039	5712	8530	8507

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2007

BUDGET ACTIVITY 6 - Management support		PE NUMBER AND TITLE 0605803A - Technical Information Activities					PROJECT C16		
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	
C16 FAST	2570	2372	2475	2589	2617	2636	2694	2753	

A. Mission Description and Budget Item Justification: The Field Assistance in Science and Technology (FAST) program focuses Army Materiel Command (AMC) resources to rapidly identify and solve Army field technical problems that enable the improvement of readiness, safety, training, and reduce operations and support (O&S) costs. FAST tours of duty provide significant professional growth opportunities for the Army's scientists and engineers. Science advisers are recruited from AMC headquarters and all AMC Major Subordinate Commands (MSCs) to serve combatant commands and major commands worldwide. The FAST activity is also supported by assigned Quick Reaction Coordinators (QRCs) within each engineering center. All costs associated with science advisor assignments are funded by AMC or the AMC MSCs that supply the science advisers for two to three year tours. The FAST program recoups many times its cost in O&S (cost) savings. FAST also provides emerging technology demonstration opportunities to the Research, Development, and Engineering Command's (RDECOM) engineering centers and DARPA and executes biannual Technology Applications Conferences (TAC) on a rotating basis between FORSCOM, USAREUR, and USFK/Eighth Army. FAST also maintains close coordination with the Navy Science Advisor Program (Naval Fleet Forces Technology Integration Office). 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 US Army Materiel Command.

<u>Accomplishments/Planned Program:</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Respond to combatant commanders worldwide with technological solutions to urgent materiel problems they identify; deploy science advisors with US Task Forces in support of combatant commanders; execute biannual Technology Applications Conference.	2570	2315	2475	2589
Small Business Innovative Research/Small Business Technology Transfer Programs		57		
Total	2570	2372	2475	2589

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2a Exhibit)

February 2007

BUDGET ACTIVITY 6 - Management support		PE NUMBER AND TITLE 0605803A - Technical Information Activities					PROJECT C18		
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	
C18 BAST	939	1104	1144	1193	1219	1242	1269	1297	

A. Mission Description and Budget Item Justification: This project funds Army efforts by the National Research Council's (NRC) Board on Army Science and Technology (BAST). The BAST provides an independent, objective, and credible source of external advice to the Army. It serves as a convening authority for the discussion of science and technology issues of importance to the Army and oversees independent Army-related studies conducted by the National Academies. Working in close coordination with the Army, the BAST helps define problems, brings together experts to study these problems and provides recommendations. Committees are assembled in accordance with established NRC procedures and BAST studies often continue longer than 12 months. 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 extramurally by the Army Research Laboratory (ARL).

Accomplishments/Planned Program:	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
Provide studies and conducts periodic meetings to help identify, assess, and recommend emerging opportunities in science and technology fields applicable to the US Army. Primary study topic for FY06 was the Network Sciences Study. Topics for FY07, FY08, and FY09 will be selected according to Army S&T strategy and senior leader initiatives.	939	1073	1144	1193
Small Business Innovative Research/Small Business Technology Transfer Programs		31		
Total	939	1104	1144	1193