

# ARMY RDT&E BUDGET ITEM JUSTIFICATION (R2 Exhibit)

**February 2007**

<b>BUDGET ACTIVITY</b>	<b>PE NUMBER AND TITLE</b>							<b>PROJECT</b>		
<b>4 - Advanced Component Development and Prototypes</b>	<b>0603790A - NATO Research and Development</b>							<b>691</b>		
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	Cost to Complete	Total Cost
691 NATO RSCH & DEVEL	4548	4891	4959	5074	5168	5254	5355	5452		40701

**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.

<b>Accomplishments/Planned Program:</b>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>
International Agreement Tracking System (IATS)/International Online (IOL) Development and Implementation (including IOL conversion into STEM), NATO/International Cooperative R&D Policy Development, and Report to Congress Pursuant to 10 USC 2350a, prepare and provide to used(A&T) the Army section of the Report to Congress on the International Cooperative Research and Development Program.	802	805	810	815
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.	500	640	650	665
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.	200	200	205	215
Network Enabled Shared Awareness (NESA) (Potential Partners: United Kingdom, France, Italy, Sweden, Spain and Germany) NESA would develop concepts, methods and standards that will make better use of existing information; share data in an interoperability environment; leverage national operational picture capabilities; and enable progressive development of interoperability of data, databases, applications and systems networks. NESA will show that information sharing can be accomplished through developing an architecture and interoperability framework (horizontal and vertical) needed to meet coalition operations and by rapid prototype and demonstrations of Net-Centric warfighter services. This project would produce a National Operational Concepts (OPCON) and CONOPS (BDE and below). The end result would be integration of national C2 and Net-Centric Systems of Record (SORs) into an NCES environment. Included would be a report on NESA military operational utility. This would provide architectures and seed funding to SORs to accelerate migration. Benefits would include lessons learned on NESA implications for coalition operations. Includes the studies and analysis Five-	500	502	512	520

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Power SNR-A Network Centric interoperability project.				
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	100	100
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. The Military Operation in Urban Terrain (mout) study will benefit the Five Power nations as they identify requirements and materiel solutions for Multinational forces in and around urban terrain. The Structured Technology Demo (STD) 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 including the Defense Against Terrorism (DAT) initiatives.	1100	1100	1120	1135
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.	926	940	945	950
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.	300	320	330	344
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.	120	284	287	330
<b>Total</b>	<b>4548</b>	<b>4891</b>	<b>4959</b>	<b>5074</b>

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<u><b>B. Program Change Summary</b></u>	FY 2006	FY 2007	FY 2008	FY 2009
Previous President's Budget (FY 2007)	4832	4946	5136	5235
Current BES/President's Budget (FY 2008/2009)	4548	4891	4959	5074
Total Adjustments	-284	-55	-177	-161
Congressional Program Reductions		-19		
Congressional Rescissions				
Congressional Increases				
Reprogrammings	-284	-36		
SBIR/STTR Transfer				
Adjustments to Budget Years			-177	-161

**C. Other Program Funding Summary** Not applicable for this item.

**D. 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)

February 2007

BUDGET ACTIVITY			PE NUMBER AND TITLE									PROJECT		
4 - Advanced Component Development and Prototypes			0603790A - NATO Research and Development									691		
I. Product Development	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
Multilateral Interoperability Program (MIP)	CPFF	C3S, CSC Fort Washington, PA	961	150	1Q	150	2Q	155	1-2Q	160	1Q		1576	
International Agreement Tracking System (IATS) - Software Development	CPFF	JIL Information Systems Vienna, VA	1831	552	2Q	560	2Q	560	2Q	565	2Q		4068	
Low Level Air Defense Interoperability (LLAPI)	MIPR	AMCOM, Redstone Ars, AL	552	115	1Q	115	1Q	120	2Q	125	2-3Q		1027	
Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP)	MIPR	CECOM, Ft. Monmouth, VA	415	346	2Q	342	2Q	345	2-3Q	350	2Q		1798	
Combat Identification	MIPR	CECOM, Ft. Monmouth, VA	812	25	1Q	25	1Q	25	2Q	25	2Q		912	
Simulation & C2 Information System Connectivity Experimentation (SINCE) - C2 Systems	MIPR	CECOM, Ft. Monmouth, VA	1557		1Q								1557	
Senior National Representatives (Army) (SNR[A])	TBD	TBD	3687	761	2Q	757	2Q	770	2Q	775	2-3Q		6750	
TRDP	TBD	TBD	312	300	2Q	300	2Q	310	1Q	315	1Q		1537	
Artillery Command and Control Interoperability (ASCA)	MIPR	CECOM, Ft. Monmouth, NJ	552	208	1Q	208	1Q	215	2Q	220	1Q		1403	
Joint Tactical Radio System (JTRS)	MIPR	PM JTRS, Rosslyn, VA	150	120	1Q	114	1Q	121	1Q	153	1Q		658	
Subtotal:			10829	2577		2571		2621		2688			21286	
II. Support Costs	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
MIP	MIPR	CECOM Ft. Monmouth,	308	100	1Q	190	2Q	190	1Q	195	1Q		983	

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		NJ												
IATS	MIPR	RDECOM, Ft. Belvoir, VA	416	126	1Q	125	2Q	125	1Q	125	2Q		917	
Low Level Air Defense Interoperability (LLAPI)	MIPR	AMCOM, Redstone Ars, AL	285	41	1Q	41	2Q	45	1Q	50	1Q		462	
Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP)	MIPR	CECOM, Ft. Monmouth, VA	92	77	1Q	83	2-4Q	87	1Q	90	1Q		429	
Combat Identification	MIPR	CECOM Ft. Monmouth, NJ	464	25	1Q	25	2Q	25	1Q	25	1Q		564	
Simulation and C2 Information System Connectivity Experimentation (SINCE)	MIPR	CECOM Ft. Monmouth, NJ	484		1Q								484	
SNR(A)	MIPR	TBD	796	169	1Q	169	2Q	175	1Q	180	1Q		1489	
TRDP	MIPR	TBD	313	300	1Q	300	2Q	310	1Q	315			1538	
Artillery Command and Control Interoperability (ASCA)	MIPR	CECOM Ft. Monmouth, NJ	119	46	1Q	66	2Q	70	1Q	75	1Q		376	
Joint Tactical Radio System (JTRS)	MIPR	PM JTRS, Rosslyn, VA	75			95	2Q	100	1Q	112	1Q		382	
Subtotal:			3352	884		1094		1127		1167			7624	

III. Test And Evaluation	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
MIP	MIPR	CECOM Ft Monmouth, NJ	247	150	1Q	150	2Q	150	1Q	155	1Q		852	
IATS	MIPR	RDECOM, Ft. Belvoir, VA	278	84	1Q	84	2-3Q	85	1Q	90	1Q		621	
Low Level Air Defense Interoperability (LLAPI)	MIPR	AMCOM, Redstone Ars, AL	112	13	1Q	13	2Q	15	2Q	17	1Q		170	
Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP)	MIPR	AMSAA, Aberdeen Proving Ground, NJ	30	52	1Q	52	2Q	55	2Q	58	1Q		247	

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Combat Identification	MIPR	CECOM Ft Monmouth, NJ	444	25	1Q	25	2Q	25	2Q		1Q		519	
Simulation and C2 Information System Connectivity Experimentation (SINCE)	MIPR	CECOM Ft Monmouth, NJ	391										391	
SNR(A)	MIPR	TBD	508	113	1Q	113	1-2Q	115	1-2Q	122	1Q		971	
TRDP	MIPR	TBD												
ASCA	MIPR	CECOM Ft Monmouth, NJ	81	31	1Q	31	1Q	35	2Q	40	1Q		218	
Joint Tactical Radio System (JTRS)	MIPR	CECOM Ft Monmouth, NJ	22			38	2Q	33	2Q	40	1Q		133	
Subtotal:			2113	468		506		513		522			4122	

IV. Management Services	Contract Method & Type	Performing Activity & Location	Total PYs Cost	FY 2006 Cost	FY 2006 Award Date	FY 2007 Cost	FY 2007 Award Date	FY 2008 Cost	FY 2008 Award Date	FY 2009 Cost	FY 2009 Award Date	Cost To Complete	Total Cost	Target Value of Contract
MIP	MIPR	PEO C3S, Ft. Monmouth, NJ	186	100	1Q	150	2Q	145	1Q	150	1Q		731	
IATS	MIPR	RDECOM, Ft. Belvoir, VA	135	41	1Q	41	2Q	50	1Q	55	1Q		322	
Low Level Air Defense Interoperability (LLAPI)	MIPR	AMCOM, Redstone, Ars, AL	174	31	1Q	31	2Q	25	1Q	30	1Q		291	
Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP)	MIPR	CECOM, Ft. Monmouth, VA	22	25	1Q	25	2Q	25	1Q	30	1Q		127	
Combat Identification	MIPR	CECOM, Ft. Monmouth, NJ	382	25	1Q	25	2Q	25	1Q	25	1Q		482	
Simulation and C2 Information System Connectivity Experimentation (SINCE)	MIPR	CECOM, Ft. Monmouth, NJ	292		1Q		1Q						292	
SNR(A)	MIPR	TBD	263	56	1Q	56	2Q	60	1Q	65	1Q		500	
TRDP	MIPR	TBD	155	326	1Q	339	2Q	325	1Q	330	1Q		1475	

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Artillery Command and Control Interoperability (ASCA)	MIPR	CECOM, Ft. Monmouth, NJ	39	15	1Q	15	2Q	10	1Q	12	1Q		91	
JTRS	MIPR	PM JTRS, Rosslyn, VA	27			38	2Q	33	1Q				98	
Subtotal:			1675	619		720		698		697			4409	
<b>Project Total Cost:</b>			<b>17969</b>	<b>4548</b>		<b>4891</b>		<b>4959</b>		<b>5074</b>			<b>37441</b>	

# Schedule Profile (R4 Exhibit)

February 2007

BUDGET ACTIVITY	PE NUMBER AND TITLE																PROJECT															
<b>4 - Advanced Component Development and Prototypes</b>	<b>0603790A - NATO Research and Development</b>																<b>691</b>															
Event Name	FY 06				FY 07				FY 08				FY 09				FY 10				FY 11				FY 12				FY 13			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4

# Schedule Detail (R4a Exhibit)

February 2007

BUDGET ACTIVITY		PE NUMBER AND TITLE						PROJECT	
<b>4 - Advanced Component Development and Prototypes</b>		<b>0603790A - NATO Research and Development</b>						<b>691</b>	
<u>Schedule Detail</u>	<u>FY 2006</u>	<u>FY 2007</u>	<u>FY 2008</u>	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>	<u>FY 2012</u>	<u>FY 2013</u>	
Multilateral Interoperability Program (MIP)									
- Complete C2SIP ATCD									
- Complete Integration into MCS									
- Complete System Test and Report									
SINCE - C2 Systems									
- Interface/Network Definition									
- Complete Modeling and Simulation									
- Complete Demonstration									
- Final Report									
Shared Tactical Ground Picture (STGP)/Single Integrated Ground Picture (SIGP)									
- Conclude International Agreement									
- Complete Requirements Definition									
- Develop Architecture									
- Complete Final Report	4Q								
Senior National Representatives (Army)									
- Mine Protection For Armored Vehicles (MPAV) Feasibility Study									
- Identify International Cooperative Opportunities									
International Agreement Tracking System (IATS) / International On Line (IOL)									
- Initial Operational Capability of IOL									
- Incorporate Tier II and Tier III IOL Requirements									
Engineer and Scientist Exchange Program (ESEP)									

- Identify and Complete ESEP Assignments								
Technology Research and Development Projects (TRDP)								
- Identify and Conclude TRDP Project Agreements								
Low Level Air Defense Interoperability (LLAPI)								
- Develop LLAPI								
Combat Identification								
- ACTD Demonstrator								
- Dismounted Soldier ID STANAG Development								
Artillery Command and Control Interoperability (ASCA)								
- Develop ASCA Interface								