ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

May 2009

BUDGET ACTIVITY	PE NUMBER AND TITLE
4 - Advanced Component Development and Prototypes	**0603790A - NATO Research and Development**

COST (In Thousands)	FY 2008 Actual	FY 2009 Estimate	FY 2010 Estimate	Cost to Complete	Total Cost
691 NATO RSCH & DEVEL	4791	5025	5048	Continuing	Continuing

A. Mission Description and Budget Item Justification: This program implements the provisions of Title 10 U.S. Code, Section 2350a, Cooperative Research and Development (R&D) Projects: Allied Countries. The objective is to improve, through the application of emerging technologies, the conventional defense capabilities of the United States and our cooperative partners, including the North Atlantic Treaty Organization (NATO), U.S. major non-NATO allies and Friendly Foreign countries. Through technology sharing and joint equipment development these projects help reduce U.S. acquisition costs and leverage important technologies for the Army Transformation and the development of the Future Combat system. Cooperative efforts also improve multinational force compatibility with potential coalition partners through the development and use of similar equipment and improved interfaces. The program focuses specifically on international cooperative technology demonstration, validation, and interoperability of Army weapon and command, control, communications and information (C3I) systems, including the NATO Defense Against Terrorism initiatives. Projects are implemented through international agreements with foreign partners that define scope, cost and work sharing arrangements, management, contracting, security, data protection and third party transfers. Funds are used to pay for only the U.S. work share that occurs in the United States at U.S. Government and U.S. contractors facilities.

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B. Program Change Summary	FY 2008	FY 2009	FY 2010
Previous President's Budget (FY 2009)	4927	5041	5131
Current BES/President's Budget (FY 2010)	4791	5025	5048
Total Adjustments	-136	-16	-83
Congressional Program Reductions		-16	
Congressional Rescissions			
Congressional Increases			
Reprogrammings			
SBIR/STTR Transfer	-136		
Adjustments to Budget Years			-83

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May 2009

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4 - Advanced Component Development and Prototypes	**0603790A - NATO Research and Development**	**691**

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Accomplishments/Planned Program:	FY 2008	FY 2009	FY 2010
Scientific and Technology Enterprise Management (STEM)/International Online (IOL) Development and Implementation NATO/International Cooperative R&D (AR 70-41) and International Acquisition (AR 70-1, AR 70-3)	810	815	825
Multilateral Interoperability Program (MIP) (Partners: Germany, France, United Kingdom, Canada, Italy): Continued integration work from the Command and Control Systems Interoperability Program (C2SIP) into an Advanced Concept Technology Demonstration (ACTD) to achieve NATO levels four (messaging) and five (database) interoperability and also extend the effort into a sustainable program to incorporate lessons learned into national systems (e.g. AFATDS, FADC2).	650	665	686
Low Level Air Defense Interoperability (LLAPI) (Partners: Major NATO Allies): The objective of this program is to successfully demonstrate Command and Control (C2) interoperability among the participant nations' Short Range Air Defense (shared) assets for automated air picture exchange.	205	212	220
Multi-National Network Enabled Capabilities (MNNEC) related Command, Control, Communications, Computers, Intelligence Surveillnace and Reconnaissance (C4ISR)(Potential Partners: United Kingdom, France, Italy, Germany and major NATO Allies) MNNEC would foucs on developing a single solutions standard avoiding development of multiple unique solutions and leverage existing interoperability standards developed by NATO as well as other international forums such as the Five Power Net Centrick PA. A single solution standard will include common doctrine, technical and procedural specifications to make better use of exising information, shared data, leverage national operating picture capabilities and enable the development of interoperability of data, databases, applications, security domains and national networks architectures. The MNNEC is more than interoperability of information systems; it is the complete networking of information systems with sensors and shooters focusing on building Net-Centric interoperability among coalition tactical land components operating in a Joint Environment, focused at the Brigade and Below level, but not excluding using the services provided at higher echelons. The MNNEC has a future force focus, endeavoring to define migration strategies for Net-Centric capabilities in the 2010-2025 timeframe with part of the work to determine the time-phased implementations of a Multi-National Network Enabled	512	520	535

Capability. The end results would be an integration of national C2/C4ISR systems into an NCES environment to include the NATO Network Enabled Capabilities (NNEC) and the 5 Powers Net Centric Project Agreement.			
Combat Identification (Partners: UK, Germany, France and Italy): Combat ID will pursue the extension of tasks required for implementing the associated NATO Standardization Agreement (STANAG 4579), allied participation in Coalition Combat ID Advanced Concept Technology Demonstrator (ACTD), will pursue the NATO Staff Requirement and a STANAG for the Dismounted Soldier ID.	100	100	50
Senior National Representatives (Army) (SNR-(A)) Projects (Partners: France, Germany, United Kingdom and Italy): Supports harmonization of programs at various levels: exchanging information, identifying knowledge gaps and conducting feasibility studies to further promote cooperative development; standardizing, fielding and roadmapping various processes; distributing the workload among the different nations. Technology Demonstrations hosted by the U.S. reps to Land Group 6, NATO Army Armaments Group (NAAG), will provide and opportunity to observe and demonstrate the current and future capability of participating NATO nations with a view to assisting future operational and materiel interoperability. Army support of NAAG studies, analysis and technology demonstrations.	1002	843	917
Technology Research and Development Projects (TRDP) (Partners: United Kingdom, Germany, France, Canada, Australia, Netherlands, Korea, Norway): The scope of this MOU encompasses R&D collaboration on basic, exploratory and advanced Land Warfare Concepts and Technologies that are focused on Future Combat System enabling technologies, the maturation of which may lead to the development of technologically superior conventional weapon systems.	907	950	965
Joint Tactical Radio System (JTRS) (Partners: Japan, Sweden, UK): The participants in these programs will develop and implement Software-enabled radios as replacements to current radio systems. The projects shall be focused on maintaining interoperability as the countries pursue their own separate software radio programs. The project agreements (PAs) will include a joint development of software radio specifications, separate development and testing of software waveforms, and joint interoperability testing using the system assets developed as part of the agreements.	287	300	300
Artillery Command and Control Interoperability (ASCA) (Partners: France, Germany, Italy, UK): The Participants in this program will develop an automated software interface between their national field artillery command and control systems. The nations will be able to receive and provide mutual fire support (i.e. cannon and rocket fire) in combined operations more rapidly and with minimal errors.	318	344	350
Force Protection Projects (FPP) (Partners: United Kingdom, France, Germany, Italy, Sweden, Canada): Force Protection Projects will include R&D collaborationon technologies such as Counter Rocket and Mortar (C-RAM) and Counter Improvised Explosive Devices (C-IED). Programs include Military Operations in Urban Terrain (MOUT) and a variety of Defense Against Terrorism (DAT) initiatives such as Defense Against Mortar Attacks (DAMA) and Joint Precision Air Drop System (JPADS).		135	200
Small Business Innovative Research/Small Business Technology Transfer Program		141	
Total	4791	5025	5048

B. Other Program Funding Summary Not applicable for this item.

C. Acquisition Strategy All projects are test or technical demonstrations to feed into potential new requirements in support of Army Transformation to the Future Force or as product improvements to the Current Force.

ARMY RDT&E COST ANALYSIS (R3)

May 2009

BUDGET ACTIVITY
4 - Advanced Component Development and Prototypes

PE NUMBER AND TITLE
0603790A - NATO Research and Development

PROJECT
691

I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Multilateral Interoperability Program (MIP)	CPFF	C3S, CSC Fort Washington, PA	1376	165	1-2Q	165	1Q	186	1Q	Cont.	Cont.	
STEM-IOL	CPFF	LSS/GDIT, Fairfax, VA	3440	550	2Q	545	2Q	595	2Q	Cont.	Cont.	
Low Level Air Defense Interoperability (LLAPI)	MIPR	AMCOM, Redstone Ars, AL	825	120	2Q	117	2-3Q	120	2-3Q	Cont.	Cont.	
Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP)	MIPR	CECOM, Ft. Monmouth, VA	1107							Cont.	Cont.	
Combat Identification	MIPR	CECOM, Ft. Monmouth, VA	867	25	2Q	50	2Q	25	2Q	Cont.	Cont.	
Multi-National Network Enabled Capabilities (MNNEC) related to C4ISR	MIPR	CECOM, Ft. Monmouth, VA	1797	345	1-2Q	452	1-2Q	455	1-2Q	Cont.	Cont.	
Senior National Representatives (Army) (SNR[A])	TBD	ARDEC, Dover, NJ	5794	734	2Q	616	2-3Q	607	4Q	Cont.	Cont.	
TRDP	CPFF	Batelle/LMI, McClean, VA	1163	310	1Q	305	1Q	332	1-2Q	Cont.	Cont.	
Artillery Command and Control Interoperability (ASCA)	MIPR	CECOM, Ft. Monmouth, NJ	1156	215	2Q	217	1Q	220	1-2Q	Cont.	Cont.	
Joint Tactical Radio System (JTRS)	MIPR	PM JTRS, San Diego, CA	503	121	1Q	118	1Q	108	1Q	Cont.	Cont.	
Force Protection Projects (FPP)	MIPR	RDECOM, Ft. Belvoir, VA				100	1-2Q	125	1-2Q		357	
Subtotal:			18028	2585		2685		2773		Cont.	Cont.	

II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract

MIP	MIPR	CECOM Ft. Monmouth, NJ	663	190	1Q	195	1Q	200	1Q	Cont.	Cont.	
STEM/IOL	MIPR	RDECOM, Ft. Belvoir, VA	793	125	1Q	125	2Q	130	2Q	Cont.	Cont.	
Low Level Air Defense Interoperability (LLAPI)	MIPR	AMCOM, Redstone Ars, AL	432	45	1Q	48	1Q	49	1Q	Cont.	Cont.	
Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP)	MIPR	CECOM, Ft. Monmouth, VA	246							Cont.	Cont.	
Combat Identification	MIPR	CECOM Ft. Monmouth, NJ	539	25	1Q	25	1Q			Cont.	Cont.	
Multi-National Network Enabled Capabilities (MNNEC) related to C4ISR	MIPR	CECOM Ft. Monmouth, NJ	567	87	1-3Q	68		80	1-3Q	Cont.	Cont.	
SNR(A)	MIPR	ARL, APG, MD	1303	45	1Q	190	1Q	145	1Q	Cont.	Cont.	
TRDP	MIPR	RDECOM, Fort Belvoir, VA	1163	310	1Q	315	1-3Q	333	1-3Q	Cont.	Cont.	
Joint Tactical Radio System (JTRS)	MIPR	PM JTRS, San Diego, CA	170	100	1Q	115	1Q	117	1Q	Cont.	Cont.	
Artillery Command and Control Interoperability (ASCA)	MIPR	CECOM Ft. Monmouth, NJ	277	58	1Q	75	1Q	83	1Q	Cont.	Cont.	
Force Protection Projects (FPP)	MIPR	RDECOM, Ft. Belvoir, VA				10	2Q	22	2Q		62	
Small Business							1-2Q				141	
Subtotal:			6153	985		1166		1159		Cont.	Cont.	

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
MIP	MIPR	CECOM Ft Monmouth, NJ	662	150	1Q	155	1Q	160	1Q	Cont.	Cont.	
STEM/IOL	MIPR	RDECOM, Ft. Belvoir,	530	85	1Q	90	1Q	100	1Q	Cont.	Cont.	

		VA										
Low Level Air Defense Interoperability (LLAPI)	MIPR	AMCOM, Redstone Ars, AL	176	15	2Q	17	1Q	19	1Q	Cont.	Cont.	
Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP)	MIPR	AMSAA, Aberdeen Proving Ground, NJ	134							Cont.	Cont.	
Combat Identification	MIPR	CECOM Ft Monmouth, NJ	509	25	2Q		1Q			Cont.	Cont.	
Multi-National Network Enabled Capabilities (MNNEC) related to C4ISR	MIPR	CECOM Ft Monmouth, NJ	443	55	2Q					Cont.	Cont.	
SNR(A)	MIPR	AMSAA, APG, MD	824	125	1-2Q	125	1Q	120	1Q	Cont.	Cont.	
TRDP	MIPR	TBD										
ASCA	MIPR	CECOM Ft Monmouth, NJ	174	35	2Q	40	1Q	40	1Q	Cont.	Cont.	
Joint Tactical Radio System (JTRS)	MIPR	CECOM Ft Monmouth, NJ	60	33	2Q	67	1Q	75	1Q	Cont.	Cont.	
Force Protection Projects (FPP)	MIPR	RDECOM, Ft. Belvoir, VA				12	2-3Q	28	2-3Q		95	
Subtotal:			3512	523		506		542		Cont.	Cont.	

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	FY 2010 Cost	FY 2010 Award Date	Cost To Complete	Total Cost	Target Value of Contract
MIP	MIPR	PEO C3S, Ft. Monmouth, NJ	501	145	1Q	150	1Q	140	1Q	Cont.	Cont.	
STEM/IOL	MIPR	RDECOM, Ft. Belvoir, VA	258	50	1Q	55	1Q			Cont.	Cont.	
Low Level Air Defense Interoperability (LLAPI)	MIPR	AMCOM, Redstone, Ars, AL	290	25	1Q	30	1Q	32	1Q	Cont.	Cont.	
Shared Tactical GroundPicture (STGP)/Single Integrated Ground	MIPR	CECOM, Ft. Monmouth, VA	72							Cont.	Cont.	

ARMY RDT&E COST ANALYSIS (R3)

May 2009

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4 - Advanced Component Development and Prototypes	**0603790A - NATO Research and Development**	**691**

Picture (SIGP)												
Combat Identification	MIPR	CECOM, Ft. Monmouth, NJ	447	25	1Q	25	1Q	25	1Q	Cont.	Cont.	
Multi-National Network Enabled Capabilities (MNNEC) related to C4ISR	MIPR	CECOM, Ft. Monmouth, NJ	317	25	1Q					Cont.	Cont.	
SNR(A)	MIPR	ARL, APG, MD	431	60	1Q	53	1Q	45	1Q	Cont.	Cont.	
TRDP	MIPR	REDCOM, Fort Belvoir, VA	1096	325	1Q	330	1Q	300	1-2Q	Cont.	Cont.	
Artillery Command and Control Interoperability (ASCA)	MIPR	CECOM, Ft. Monmouth, NJ	84	10	1Q	12	1Q	7	1Q	Cont.	Cont.	
JTRS	MIPR	PM JTRS, San Diego, CA	65	33	1Q					Cont.	Cont.	
Force Protection Projects (FPP)	MIPR	RDECOM, Ft. Belvoir, VA				13	2-3Q	25	2-3Q		71	
Subtotal:			3561	698		668		574		Cont.	Cont.	
Project Total Cost:			**31254**	**4791**		**5025**		**5048**		**Cont.**	**Cont.**	