ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

February 2004

BUDGET ACTIVITY
6 - Management support

PE NUMBER AND TITLE
0605803A - Technical Information Activities

	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	54182	42122	27713	28195	30212	31803	33052
720	TECH INFO FUNC ACTV	3536	2861	2614	2636	2784	2883	3011
727	TECH INFO ACTIVITIES	13319	6879	6325	6629	7237	7594	8005
729	YOUTH SCIENCE ACTIV	2260	2111	1914	1935	2083	2181	2291
730	PERS & TRNG ANALYS ACT	2149	2270	2115	2163	2312	2405	2526
731	ARMY HIGH PERFORMANCE COMPUTING CENTERS (AHPCC)	18931	21474	6319	6385	6796	7112	7475
733	ACQUISITION TECH ACT	9268	3248	5411	5408	5715	6198	6144
737	KNOWLEDGE MANAGEMENT FUSION	955	0	0	0	0	0	0
C16	FAST	2433	2507	2294	2314	2456	2561	2688
C18	BAST	1331	772	721	725	829	869	912

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 Future Combat Systems and the Future Force. Use of accurate and timely technical information is essential to successfully meeting the milestones required on the path to the Future Force, allowing Army 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. By providing direct working experience for these students in Army laboratories, the programs expose these students to the working world of science and engineering. Funding under this program enables the conducting of analyses, using behavioral science-based analytic tools, to provide policy and decision makers with Soldier-oriented recommendations concerning manpower, personnel and training issues. Funding in this program is provided for conduct of an Independent Review Team analysis of technology maturity as part of the Technology Readiness Assessment as required by DoDI 5000.2 dated May 12, 2003. 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 interservice working groups. 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 PE is performed by the Research, Development and Engineering Command (RDECOM), the Army Research Office, the Army Research Institute, the Army Corps of Engineers' Engineer Research and Development Center (ERDC), and the Information Management Office.

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BUDGET ACTIVITY	PE NUMBER AND TITLE
6 - Management support	**0605803A - Technical Information Activities**

B. Program Change Summary	FY 2003	FY 2004	FY 2005
Previous President's Budget (FY 2004)	45516	28520	28929
Current Budget (FY 2005 PB)	54182	42122	27713
Total Adjustments	8666	13602	-1216
Congressional program reductions		-371	
Congressional rescissions			
Congressional increases		15000	
Reprogrammings	8666	-1027	
SBIR/STTR Transfer			
Adjustments to Budget Years			-1216

Change Summary Explanation: Funding - FY 2003 - Funds increased to support priority efforts in Science and Technology and other acquisition strategic planning initiatives contributing to Army transformation.
FY 2004 - Increase due to a Congressional add ($15000) to this PE to support the Army High Performance Computing Research Centers.

Projects with no R-2A:
($772- FY04; $721 - FY05) BAST -- The Board on Science & Technology (BAST) provides the Department of the Army with independent advice on science and technology (S&T) issues. The board meets several times a year conducting fact finding on S&T issues, forecasting Army S&T needs and publishes its findings.

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

February 2004

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
6 - Management support	**0605803A - Technical Information Activities**	**720**

COST (In Thousands)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
720 TECH INFO FUNC ACTV	3536	2861	2614	2636	2784	2883	3011

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 S&T information is critical to doing things that have never been done before in achieving the goals established by Senior Army Leadership for the Future Combat Systems and the Future Force. Specific activities supported include the Army support for Federal Laboratory Consortium (FLC) as required by Public Law; the Army Science Board; the Army Science Conference; 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 R&D programs and to increase competitiveness in the U.S. business community. In addition, this project provides funding for patent legal expenses and fees for all Research, Development and Engineering Command (RDECOM) subordinate commands and laboratories. The requirement to fund patent activities is a result of the Omnibus Budget Reconciliation Act requiring the U. S. Patent and Trademark Office to become a completely user-fee funded agency. 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 Army Research Laboratory.

Accomplishments/Planned Program	FY 2003	FY 2004	FY 2005
- Provide Army funding support for Federal Laboratory Consortium as required by Public Law 104-113.	183	138	121
- Provide administrative and contractual support for the Army Science Board.	1151	839	796
- Provide administrative support for the Army's SBIR and STTR programs.	800	578	547
- Provide funding for patent fees and patent legal expenses for AMC commands and laboratories.	778	796	750
- Provide funding for S&T Strategic Planning and Support.	162	125	110
- Provide funding for the Army Science Conference.	462	311	290
Small Business Innovative Research/Small Business Technology Transfer Programs	0	74	0
Totals	3536	2861	2614

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

February 2004

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
6 - Management support	**0605803A - Technical Information Activities**	**727**

COST (In Thousands)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
727 TECH INFO ACTIVITIES	13319	6879	6325	6629	7237	7594	8005

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); Department of the Army (DA), including support of the Army Science and Technology Master Plan; Corps of Engineers' Engineer Research and Development Center (ERDC); and Research, Development and Engineering Command (RDECOM). 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 do things that have never been done before in achieving the goals established by Senior Army Leadership for the Future Combat Systems and the Future Force. Funding in this program is provided for conduct of an Independent Review Team analysis of technology maturity as part of the Technology Readiness Assessment 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, and the Defense Technology Area Plan (DTAP). Work is performed by the Army Research Laboratory.

Accomplishments/Planned Program	FY 2003	FY 2004	FY 2005
- Administer S&T database computer engineering support contract.	841	2053	1939
- Support Army S&T strategic planning, analysis, and prioritization.	7198	680	602
- Support RDECOM database and Defense Technology Area Plan (DTAP)management.	5280	3941	3784
Small Business Innovative Research/Small Business Technology Transfer Programs	0	205	0
Totals	13319	6879	6325

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

February 2004

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
6 - Management support	**0605803A - Technical Information Activities**	**729**

COST (In Thousands)		FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
729	YOUTH SCIENCE ACTIV	2260	2111	1914	1935	2083	2181	2291

A. Mission Description and Budget Item Justification: This project supports science activities to encourage over 100,000 high school youths to develop an interest and pursue higher education and employment in the scientific, engineering, and mathematics career fields. These activities are consolidated entirely within this program to "present the Army" to a large potential pool of technical talent to fill future Army S&T workforce needs. The joint Army/Navy Washington regional area Science and Engineering Apprenticeship Program (SEAP) is included in the overall effort. The SEAP provides an eight-week hands-on learning experience for high school students to work with bench level scientists in Army laboratories to encourage more students to pursue scientific/engineering careers. This program enhances the national laboratory science and engineering 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 Army Research Laboratory (ARL) and Medical Research and Materiel Command (MRMC).

Accomplishments/Planned Program	FY 2003	FY 2004	FY 2005
- Foster high school student interest nationally in science, mathematics, engineering and computer science by sponsoring the Junior Science & Humanities Symposium (JSHS), International Mathematics Olympiad (IMO), International Science and Engineering Fair (ISEF), and the Research and Engineering Apprenticeship Program (REAP).	1403	1393	1335
- Sponsor joint Army/Navy Washington Regional Area SEAP and increase Army Laboratory/RDEC sponsorship of students	216	226	203
- 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.	191	197	167
- Conduct West Point cadet research internship program to enhance cadet training through field experience within Army research labs and centers.	450	232	209
Small Business Innovative Research/Small Business Technology Transfer Programs	0	63	0
Totals	2260	2111	1914

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

February 2004

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
6 - Management support	**0605803A - Technical Information Activities**	**730**

COST (In Thousands)		FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
730	PERS & TRNG ANALYS ACT	2149	2270	2115	2163	2312	2405	2526

A. Mission Description and Budget Item Justification: This project provides for the application of behavioral science-based data and analytical technologies by the U.S. Army Research Institute (ARI) for the Behavioral and Social Sciences to current and near-term training, leader development, and Soldier-related issues. The program is focused on policy issues to enhance Soldier performance, and provides the Army a unique capability for addressing such issues as the effects of training on individual and unit performance, the personnel costs of alternative programs and policies, and the effects of program changes on readiness and 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. 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 U.S. Army Research Institute, Alexandria, VA.

Accomplishments/Planned Program	FY 2003	FY 2004	FY 2005
- In FY03, this research-based studies and analysis program identified training requirements of Battle Staff non-commissioned officers in digital units; assessed the effectiveness of the Basic Officer Leader Course; formulated a multi-skilled Soldier concept and outlined its applicability for the Stryker Brigade Combat Teams; conducted a comparative analysis of new aptitude area composites for MOS classification; validated alternative attrition screening measures for Army enlisted applicants; and evaluated different payment strategies for selective reenlistment bonuses. Studies in FY04 will assess the impacts and effectiveness of using sergeants in pay grade E-5 as drill sergeants; determine if Soldiers graduating from Basic Combat Training are adequately trained to succeed in Advanced Individual Training; assess the effectiveness of the Close Combat Tactical Trainer (CCTT) in preparing units for war; assess the impacts of the deployment for Operation Iraqi Freedom; recommend new screening tools to decrease attrition of high school diploma graduates; and evaluate the usefulness of the Non-commissioned Officer Leadership Skills Inventory (NLSI) for predicting drill sergeant duty performance and attrition. Content of the FY05 program will be based on issues identified by the Training and Doctrine Command (TRADOC), the Assistant Secretary of the Army for Manpower and Reserve Affairs, the Deputy Chief of Staff, G-1, and the U.S. Army Human Resources Command.	2149	2215	2115
Small Business Innovative Research/Small Business Technology Transfer Programs	0	55	0
Totals	2149	2270	2115

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

February 2004

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
6 - Management support	**0605803A - Technical Information Activities**	**731**

COST (In Thousands)		FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
731	ARMY HIGH PERFORMANCE COMPUTING CENTERS (AHPCC)	18931	21474	6319	6385	6796	7112	7475

A. Mission Description and Budget Item Justification: The work in 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, 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).

Accomplishments/Planned Program	FY 2003	FY 2004	FY 2005
- Sustain the high performance computing environment and infrastructure in support of the US Army Tank & Automotive Research Development & Engineering Center (TARDEC)	2357	2199	2131
- Sustain the high performance computing environment and infrastructure in support of the Army High Performance Computing Research Center's (AHPCRC) research and education activities.	1214	1153	1143
- Sustain the high performance computing environment and infrastructure in support of the US Army Research Laboratory's Major Shared Research Center (MSRC)	3151	3043	3045
- Army High Performance Computing Research Center: In FY03 and FY04, Congressional funding provides funds to the Army High Performance Computer Research Center (AHPCRC) high performance computing systems and networks; user support; AHPCRC based staff scientist and research support staff; technology exchange (i.e. computational chemistry, fluid structure interactions); and summer institute programs, research activities, and outreach.	12209	14441	0
Small Business Innovative Research/Small Business Technology Transfer Programs	0	638	0
Totals	18931	21474	6319

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

February 2004

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
6 - Management support	**0605803A - Technical Information Activities**	**733**

COST (In Thousands)		FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
733	ACQUISITION TECH ACT	9268	3248	5411	5408	5715	6198	6144

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-alternates. This project provides the environment for the analysis and evaluation of new information technologies, and concepts and applications in integrated management activities, and support to meet the dynamic Army acquisition technology requirements. This program supported analysis efforts at the Army Materiel Systems Analysis Activity (AMSAA) 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. In FY 2004 and beyond, these efforts will be supported in PE 0605706A, Project 541. 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).

Accomplishments/Planned Program	FY 2003	FY 2004	FY 2005
- Analyzed the performance and combat effectiveness of materiel systems and technology base programs in support of Army leadership. Included are conduct of and support to analyses of alternatives (AoA). The funding directly supported efforts for the Future Combat System and Joint Tactical Radio System AoAs. Developed, modified, and maintained weapon system level methodologies, models, and simulations to be used in the conduct of systems analysis. A few examples of efforts include: modeling of military operations in urban terrain (MOUT), several aviation modeling improvements, search and target acquisition methodology improvements, signature management, and physics of failure modeling improvements.	6380	0	0

Accomplishments/Planned Program (continued)	FY 2003	FY 2004	FY 2005
- Validate simulation and logical modeling test and evaluation environment to provide a prototype development tool in support of tech base initiatives. 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, analytic/technical support for Army Science and Technology programs, long-range planning and policy analysis, resource allocation analysis, cost tracking and analysis, cost-effectiveness and database management/financial analysis, special access required technology application concept research/analysis.	1895	2235	3679
- Conduct analysis and evaluation of new information technologies, and concepts and applications in integrated management activities, and support to meet the dynamic Army acquisition technology requirements.	993	917	1732
Small Business Innovative Research/Small Business Technology Transfer Programs	0	96	0
Totals	9268	3248	5411

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

February 2004

BUDGET ACTIVITY	PE NUMBER AND TITLE	PROJECT
6 - Management support	**0605803A - Technical Information Activities**	**C16**

COST (In Thousands)	FY 2003 Actual	FY 2004 Estimate	FY 2005 Estimate	FY 2006 Estimate	FY 2007 Estimate	FY 2008 Estimate	FY 2009 Estimate
C16 FAST	2433	2507	2294	2314	2456	2561	2688

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 cut 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 RDECOM 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 the Research, Development and Engineering Command (RDECOM) subordinate commands that supply the science advisers for two to three year tours. FAST manages a level of effort type project with most projects recouping many times their cost in O&S cost savings. FAST also provides emerging technology demonstration opportunities to the RDECOM's 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 U.S. Army Materiel Command RDECOM, Alexandria, VA.

Accomplishments/Planned Program	FY 2003	FY 2004	FY 2005
- Respond to Combatant Commanders worldwide for technological solutions to urgent materiel problems they identify; deploy science advisors with U.S. Task Forces in support of Combatant Commanders; execute biannual Technology Applications Conference.	2433	2441	2294
Small Business Innovative Research/Small Business Technology Transfer Programs	0	66	0
Totals	2433	2507	2294