

ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE		
6 - Management support	0605803A - Technical Information Activities		
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate
Total Program Element (PE) Cost	44484	44359	51620
720 TECH INFO FUNC ACTV	7625	8088	8693
727 TECH INFO ACTIVITIES	8453	9788	9033
729 YOUTH SCIENCE ACTIV	2939	3147	3152
730 PERS & TRNG ANALYS ACT	1897	2049	2067
731 ARMY HIGH PERFORMANCE COMPUTING CENTERS (AHPCC)	6999	7519	7685
733 ACQUISITION TECH ACT	7745	8425	17220
737 KNOWLEDGE MANAGEMENT FUSION	5217	1595	
C16 FAST	2502	2566	2580
C18 BAST	1107	1182	1190

A. Mission Description and Budget Item Justification: This program element (PE) supports upgrading the accuracy, timeliness, availability, and accessibility of scientific, technical, and management information at all levels of the Army Research and Development (R&D) community. Management of this information is critical to achieve the goals established by the Army's Senior Leadership. 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; to develop and enhance a single business model for Army S&T knowledge management information technology; to provide 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 as well as the Army Science Board (ASB) (projects 720 and 727). 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 middle school through college students and teachers. By providing direct working experience for these students in Army laboratories, the programs expose these students to the working world of science and engineering (project 729). The program includes funding for studies and analyses using behavioral science-based analytic tools to provide policy and decision makers with Soldier-oriented recommendations concerning manpower, personnel, and training issues (project 730). The program includes funding for support for Army high performance computing centers (project 731). The program includes funding for improvements to the Army's acquisition process (project 733). This program 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 (project C16). Finally, this program funds studies by the Board on Army Science and Technology (BAST) (project C18). Coordination of this program with the other Services is achieved through inter-service working groups.

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.

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BUDGET ACTIVITY

6 - Management support

PE NUMBER AND TITLE

0605803A - Technical Information Activities

Work in this PE is performed by the Research, Development, and Engineering Command (RDECOM), Aberdeen Proving Ground, MD, the Army Research Institute (ARI) for the Behavioral and Social Sciences, Arlington, VA, the Army Corps of Engineers' Engineer Research and Development Center (ERDC), Vicksburg, MS, Medical Research and Materiel Command (MRMC), Ft. Detrick, MD, Space and Missile Defense Command (SMDC), Huntsville, AL, and the Information Management Office, Arlington, VA.

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B. Program Change Summary

	FY 2008	FY 2009	FY 2010
Previous President's Budget (FY 2009)	42715	42905	42663
Current BES/President's Budget (FY 2010)	44484	44359	51620
Total Adjustments	1769	1454	8957
Congressional Program Reductions		-146	
Congressional Rescissions			
Congressional Increases		1600	
Reprogrammings	2837		
SBIR/STTR Transfer	-1068		
Adjustments to Budget Years			8957

Funds were added to Project 733 in FY10 to fund the Geospatial Acquisition Support Office (GASO) and to provide analytical support to the Program Executive Officers (PEOs) by the Army Materiel Systems Analysis Activity (AMSAA).

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BUDGET ACTIVITY 6 - Management support	PE NUMBER AND TITLE 0605803A - Technical Information Activities		PROJECT 720
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate
720 TECH INFO FUNC ACTV	7625	8088	8693

A. Mission Description and Budget Item Justification: This project provides funding 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 the Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

Work is performed by the Army Research Laboratory (ARL), Adelphi, MD.

<u>Accomplishments/Planned Program:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Provide Army funding support for Federal Laboratory Consortium as required by Public Law 104-113.	209	224	226
Provide administrative and contractual support for the Army Science Board.	1450	1508	2087
Provide administrative support for the Army's SBIR and STTR programs.	1200	1266	1211
Provide funding for patent fees and patent legal expenses for AMC commands and laboratories.	1032	1113	1136
Provide funding for S&T Strategic Planning and Support.	194	199	368
Provide funding for the Army Science Conference.	490	536	492
Administer S&T database computer engineering support contract and support RDECOM databases S&T management support.	3050	3030	3173
Small Business Innovative Research/Small Business Technology Transfer Programs		212	
Total	7625	8088	8693

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BUDGET ACTIVITY 6 - Management support	PE NUMBER AND TITLE 0605803A - Technical Information Activities		PROJECT 727
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate
727 TECH INFO ACTIVITIES	8453	9788	9033

A. Mission Description and Budget Item Justification: This project funds the 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 (S&T) 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 force. Funding in this program supports 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 the Director, Defense Research and Engineering Strategic Plan and Basic Research Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

Work in this project is performed by the Office of the Assistant Secretary of the Army, Acquisition, Logistics and Technology, The Pentagon, Washington, DC.

<u>Accomplishments/Planned Program:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Conduct and support S&T program portfolio assessments and analysis.	1909	2085	1862
Support Army S&T strategic planning, analysis, and prioritization.	3293	3829	3533
Provide funding and support for Army Science and Technology Master Plan development and publication.	955	1104	1123
Provide funding and support for Army Acquisition Program Technology Readiness Assessments for Program Milestone Decisions.	1796	1997	2023
Provide Army support to Director, Defense Research and Engineering Executive Staff for DoD-wide Science and Technology oversight.	500	500	492
Small Business Innovative Research/Small Business Technology Transfer Programs		273	
Total	8453	9788	9033

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BUDGET ACTIVITY 6 - Management support	PE NUMBER AND TITLE 0605803A - Technical Information Activities		PROJECT 729
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate
729 YOUTH SCIENCE ACTIV	2939	3147	3152

A. Mission Description and Budget Item Justification: This project supports science activities that encourage 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 through 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 pool of science and engineering personnel that in turn supports defense industry and Army laboratory and research, development, and engineering center needs.

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.

Work is performed by the Research, Development, and Engineering Command (RDECOM), Aberdeen Proving Ground, MD, the Army Research Institute (ARI) for the Behavioral and Social Sciences, Arlington, VA, the Army Corps of Engineers' Engineer Research and Development Center (ERDC), Vicksburg, MS, Medical Research and Materiel Command (MRMC), Ft. Detrick, MD, and Space and Missile Defense Command (SMDC), Huntsville, AL.

<u>Accomplishments/Planned Program:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Foster high school student interest nationally in science, technology, mathematics, engineering, and computer science by sponsoring the Junior Science and Humanities Symposium (JSHS), International Mathematical Olympiad (IMO), International Science and Engineering Fair (ISEF), Research and Engineering Apprenticeship Program (REAP) and the Uninitiates' Introduction to Engineering (UNITE) Program.	1602	1693	1737
Sponsor joint Army/Navy Washington Regional Area SEAP and increase Army Laboratory/Research, Development, and Engineering Center (RDEC) sponsorship of students.	232	247	238
Conduct West Point cadet research internship program to enhance cadet training through field experience within Army research labs and centers.	236	243	316
Support Army Educational Outreach Program (AEOP) to enhance Science, Mathematics, and Engineering education through student experiences in Army labs and academic partner institutions.	869	875	861
Small Business Innovative Research/Small Business Technology Transfer Programs		89	
Total	2939	3147	3152

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BUDGET ACTIVITY 6 - Management support	PE NUMBER AND TITLE 0605803A - Technical Information Activities		PROJECT 730
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate
730 PERS & TRNG ANALYS ACT	1897	2049	2067

A. Mission Description and Budget Item Justification: This project funds 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 directly or indirectly affect 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 these critical studies and analyses 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 the Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

Work in this project is managed by the US Army Research Institute (ARI) for the Behavioral and Social Sciences, Arlington, VA.

<u>Accomplishments/Planned Program:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
FY08: the following research-based analyses were completed: analyzing and evaluating methods for building cross-cultural competence in Army leaders; validating measures that assess the likelihood of Soldier attrition and retention; determining the feasibility of using an individual's prior experience and knowledge to better tailor their training within particular course curriculums. FY09, analyze the effectiveness of innovative training methodologies, principles, and best practices; and assess refined selection measures and their effect on Soldier and officer retention. FY10 studies and analyses will be based on critical issues identified by TRADOC, ASA(M&RA), the Army Deputy Chief of Staff, G-1, and the HRC.	1897	2002	2067
Small Business Innovative Research/Small Business Technology Transfer Programs		47	
Total	1897	2049	2067

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BUDGET ACTIVITY 6 - Management support	PE NUMBER AND TITLE 0605803A - Technical Information Activities		PROJECT 731
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate
731 ARMY HIGH PERFORMANCE COMPUTING CENTERS (AHPCC)	6999	7519	7685

A. Mission Description and Budget Item Justification: This project provides funding for research, education, outreach, and sustainment of the Army High Performance Computing Centers at the Army Research Laboratory (ARL), the Tank and Automotive Research, Development, and Engineering Center (TARDEC), and the Army High Performance Computing Research Center (AHPCRC) consortium. The Army High Performance Computing Centers provide high fidelity modeling, simulation, and analysis of materials, systems, and operational constructs. The Centers work with researchers at Army laboratories and research, development, and engineering centers to explore new algorithms in the computational sciences to address critical technology issues in computational research areas.

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.

Work is performed by the Army Research Laboratory (ARL), Aberdeen Proving Ground, MD and the Tank and Automotive Research, Development, and Engineering Center (TARDEC), Warren, MI.

<u>Accomplishments/Planned Program:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Sustain the high performance computing environment and infrastructure in support of the US Army Research Laboratory Major Shared Research Center (MSRC).	3573	3821	4189
Sustain the high performance computing environment and infrastructure in support of the US Army Tank and Automotive Research Development and Engineering Center (TARDEC).	2205	2296	2228
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.	1221	1296	1268
Small Business Innovative Research/Small Business Technology Transfer Programs		106	
Total	6999	7519	7685

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BUDGET ACTIVITY 6 - Management support	PE NUMBER AND TITLE 0605803A - Technical Information Activities			PROJECT 733
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	
733 ACQUISITION TECH ACT	7745	8425	17220	

A. Mission Description and Budget Item Justification: This project funds improvements to 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 the Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

Work in this project is performed by the Army Acquisition Support Center, Ft. Belvoir, VA.

<u>Accomplishments/Planned Program:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</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.	6831	7268	7604
Army Materiel Systems Analysis Activity (AMSAA) analytical support for the Program Executive Officers. The AMSAA support activities include system performance analysis, technology and risk assessment, modeling and simulation new methodology development/validation/accreditation, business case analyses, integrated logistics support/supportability analyses, operation and support cost reduction, and reliability improvement.			4696
Geospatial Acquisition Support Office (GASO). These dollars will support the front end assessments of the PEO requirements to ensure that system's acquisition processes address geospatial concepts, technology and standards early in their development processes. Moreover, they are tasked to provide a geospatial baseline system of systems in theater, which is a near-term requirement that cannot be deferred.			4920
Conduct analysis and evaluation of new information technologies, concepts, and applications of integrated management activities to meet the dynamic Army acquisition technology requirements.	914	922	
Small Business Innovative Research/Small Business Technology Transfer Programs		235	
Total	7745	8425	17220

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BUDGET ACTIVITY 6 - Management support	PE NUMBER AND TITLE 0605803A - Technical Information Activities	PROJECT 737
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate
737 KNOWLEDGE MANAGEMENT FUSION	5217	1595

A. Mission Description and Budget Item Justification: Congressional Interest Item funding.

<u>Accomplishments/Planned Program:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>
Knowledge Integration and Management	2898		
Knowledge, Tech Sharing Program	2319	1550	
SBIR/STTR		45	
Total	5217	1595	

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BUDGET ACTIVITY 6 - Management support	PE NUMBER AND TITLE 0605803A - Technical Information Activities		PROJECT C16
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate
C16 FAST	2502	2566	2580

A. Mission Description and Budget Item Justification: This project provides funding for the Field Assistance in Science and Technology (FAST) program. The FAST program provides Science advisers, recruited from Army Materiel Command (AMC) headquarters and all AMC Major Subordinate Commands (MSC) to serve combatant commands and major commands worldwide. FAST tours of duty provide significant professional growth opportunities for the Army's scientists and engineers and enable them to focus AMC resources on rapidly identifying and solving field technical problems that enable the improvement of readiness, safety, training, and reduce operations and support (O&S) costs. The FAST activity is supported by Quick Reaction Coordinators within the engineering centers. The FAST program recoups many times its cost in O&S savings. FAST also provides emerging technology demonstration opportunities to the engineering centers and executes a biannual Technology Applications Conference (TAC) on a rotating basis between Forces Command, US Army Europe, US Forces Korea/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 the Director, Defense Research and Engineering Strategic Plan, the Army Modernization Strategy, and the Army Science and Technology Master Plan.

Work in this project is performed by the US Army Materiel Command (AMC), Ft. Belvoir, VA.

<u>Accomplishments/Planned Program:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</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.	2502	2505	2580
Small Business Innovative Research/Small Business Technology Transfer Programs		61	
Total	2502	2566	2580

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BUDGET ACTIVITY 6 - Management support	PE NUMBER AND TITLE 0605803A - Technical Information Activities			PROJECT C18
COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	
C18 BAST	1107	1182	1190	

A. Mission Description and Budget Item Justification: This project funds the Board on Army Science and Technology (BAST). The BAST functions under the auspices of the National Research Council (NRC) an organization within the National Academies of Sciences and provides an external, independent, and objective source of advice to the Army. The BAST 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 take 12 months or more to conclude.

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.

Work in this project is executed extramurally by the Army Research Laboratory (ARL), Research Triangle Park, NC.

<u>Accomplishments/Planned Program:</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</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 FY08 was on the study of "Opportunities in Neuroscience for Future Army Applications". Topics for FY09 and FY10 will be selected according to Army Science and Technology (S&T) strategy and senior leader initiatives.	1107	1149	1190
Small Business Innovative Research/Small Business Technology Transfer Programs		33	
Total	1107	1182	1190